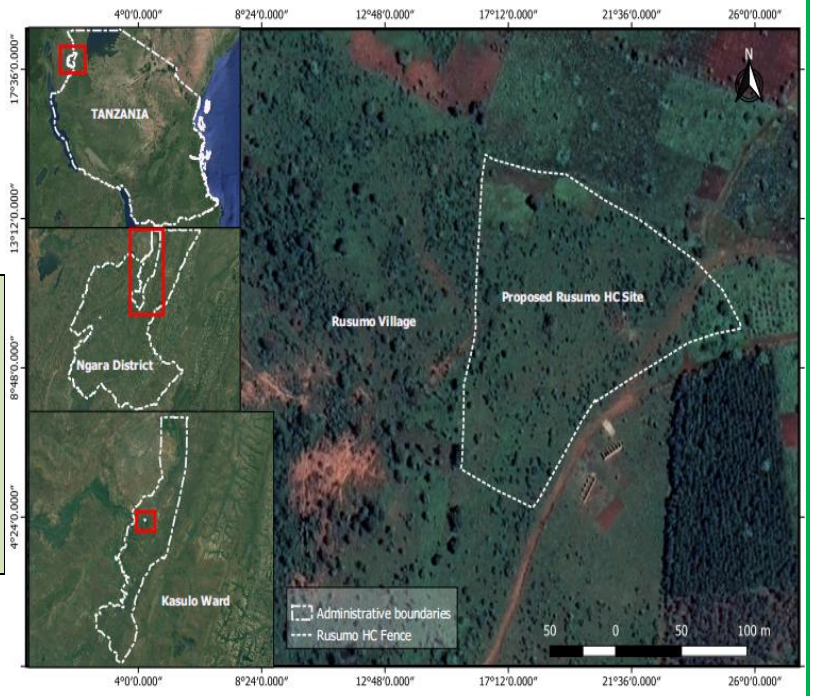
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA) REPORT FOR THE PROPOSED PERIMETER WALL FENCE FOR RUSUMO HEALTH CENTER LOCATED AT NYAKAHANGA HAMLET, RUSUMO VILLAGE, RUSUMO WARD, NGARA DISTRICT IN KAGERA REGION. (IN THE FRAMEWORK OF WORLD BANK/NELSAP)

ESIA REPORT-Final Version



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EXECUTIVE SUMMARY

ES-1: Background

This Environmental Impact Assessment (ESIA) report describes the proposed construction of perimeter Wall-Fence for Rusumo Health Center located at Nyakahanga Hamlet, Rusumo Village, Rusumo Ward, Ngara District in Kagera Region. All the construction activities will be carried out in Ngara District under Local Area Development Program (LADP II) funded with World Bank through NELSAP. LADP is a benefit-sharing program designed to enhance regional economic and social development in the project areas in Rwanda, Burundi and Tanzania.

The LADP phase II projects include construction of proposed health centre perimeter wall-fence to secure enclosures and access control in and around the healthcare facility. The proposed project is located at Nyakahanga Hamlet, Rusumo Village, Rusumo Ward Ngara District in Kagera Region. The land use in the proposed project site has been approved by Village Authority as well as Ngara District Council for the intended purpose *(See appendix I, II & III).* Construction of the proposed project with its ancillary structures may require 30 personnel both skilled and unskilled while 7 technical personnel will be involved in professional works. The infrastructure that is to be constructed has been detailed in this report and social economic surveys of the area have been also explained. The project investment cost is USD 51,506.97

Before undertaking the construction works it has been found necessary to carry out Environmental and Social Impact Assessment (ESIA) of the proposed health centre perimeter wall-fence. Objective of ESIA study was to ensure that detrimental environmental and social impacts arising from the proposed construction, operations and decommissioning phases are identified and either eliminated or minimized to acceptable levels. The ESIA study also provided mitigation measures to the identified impacts, and established comprehensive management and monitoring plans. The ESIA study was commissioned to Gabriel Gibson (Team Leader and Registered Environmental Expert, Reg. No. EIA-0460) by Ngara District Council.

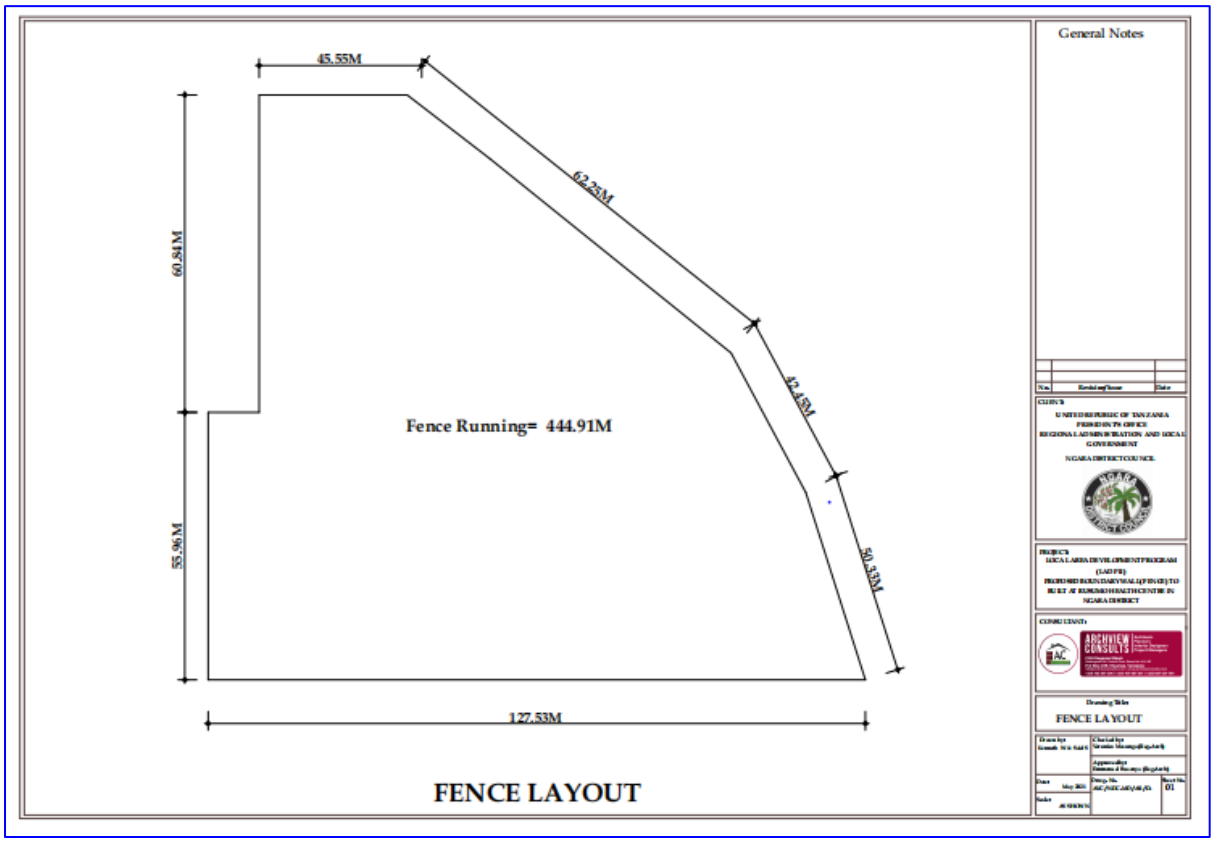
Principally, the ESIA study was conducted in accordance with the requirements of the Tanzania Environment Management Act Cap 191 (2004) and Environmental Impact Assessment and Audit Regulations No. 349 of 2005, as well as, (Environmental Impact Assessment and Audit) (Amendment) Regulations (G.N. No. 474) of 2018. Nonetheless; The World Bank Safeguard Policy applicable to this proposed project *is Environmental Assessment Policy (OP 4.01)* coupled with *IFC/WBG/WHO Guidelines: Occupational Health and Safety, IFC/WBG/WHO Guidelines: Air Emissions and Ambient Air Quality and IFC/WBG Guidelines: Noise Management, IFC/WBG/WHO Effluent Discharge Guideline*

The proposed construction of perimeter wall-fence project falls into Type B1 Mandatory projects that require full Environmental Impact Assessment hence preparation of scoping report, Terms of References for registration with NEMC and approval process, undertaking of full ESIA and preparing the ESMP. From the World Bank perspective, the proposed project is classified as Category B because the proposed site is currently in use hence it's potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are zero or less adverse.

In that regards this document presents the ESIA report for the proposed construction of perimeter wall-fence for Rusumo Health Centre located at Nyakahanga Hamlet, Rusumo Village, Rusumo Ward Ngara District in Kagera Region.

Measures have been proposed to strengthen implementation of the ESMP presented in this report for the overall construction activities, operations and decommissioning phases. The ESMP has taken into account all the design and other changes that might occur upon construction of various structures that are to be implemented. Therefore, this report has taken into account the implementation of the mitigation measures proposed in which the overall social impacts of the project will be minimal, while opening up significant socio-economic opportunities for communities and the population of the area, as well as diverse benefits at the District, Regional and National levels.

General Layout Drawing for the proposed construction of Perimeter Wall-Fence



ES-2: ESIA Methodology

The methodologies used are in accordance with the Tanzania Environmental Assessment requirements and procedures as stipulated in the Environmental Management Act, 2004, the Environmental Management (Environmental Impact Assessment And Audit) (Amendment) Regulations, 2018, as well as other relevant Environmental Impact Assessment Guidelines. The general approached adopted are as follows:

Study Team: The study team led by ESIA experts included Sociologist, Environmental Scientist, EIA expert, Biodiversity Expert, Safety and Health expert and AutoCAD Technician.

Documents Review and Study: All data and information pertinent to this study were collected through direct observation, consultations and secondary data sources. Information and data collected include sanitation situation, land use, demography, and other indicators related to environmental and socio- economic trends of the project area.

Field Visit: The ESIA study team visited and did the physical assessment on the proposed site for construction of block fencing wall and their core impact areas.

Stakeholder consultation: The stakeholder consultation which aimed among others at getting concerns and perceptions of the stakeholders regarding the projects, and also suggestions directly from the affected communities on their preferred mitigation measures; was carried through Meetings with community and official consultation

Project Impact Assessment: The checklist method was used to identify the impacts and to recommend mitigation measures while the matrix method was used to identify significant impacts. The impact assessment entailed collection of baseline data, review of Policies, Legal and Institutional Framework for Environmental and Social Management, Identifying Environmental and Social Impacts, Predicting Environmental and Social Impacts, Determining the Significance of Impacts, and Identifying Mitigation and Management Options

ES-3: Policy and Legal Guidance

The study has consulted a number of policies and laws relevant to the project for guidance in order to ensure sustainability of the project in the area. Thus, the project during its entire course of the implementation shall refer to these cited documents. Among others; National Environmental Policy (1997), National Land Policy (1997), National Education Policy (1995) National Economic Empowerment Policy (2004), National Gender Policy (2000), Occupational Safety and Health Policy, 2012, National Water Policy, 2002, The National Employment Policy (1997), National Land Policy (1997), National Policy on HIV/AIDS (2001), National Child Development Policy 2008, The Gender Policy, 2000.

Legal framework describes the Acts and regulations which are related to the intended project are Environmental Management Act (No.20. of 2004), Land and Land Village Act (URT, 1999b) (No. 4 of 1999 amended by No. 2 of 2004), The Constitution of Tanzania (1977) Article 11, Occupation health and safety Act (No.5,2003), HIV and AIDS (Prevention and Control) Act No.28 (2008), Standards Act, 2009, Water Resources Management Act No. 11 (2009), Employment and Labour Relations Act (2004), The Public Health Act 2009, The Child Act 2009, The Contractors Registration Act, 1997, Environmental Management Act (Air Quality Standards) Regulations, 2007,The Environmental Management (Soil Quality Standards) Regulations, 2007, The Environmental Management (Water Quality Standards) Regulations, 2007, Environmental Management (Hazardous Waste Management) Regulations, 2021, Environmental Management (Fees and charges) (Amended) Regulations, 2021, Environmental management (Standards for Control of Noise and Vibration) Regulations, 2015, Land Registration Act R.E 2002, The Occupational Safety and Health (First Aid and Welfare Facilities) Rules 2015 and Penal Code 1981 including Sexual Offences Special Provisions Act 1998 (SOSPA),

Nevertheless; The World Bank Safeguard Policy applicable to this proposed project is Environmental Assessment Policy (OP 4.01) coupled with IFC/WBG/WHO Guidelines: Occupational Health and Safety, IFC/WBG/WHO Guidelines: Air Emissions and Ambient Air Quality and IFC/WBG Guidelines: Noise Management, IFC/WBG/WHO Effluent Discharge Guidelines

ES-4: Brief Description of the proposed Development

This is a small scale project that intends to secure enclosures and access control in and around the existing healthcare facility. It also provides substantial protection against intruders and other forms of vandalism within the healthcare facility. Nevertheless; the proposed project will consist of;

- Construction of perimeter wall with a linear distance of 444.91meters and maximum height of 2.85m
- Construction of reinforced concrete columns to support strength of wall fencing
- Installation of security lightings in all strategic areas on top of the wall fencing

ES-5: Description of Project Environment

The proposed circular distance is characterised with relatively flat terrain with sandy clay loam soil type dominated with short grasses and shrubs which will be cleared prior to construction activities. Generally; the proposed project site is located in rural-urban setting environment whereby exotic trees, cropland, grassland and very few scattered residential-Commercial buildings are dominated adjacent to the project site while the indigenous trees have long been cleared-off to pave way for human developments/activities.

The dominant vegetation species within the site specific/proposed linear distance are; Sisal *(Agave Sisalana),* Giant thatching grass (*Hyparrhenia rufa*) Lantana, Shrub Verbena, Tick Berry and Bunga tahi Ayam *(Lantana Camara),* while adjacent the proposed route there are Banana trees *(Musa Paradisiaca)* and Pine trees *(Pinus Patula).* Dominant short grasses and shrubs within the site specific will be cleared off from the site to allow construction activities to be commenced.

Based on the state of the whole site there is no pristine environment that can promote thriving and existence of the species of conservation concern as per IUCN and CITES standards. Furthermore, there are no sensitive ecological receptors in the vicinity of the project area. Also, there were no cultural or archaeological objects that were noticed or observed during the study or reported earlier during the consultation stage with local community

ES-6: Major Adjacent Developments

North-West the project site is demarcated by access road, two incomplete commercial buildings and Pine *(Pinus Patula)* farm while on the other sides, the project site is demarcated by undeveloped land and farming plots.

ES-7: Brief Description of the Proposed Project Activities

The following activities will be implemented during different phases of the proposed construction of the Health Centre Perimeter Wall;

i. ***Mobilization or Pre-construction Phase***: This phase entails seeking of all legal permits required by the law, mobilization of labour force, equipment. The contractor will use the existing storage room at Rusumo Health Centre established by previous contractor for storage of construction materials and specific areas whereby all material fabrication activities will be undertaken. Other activities during this pre-construction phase include installation of sign boards and site clearance only at the designated areas.

ii. ***Construction Phase:*** The major construction activities include construction of perimeter wall fence for the existing Rusumo Health Centre with the linear distance approximately 444.91meters; other associated activities include purchasing and transportation of materials (sand, cements, concrete bricks, aggregates, timbers for column, etc). Major construction works will involve site clearance by using heavy duty equipments such as bulldozer and motor grader, trenches and foundation excavation will be done by using local/hand tools, erection of fence and installation of electrical lights for

security purpose. Testing for quality control of the supplied materials will be given high priority.

iii. ***Demobilization Phase*:** Major activities during this phase comprise decommissioning of temporary facilities, which will be done and has to be contained in the works contract i.e. proper restoration of the site (e.g. removing of excess construction materials, restoration of disturbed areas to the required grades and removing all temporary structures). These will also involve clearance of all sorts of wastes including sewage, solid wastes (plastics, wood, metal, papers, etc), and disposal of all wastes to the dumpsite and termination of temporary employments. Last activity is handover the completed project to the Proponent for commencement of operation phase.

iv. ***Operation phase:*** major activities during this phase including security purpose, routine maintenance/rehabilitation for the facilities and infrastructures.

v. ***Decommissioning Phase:*** This is the final demise of the fence use value. The decommissioning entails demolition of the structures and other appurtenances. However, decommissioning of the project is not anticipated to be done in the near future.

ES-8: Stakeholders and their Involvement in the EIA Process

The main aim of the stakeholder consultation was to inform the stakeholders about the proposed project and incorporate their views in the design of the mitigation measures and Environmental and Social Management Plan (ESMP). The specific aims of the consultation process were to; reduce problems of institutional coordination; provide precise information about the project to the communities; obtained the main concerns and perceptions of the stakeholders regarding the project; and obtain opinions and suggestions directly from the affected communities on their preferred mitigation measures.

The public stakeholder consultation meetings were conducted and intended to collect information regarding sources of livelihood, living standards, and views and perceptions of the communities regarding the proposed project. Stakeholders visited include Residents, Chair Person (Hamlet), Village Chairperson, Village Executive (VE) and Ward Executive (WE). Other stakeholders included District Executive Director (DED), District Manager - Rural Water Supply and Sanitation Agency (RUWASA), District environmental Management Officer, District Land and Natural Resources Officer (DLNSO), District Medical Officer (DMO), Fire and Rescue Force- District Office and all other related Departments at district level.

The study applied different participatory methods, namely interviews, one-to-one discussion and focused group discussions. The consultation was first conducted with the Ngara District Council (Proponent) to get the details of the proposed activities. Stakeholders consulted were informed on the proposed project and asked to raise their concern to the consultant

ES 8.1 - Result of Public Consultation

Generally, views from various stakeholders support the development of the proposed project in Rusumo Ward in view that;

S/No	Major issue, concern	Description
1	Compliance to National laws	Prior to project commencement, the Proponent must acquire all legal permits
2	Early pregnancies	Construction activities will increase unplanned and early pregnancy cases, especially to School girls because their lusts they tend to date project workers. The contractor is advised to take precaution and strictly enforcement to his employees.
3	Economic gains and Creation of employment	The project is expected to boost Village/Ward economy in construction phase by employing local dwellers, improving small business to local vendors.
4	Improved Security	The proposed project will improve security within the health Centre, eliminating theft and vandalism to health facility's properties.
5	Improvement in Business opportunities	The project design is giving priority to local vendors by establishing special block with cubes and nearby spaces for running small businesses whilst on the other hand, local suppliers will be given priority during construction phase
6	Negative Impacts such as Management of hazardous wastes, air and noise pollution; health hazards to workers and nearby community, Water pollution	The proponent/Contractor is advised to prepare comprehensive and exhaustively mitigation measures to eliminate or reduce the anticipated detrimental impacts

Date	Venue	Stakeholders	Participants
09.11. 2021	Ngara District Council Conference Room	Ngara District Council Departmental Staffs	24
09.11. 2021	Ngara LADP Office	Ag. Environmental Officers & LADP Coordinator	4
09.11. 2021	Ngara District TANESCO Office,	Ngara District TANESCO Staffs, DMO Office, Environmental Officer	7
07.11. 2021	Rusumo Ward/Village	Direct and indirect project beneficiaries, and Village leaders.	90
Total			**125**

ES-9: ESIA Study Findings

Positive Impacts

- Secure enclosures and access control in and around healthcare facility
- Improved security and eliminating theft and vandalism of health facility's properties
- Benefits to local producers and suppliers of construction materials
- Benefit to local vendors

Negative Impacts and Mitigation Measures

The identified significant negative impacts and their proposed mitigation measures are outlined in the following tabulation:

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
A. MOBILIZATION PHASE	
A1. Vegetation clearance ▪ Site preparatory works for construction ▪ Preparatory works for construction materials stockpiling area	▪ Confining the construction activities within the proposed project site could minimize the problem and it is less impact since the project is undertaken within the developed area ▪ The Contractor shall avoid unnecessary clearing of vegetation beyond the proposed project construction area. ▪ All cleared and compacted areas should be scarified and planted with natural vegetation to stabilize the soil. ▪ The community shall be allowed to plant vegetation to the disturbed areas after completion of construction works
B. CONSTRUCTION PHASE	
B1. Vegetation clearance	The destruction of indigenous/natural vegetation could not be avoided during the start of construction works hence the contractor shall adhere to the following measures; ▪ Confining the construction activities within the proposed project site could minimize the problem. ▪ The Contractor shall avoid unnecessary clearing of vegetation beyond the proposed project construction area ▪ All cleared and compacted areas should be scarified and planted with natural vegetation to stabilize the soil ▪ The Contractor shall always ensure that the excavated areas are reinstated whenever possible ▪ Only indigenous plant species should be used for re-vegetation

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
B2. Soil Erosion	▪ The contractor implements erosion control measures as an on-going exercise; ▪ During construction, the contractor protects all areas susceptible to erosion by installing necessary temporary and permanent drainage works as soon as possible and by taking any other measures necessary to prevent storm water from concentrating in streams and scouring slopes, banks, etc. ▪ Any tunnels or erosion channels developed during the construction or maintenance period shall be backfilled and compacted and the areas restored to a proper condition. ▪ Areas where construction activities have been completed and where no further disturbance would take place are rehabilitated through re-vegetation; ▪ Ground clearance is minimized and if possible concentrated only to the specific foundation areas, and only when it is necessary; ▪ Prompt reclamation of exposed soils is done; ▪ Construction during long rains period should be done with caution to avoid soil from being washed away;
B3. Air Pollutions (Fugitive Dust and Exhaust Emissions)	▪ The Contractor shall apply water sprinkling on created dusty areas during undertaking of construction works to minimize dust emission ▪ The Contractor shall provide dust protection masks to construction workers ▪ The Contractor shall ensure that appropriate construction machines are used for construction works ▪ The Contractor shall avoid as much as possible stockpiling of dusty construction materials or loose soils. ▪ The Contractor shall avoid use of old construction equipment/machinery which emit black smoke. All construction machinery/equipment and vehicles must be inspected during contract award to ensure that they do not emit black smoke. ▪ The Contractor shall operate and maintain vehicles and equipment in good working condition. ▪ The Contractor shall cover all trucks hauling dusty construction materials with tarpaulins during transportation. ▪ Minimum Excavator bucket height will be maintained during loading and unloading activity of excavated materials

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
B4. Population Influx (Labor Influx)	▪ Establish transparent recruitment procedures to avoid site followers in form of job-seekers ▪ Establish a recruitment policy that gives priority to local residents for less specialized services ▪ Recruitment procedures to be shared with the local authorities for further dissemination ▪ Opportunities for sub-suppliers and sub-contractors should be awarded to local firms which in turn employ local labour ▪ Signage such as "No employment at the moment " shall be installed to keep away job seekers
B5. Generation of solid waste	▪ Waste management on site shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed as prescribed in The Environmental Management Act, 2004, Part IX (a). This section gives mandate the local government authority to choose the best method of solid waste disposal for their areas of jurisdiction in consideration to climatic conditions, economic ability, interest of the community, environmental, hygienic and social benefits; and availability of tipping sites. ▪ All solid waste shall be disposed of offsite at an approved dumping site located at Nyachonga Hamlet, Ngara Mjini Ward. ▪ Inert construction rubble and waste materials shall be disposed at an approved site located at Nyachonga Hamlet, Ngara Mjini Ward. ▪ Ensure that site personnel are instructed in the proper disposal of all waste. ▪ Ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter. Measures shall be taken to reduce the potential for litter and negligent behavior with regard to the disposal of all refuse. ▪ At all places of work provide litterbins, containers and refuse collection facilities for later disposal. ▪ Solid waste may be temporarily stored on site in a designated area prior to collection and disposal. Waste storage facility shall be covered, tip-proof, weatherproof and scavenger proof. The waste storage area shall be fenced off to prevent wind-blown litter. ▪ The Contractor shall provide metal refuse bins or equivalent plastic refuse bins, all with lids, for domestic waste. Refuse shall be collected and removed from all facilities at least twice per week
B6. Generation of liquid waste(Human Sanitary Waste)	▪ Contractor may use the existing toilets established by Co-contractor during the construction period

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	▪ Pit latrines and/or septic tanks/soak-away pits at the site for liquid waste collection and regular emptying. ▪ All storage containers will be properly sealed and monitored to avoid any possible Oil spillage and the use of oil kits
B7. Soil and Water Quality Contamination	▪ All machinery must be keenly observed not to leak oils on the ground. ▪ Maintenance must be carried out in a designated area and where oils are completely restrained from reaching the ground. Such areas should be covered to avoid storm from carrying away oils into the soil or nearby surface run-off. Waste water/ wash water from these areas should be properly disposed. ▪ Maintain hygiene conditions at construction site i.e. Good industrial hygiene practices will be maintained ▪ Establishment of primary and secondary containments for waste oil storage before final disposal
B8. Generation of hazardous waste	▪ Separate all hazardous wastes from domestic waste during collection and transportation ▪ All vehicle and equipment mechanical repair activities shall be conducted on proper designated space within the project site or at a nearby garage ▪ All generated hazardous during construction of structures shall be temporarily stored at designated area at the site and then to be removed from site by a registered hazardous waste dealer. The process shall be complied with The Environmental Management (Hazardous Waste Control and Management) Regulations, 2021, Part V (15). This section described that the Minister may issue permits for in-country management of hazardous waste for the activities such as collection of hazardous waste, storage of hazardous waste, transportation of hazardous waste, owning or operating a plant, facility or site for recycling or recovery or re-use or treatment or disposal of hazardous waste, etc. ▪ Replaced oil and brake fluid to be properly handled in a designated area with primary and secondary containments prior to be disposed by an authorized dealer ▪ All storage containers will be properly sealed and monitored to avoid any possible Oil spillage and the use of oil kit
B9. Noise nuisance and Vibration	▪ The Noise levels along the perimeters of the project area shall be monitored and recorded to insure that activities at the site are not exceeding standards.

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	▪ Workers will be provided with personal protective equipment (PPE) such as ear muffs/plugs during construction and especially workers working in noisy areas. ▪ Concrete mixing will be done away from residential area. ▪ Additionally work will be carried out during the day. ▪ Vehicles and equipment will be maintained and serviced as required to ensure they do not generate excessive noise.
B10. Creation of occupational health and safety risks to workers	▪ Appropriate working gear (such as nose mask, ear muff, hard hats, and safety clothing) and good construction site management will be provided. ▪ The contractor will ensure that the construction site is hygienically kept with adequate provision of facilities including waste disposal receptacles, clean toilets, firefighting and clean and safe water supply. ▪ A well-stocked First Aid kit (administered by qualified First Aider personnel) shall be maintained at the construction site. ▪ The medical personnel shall also be responsible for primary treatment of ailments and other minor medical cases as well as providing some health education to the workforce. ▪ The Contractor shall strictly follow occupational health and safety procedures as required in Occupational Health and Safety Act No. 5 of 2003
B11. Public Health Hazards due to Wastes	▪ The contractor shall regularly conduct community communication and engagement meetings with villagers so as to raise health and safety awareness to the people ▪ Establishment of temporary and comprehensive sanitary facilities such as toilets, bathrooms etc during the construction phase ▪ Proper storage and management of solid waste as well as other hazardous materials to avoid surface water contamination to nearby water sources through storm water overflow. ▪ Ensures hygienic environment on site to avoid the outbreak of disease such as cholera, dysentery, etc ▪ The Contractor shall entirely barricade with visible nets or tapes excavated trenches.
B12.Disruption of traffic flow	▪ Only qualified drivers with appropriate driving license shall be

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	engaged ▪ Induction course shall be done to all drivers prior starting driving ▪ Drivers shall be sensitized on maintaining speed limits for main road and on access roads/internal driveways. ▪ Promoting safe drive with specified hours for long drive to avoid fatigue ▪ Provision of road and safety signs shall be done on site and surrounding areas that are to be followed by drivers and public in collaboration with local authority ▪ Where necessary; the problem will be mitigated by informing the members of the public about possible disruption of traffic movements along the access road, and the inconveniences caused by the project construction activities. This can be through a conduct of consultative meeting with residents nearby the project so that the general public and particularly the road users can be made aware of the problem and proposed mitigation measures
B13. Possible Spread of HIV/AIDS, COVID-19 and Other Infectious Diseases.	▪ Workers will be sensitized on the issue of HIV/AIDS and Sexual Transmitted Diseases (STDs) and on the proper usage condoms etc. ▪ Establishment and implementation of HIV/AIDS awareness and prevention programs. ▪ HIV/AIDS testing will be conducted and counselling services will be done ▪ Providing protection gears where needed such as condoms ▪ The contractor shall provide employment priority to local unskilled laborers to minimize number of new comers ▪ The Contractor shall develop and implement HIV/AIDS and STIs prevention and control programme ▪ The Contractor shall put in place the COVID-19 contingency plan developed by Ngara District Council
B14. Increased Risk of GBV, SEA and Harassment	▪ Regular training for workers on required lawful conducts in the project communities. ▪ Creation of partnership with local offices of the Ministry of Women Affairs and Youth Development, NGOs and community women groups to report workers' misconduct and complaints/reports on gender-based violence

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	▪ Gender based equal opportunities in all project phases ▪ Create opportunities for employment of women in both management and casual placements ▪ Formulation of proper Grievance Redress Mechanism for GBV and SEA actions occurred in working area or around the local community ▪ All gender based employment must consider labor act (18+ Years and above)
B15. Child labour, and forced labours	▪ Employment must consider labor act (18+ Years and above) ▪ Prohibit Students to engage in any contractor's activities ▪ Spread awareness among parents and surrounding communities ▪ Strict laws in place to prevent child, forced labors and human trafficking ▪ The Consultant Engineer with Proponent shall strictly make sure the Contractor adheres to Employment and Labour Relations Act No. 6 (2004) of United Republic of Tanzania
B16. Teenage Pregnancies	▪ Strictly enforcing labors to avoid sexual abstinence with teenagers ▪ Developing a community based approach which utilizes school sex education integrated with parent, church, and community groups ▪ Increasing teenage knowledge of contraception ▪ Formulation of proper Grievance Redress Mechanism for GBV and SEA actions occurred in working area or around the local community ▪ Providing counseling and medical and psychological health and education
B17. Land Degradation from Extraction and Use of Building Materials	▪ Depletion of resource cannot be avoided for developing this project. ▪ However, the contractor shall not be responsible to extract construction materials from the sources, only licensed suppliers will supply all required materials to Contractor ▪ Ngara District Council under environmental department in collaboration with other potential stakeholders shall strictly prohibit the Contractor to extract materials direct from the borrow pits/sources

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
B18. Risk of Construction Materials vandalism	▪ Ngara District Council shall collaborate with prospective communities in creating community sense of ownership ▪ Security guards should be present all the time for safety of all properties within the construction site.
B19. Loss of Biodiversity	▪ The contractor is responsible for informing all employees about the need to prevent any harmful effects on natural vegetation on or around the construction site as a result of their activities; ▪ Clearing of natural vegetation is kept to a minimum; ▪ Unnecessary removal, damage and disturbance of vegetation are prohibited; ▪ Re-vegetation of the proposed project site is undertaken; ▪ Indigenous trees are planted around project area to enhance natural habitat
B20. Change of Landscape of the Area	▪ The problem could be minimized by confining the construction activities within the proposed project site ▪ Ensure management of excavation activities ▪ Light compaction will be necessary to stabilise the soil. ▪ In areas where construction activities have been completed and where no further disturbance would take place, rehabilitation and re-vegetation should commence as soon as possible. ▪ Ground clearance should be minimized and if possible concentrated only to the specific building foundation areas, and only when it is necessary. ▪ Prompt reclamation of exposed soils should be done. ▪ Construction during long rains period should be done with caution to avoid soil from being washed away.
C. DEMOBILIZATION PHASE	
C1. Loss of Temporary Employment	▪ Adapt a project – completion policy: identifying key issues to be considered. ▪ Assist with re-employment and job seeking of the involved workforce. ▪ Compensate and suitably recommend the workers to help in seeking opportunities elsewhere. ▪ Offer advice and counseling on issues such as financial

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	matters.
C2. Vegetation Regeneration	▪ Supporting vegetation growth around the project site ▪ Provision of training to scheme attendants in nurturing of planted vegetation around the project site
C3. Restored clean site	▪ Collection and transportation of unwanted materials to the disposal site ▪ Allow community to take valuable building materials for example timber for reuse in construction of wastes
D. OPERATION PHASE	
D1. Creation of public safety hazard due to Falling of Wall fence	▪ Regular maintenance of perimeter wall fence ▪ Affixing safety signs to warn people to stay close to the wall fence ▪ Stabilize and secure structural bricks wall against leaning and bulging outwards/Inwards by using concrete columns after each 3.5meters. ▪ Establishment of proper storm water drainage system to prevent soil erosion along the wall fence.
D2. Occupational Health and Safety Risks to workers due to Maintenance of perimeter wall fence	▪ Hiring skilled contractor to undertake maintenance/rehabilitation works ▪ Provision of appropriate safety gears to protect construction workers from injuries caused by falling of objects eg. Head injuries, etc
D3. Flooding	▪ The erosion control plan needs to show what Best Management Plan (BMPs) will be used and where, as well as the total disturbance area. The plan must include measures to prevent soil erosion, contain sediment and drainage control. ▪ Proper drainage channels shall be built within the health centre to avoid rain water run-off blockage by the fence
E. DECOMMISSIONING PHASE	
E1. Loss of Aesthetics due to Abandoned Project Facilities	▪ The contractor shall ensure that demolished waste is removed from the site and properly disposed of in designated location. ▪ The site will be rehabilitated to its original state, whereby will be handled over to project proponent who is the owner of the plot. Before handling over, the proponent will conduct internal environmental audit and the report will be submitted

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	to NEMC for approval
E2. Solid waste generation from demolition activities	▪ Waste separation, reuse/recycling and disposal through appropriate techniques as per Ngara District Council. ▪ Waste separation, reuse/recycling and disposal through appropriate techniques as per Ngara District Council and respective Authorities ▪ Unusable materials remains shall be taken to the approved dumping site ▪ The site will be rehabilitated to its original state, whereby will be handled over to project proponent who is the owner of the plot. Before handling over, the proponent will conduct internal environmental audit and the report will be submitted to NEMC for approval
E3. Air pollution from Dust	▪ Protection and well-being of the employees shall be ensured by minimising their vulnerabilities to dust generated areas on-site. The contractor shall use an appropriate shift system and ensure that workers wear necessary protection gears like masks, safety glasses, and ensure that the necessary and standard precautions are rigorously followed to prevent human health impacts. ▪ Measures to suppress dust shall be applied to include watering the area vulnerable for dust in the specific potential dust area within the project area
E4. Noise Pollution from Demolishing Works	▪ Personal protective equipment (PPE) shall be properly selected, operated and maintained to minimize noise ▪ All demolition works are advised to be carried out during the day time ▪ Best practice - methods of working will be developed and strictly observed ▪ Light machineries should be applied during demolition activities whilst operators/workers in various sections with significant noise levels shall be provided with ear plugs
E5. Loss of Employment due to Closure of the Project	▪ Transfer of permanent employees to other Government institutions ▪ Provision of training that can make temporary workers competent for jobs elsewhere shall be provided. ▪ Ensuring that Social Security contributions are remitted to the applicable fund at the right time ▪ Create a severance package in the event of abrupt closure of

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	the facility ▪ The safety of the workers should surpass as a priority of all other objectives in the decommissioning project ▪ Adapt a project – completion policy: identifying key issues to be considered. ▪ Assist with re-employment and job seeking of the involved workforce. ▪ Compensate and suitably recommend the workers to help in seeking opportunities elsewhere. ▪ Offer advice and counselling on issues such as financial matters
E6. Creation of safety risk impacts to local people	▪ Comprehensive Decommissioning Plan shall be established to guide prior to undertake any activities ▪ The Developer shall ensure that all non-degradable solid wastes are well collected and safely disposed off-site ▪ The Developer shall ensure that all materials which are re-usable or recyclable are treated accordingly in other places. ▪ All fine earth materials will be enclosed during transportation to the designated disposal site to prevent dust generation along the route. Trucks used for that purpose will be fitted with tailgates that close properly and with tarpaulins to cover the materials. ▪ Protection and well-being of the nearby communities shall be ensured by minimizing their vulnerabilities to dust, noise generated by the machinery on-site. ▪ Measures to suppress dust shall be applied to include watering the area vulnerable for dust in the specific potential dust area within the project area
E7. Creation of occupational health and safety risks to workers	▪ Comprehensive Decommissioning Plan shall be established to guide prior to undertake any activities ▪ Workers at the site should use appropriate protective gears such as boots, respiratory masks etc. ▪ The contractor shall insist on their workers to use the gears properly ▪ Fatal accidents shall be reported to OSHA within 24hrs of occurrence so as to prevent further recurrences by doing investigation ▪ All respective government authorities should be involved

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	prior to decommissioning activities
E8. Impacts due to vegetation degradation	▪ Ensure that demolition activities are safer and more environmentally friendly ▪ Demolition activities should be confined in a specific site to avoid significant destruction of surrounding vegetation ▪ Driveways and loading areas for demolished materials should be established with precautions to avoid destruction of vegetation ▪ Vegetation restoration should be given priority in the Project Decommissioning Plan
E8. Increased Sediments Load in Water Bodies due to Erosion & Spoils	▪ Progressive rehabilitation and re-vegetation of disturbed land surfaces will be ensured. All water draining from cleared areas will be directed through a sedimentation pond ensuring enough retention time for trapping sediments. ▪ Sediment traps will be constructed along drains and all water from the disturbed area will be directed through a sedimentation pond. ▪ All unwanted materials will be stockpiled in a designated area away from drainage features. ▪ A site waste management plan (WMP) shall be prepared by the contractor prior to commencement of the works. This will include designation of appropriate waste storage areas, collection and removal schedule, and a system for supervision and monitoring
E9. Water Pollution from Salvaging and Stockpiling	▪ All excavated unwanted materials will be stockpiled away from drainage features. ▪ Prior instructions to contractor on handling of hazardous waste such as oils, lubricants and gasoline during decommissioning process will be provided. ▪ A site waste management plan shall be prepared by the contractor prior to commencement of the works. This will include designation of appropriate waste storage areas, collection and removal schedule, and a system for supervision and monitoring. ▪ All refueling for vehicles will be done on dedicated area that has been provided with concrete structure to retain any leaks ▪ All services will also be done away from the demolition site

IDENTIFIED NEGATIVE IMPACTS	MITIGATION MEASURES
	▪ Emergency response measures will be put on site in case of accidental oil spill that will include having absorbent materials and sand kits.

ES-10: Environmental and Social Management Plan (ESMP)

A number of mitigation and enhancement measures have been proposed to address the identified potential negative and positive impacts. These have been used to develop an Environmental and Social Management Plan (ESMP) for construction, operation and decommissioning phases of the project. Programs for both internal and periodic external environmental monitoring have been proposed with an overall objective of ensuring that mitigation measures are implemented effectively. Environmental monitoring will be carried out to ensure that all construction and operation activities comply and adhere to environmental provisions and standard specifications. The activities and indicators that have been recommended for monitoring are presented in Environmental Monitoring Plan (EMP).

Also, the EMP has roles for each and every partner involved in different phases of the project (NELSAP PIU, Project Proponent, Contractor, supervising engineers etc). The total amount to be allocated for an ESMP is Tshs. 37,500,000. This is an indicative budget that can change to reflect the actual activities.

ES-11: Environmental Monitoring Plan (EMP)

The systems for implementation of ESMP has been developed in chapter 9 of this report which is to be implemented as complimentary to the Environmental and Social Management Plan to monitor the impacts of the proposed project and the mitigation measures and to provide a permanent record of such monitoring. Nonetheless, an Environmental Monitoring Plan has been developed to monitor the effectiveness of the environmental protection measures and socio-economic initiatives specified in the ESMP. It supports the ESMP by maintaining a record of environmental performance and enabling adjustments to be made to mitigate environmental and socio-economic impacts during the lifetime of the project. Cost estimates for ESMP implementation and monitoring have been included and it has been estimated to be TSH **44,350,000** as an indicative budget that can change to reflect the actual activities.

Unit / Personnel	Responsibilities
National Environment Management Council (NEMC)	• Conduct environmental compliance monitoring and enforcement to ensure that project proponent is efficiently implement approved ESMP • Undertake screening of the project to determine level of ESIA study • Reviewing and approval of the project ESIA reports submitted by Ngara DC
Ngara District Council	• Holds final responsibility for the environmental and social performance of the project • The Client will be represented by Consultant who will be in charge of the supervision works, and overseeing the contract from initiation stage to completion of construction activities at various proposed sites; • The Client has to procure a contractor who will be responsible for the implementation of the entire project activities; • Responsible for ensuring the site development is implemented according to the requirements as stipulated in ESMP; • Ensure that sufficient resources are available to the other role players to efficiently perform their tasks as indicated in ESMP; • Overall management of all project activities; • Receive and supervise the implementation of the recommendations of the

	environmental report from the Consultant; • Cooperate with Consultant to periodically supervise contractors' activities • Ensure availability of key staffs for social, environmental, health and safety monitoring during project phases
NELSAP PIU	• To provide support to the District where required to facilitate the implementation of LADP activities. • Ensure timely availability and reliability of funding for agreed and approved LADP activities and related interventions. • Ensure timely processing of the direct payments to contractors and consultants on behalf of the district. • Monitoring and evaluation of the progress of LADP activities implemented by the district. • Liaise closely with Ngara DC in preparing a coordinated response on environmental and social management aspects of the project; • Carrying out safeguards due diligence; and • Preparation of weekly environmental and social performance reports for the project.
World Bank	• Financing the entire project activities • Provision of technical support and guidance to Ngara DC, NELSAP PIU, Contractor and Supervising Engineer • Recommending on additional measures to strengthening the ESMP/EMP implementation performance
Consultant (Supervision Engineer)	• Monitoring and supervision of the construction works including overseeing implementation of ESMP • Administer all construction works, progress review and monitor the works undertaken by the Contractor and implementation of ESMP to ensure compliance with contract specification and contractual requirements • Cooperate with Ngara DC to periodically supervise contractors' activities. Scheduled meetings held between the contractor, Ngara DC representative and Consultant. • Include, among its staff, an environmental officer who will oversee the implementation of the ESMP and report to Ngara DC and NELSAP PIU.
Contractor	• responsible for implementation of construction works and ensure compliance with environmental requirements; • Contractor shall prepare/update a Contractor's ESMP (C-ESMP), and ensure that the measures related to environmental and social safeguards are fully carried out as stipulated; • Preparing/Updating the project's Environmental Health and Safety Management Plan; • Conduct general training on occupational health, safety and environment to the construction workforce • Reporting arising works that are detected by Environmental Officer to Consultant and Ngara DC representative for further actions. • Prepare and implement covid-19 contingency plan, prepare and implement emergence preparedness plan, prepare and implement traffic management plan, • To provide appropriate Personal Protective Equipment to employees whenever necessary • To provide HIV/AIDS, STIs and COVID-19 awareness campaign to workers and local community

ES-12: Project Alternatives

The choice of site has been dictated by a number of factors listed below:

a) Availability of alternative site. The main objective of the proposed is to secure the health center by having perimeter wall fence, so no any other alternative site rather that the chosen one.

b) Improving safety and eliminating theft and vandalism of properties from the respective facility

c) Restriction of access to health center/project area by unauthorized people

No-Project alternative is considered as not a plausible alternative.

ES-13: Conclusion and Recommendations

ES-13.1: Conclusion

This ESIA study report presents the analysis and results of the proposed of Health Centre Perimeter wall fence Built at Nyakahanga Hamlet, Rusumo Village, Rusumo Ward Ngara District in Kagera Region. The identified significant negative impacts associated with the proposed activities are related to the proposed construction works, operation and decommissioning phases and observed to be of limited scope. Nevertheless, the identified negative impacts could be minimized or prevented through implementation of recommended mitigation measures. In this regards the project proponent will ensure that the recommended mitigation measures are fully implemented during life cycle

ES-13.2: Recommendations:

From this ESIA, it is evident that the proposed construction of Health Centre's Perimeter wall fence is associated with both positive and negative impacts during construction, operation and decommissioning phases of the project. The following recommendations are made to enhance the viability of the project:

- The proposed mitigation and enhancement measures (the ESMP) should be implemented in order to minimize and/ or avoid the identified adverse environmental and social impacts of the proposed project. The ESMP should be provided as part of the Contractor's contract.
- The EMP should also be implemented to track the effectiveness of mitigation and enhancement measures and hence further improvement of the mitigation plan. Monitoring will be used as a means of ensuring compliance with national or international standards.

SIGNED DECLARATION OF EXPERTS

This Environmental and Social Impact Assessment (ESIA) report has been prepared by team of competent and registered Environmental Experts who are dully certified and registered by the National Environment Management Council (NEMC) of United Republic of Tanzania as an Environmental and Social Impact Assessment (ESIA) and Environmental Auditing (EA) Assessors. We are hereby certifying that the particulars given to this report are correct and true to the best of our knowledge and abide with the Environmental Management Act, 2004 Cap 191 and Environment Impact Assessment and Audit Regulations, 2005 - G.N. No. 349.

Registered Experts

S/N	Name	Responsibility	Signature
1	Mr. Gabriel Gibson	Certified Environmental Assessor (Environmental Planning and Management-Team Leader)	
2	Marco Mchome	MSc Environmental Impact Assessment and Management. Certified Environmental Impact Assessment Expert (Ass.Team Leader)	

Non-Registered Supporting Staffs

1	Fredrick Jailos	Geography & Environmental Studies & Safety and Health Specialist
2	Sharlon Kishenyi	BSc: Environmental Management and Climate Change
3	Eng. Hemed Mussa	Civil Engineer
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5	Mr. Mugisha Gilbeth	Sociologist
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ACRONOMY AND ABBREVIATION

AMSL	Above Mean Sea Level
CRB	Contractors Registration Board
dBA	Decibel
DED	District Executive Director
DIZ	Direct Impact Zone
EA	Environmental Audit
EMA	Environmental Management Act
EPRP	Emergency Preparedness and Response Plan
ESIA	Environmental & Social Impact Assessment
EIAAR	Environmental Impact Assessment and Audit Regulation
EIS	Environmental Impact Statement
EMP	Environmental Monitoring Plan
ERB	Engineers Registration Board
ESMP	Environmental and Social Management Plan
GBV	Gender Based Violence
GN	Government Notice
GRM	Grievance Redress Mechanism
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HSMP	Health and Safety Management Plan
IUCN	Union for Conservation of Nature
IUCN	International Union for Conservation of Nature
KPH	Kilometer per Hour
LADP	Local Area Development Program
NBS	National Bureau of Statistics
NPH	National Population and Housing Census
NEMC	National Environmental Management Council
NELSAP	Nile Equatorial Lakes Subsidiary Action Program
NGOs	Non-Government Organizations
NSGRP	The National Strategy for Growth and reduction of Poverty
OHS	Occupational Health and Safety
OSHA	Occupational Safety and Health Authority
OP	Operational Policy
PAPs	Project Affected Persons
PPE	Personnel Protective Equipment
PLHAS	People Living with HIV/AIDS
RRHP	Regional Rusumo Falls Hydroelectric Project
RUWASA	Rural Water Supply Authority
STD/STI	Sexual transmitted Diseases/Sexual Transmitted Infections
TANESCO	Tanzania Electric Supply Company
TARURA	Tanzania Rural and Urban Road Agency
TMP	Traffic Management Plan
TBS	Tanzania Bureau of Standards
ToR	Terms of Reference
URT	United Republic of Tanzania
VE	Village Executive
WBG	World Bank Group
WE	Ward Executive

AKNOWLEDGEMENTS

Project proponent is very grateful to the World Bank as well as NELSAP/LADP for their full cooperation rendered throughout the preparation of this ESIA report. Special thanks are expressed to all stakeholders in Ngara District including Rusumo village for their vital contributions and their assistance during various project's consultations. For invaluable recognition and their willingness, their names, designations were recorded and appended to this ESIA report. Moreover proponent would like to recognize the contributions of the Ngara District Staffs who have provided great support in logistic, consultations arrangement and in documents provision. Their critical review of the survey process provided an impetus for the completion of the study for which this ESIA report is concerned.

CHAPTER ONE: INTRODUCTION

1.1 Background and Nature of the Project

The proposed Local Area Development Program (LADP) is a benefit sharing program designed to enhance regional economic and social development in the project areas in Rwanda, Burundi and Tanzania. This has been resulted from the Regional Rusumo Falls Hydroelectric Project (RRHP) as one of the priority regional projects in the Nile countries and aims at development of low-cost power generation and regional electricity trade as a means to improving productivity and to promoting economic growth in the region. The LADP project area is located in Ngara District in Tanzania, Kirehe and Ngoma Districts in Rwanda and in communes of Giteranyi (Muyinga Province) and Busoni (Kirundo Province) in Burundi.

The proposed RRHP consists of the construction of: (i) a run-of-river hydropower facility with envisaged installed capacity of 80 MW to be equally shared between the three countries. The power station and associated hydraulic infrastructure is currently under construction and is situated at the Rusumo Falls, where the Kagera River forms the boundary between Tanzania and Rwanda, and (ii) transmission facilities connecting the power plant to the national grids of Rwanda, Burundi and Tanzania. The RRHP project is financed by World Bank (WB) together with African Development Bank (AfDB) with the estimated cost of US$340 million for the Power plant and US$ 120 million for the Transmission lines

In Tanzania, the LADP projects areas are located in Ngara District. Ngara District is one of the seven districts of Kagera Region in the very west of mainland Tanzania. The district is bordering the Republics of Rwanda and Burundi and the distance from Ngara to Dar es Salaam is 1,600 km and 350 km to the regional headquarters (Bukoba). The district remains remote and development actors are not many. Ngara District covers an area of approximately 3,744Km2; it is divided into four divisions, 22 Wards and 75 villages. About 90% of the Ngara households depend on agriculture and livestock production for their livelihoods. The LADP is seen by the district authorities and the population as an opportunity to address key community development challenges. The district has identified most critical areas for the Local Area Development Program (LADP Phase II) including construction of perimeter wall fence for Rusumo Health Centre for security and privacy purposes. Nevertheless; World Bank stands as the major and solely financier of Local Area Development Program (LADP) Phase II.

Therefore, this ESIA report is focused in carrying out an Environmental Impact Assessment (ESIA) for proposed Perimeter wall fence to be built at Rusumo health centre located at Nyakahanga Hamlet, Rusumo Village, Rusumo Ward Ngara District in Kagera Region. Furthermore, this will significantly contribute to improving security to the health facility.

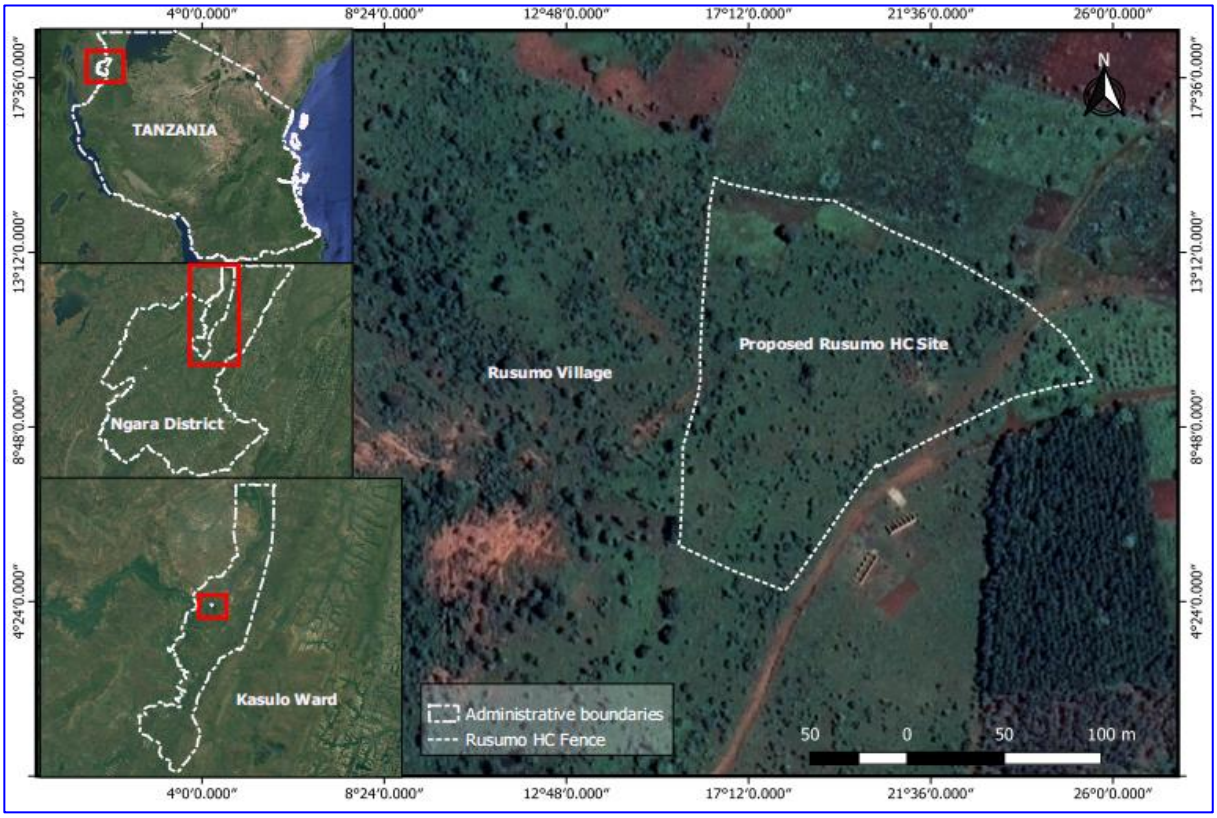

Figure 1: KML Map Showing Proposed Perimeter wall fence -Nyakahanga Hamlet,

1.2 Project Rationale

During fiscal year of 2019/2020 Ngara District Council (hereinafter the Project Proponent) received funds from World Bank through NELSAP under LADP Phase I to undertake construction of Rusumo Health Centre with the aim of providing health services to local dwellers within Rusumo Village and nearby areas. Firstly; the health center is located at the outskirts of the Village town with less security to patients, Staffs and their properties (theft and vandalism). Secondly; the project area is demarcated by farms owned by local residents thus creating a risk of being invaded by local farmers for agricultural activities a situation that could lead to social conflict if the facility needs to be expanded in the future. Thirdly; if the project area will continue to be open, people will be randomly passing within the project area and removing the rights for confidentiality/privacy to patients and service providers. Based to the above reasons, Rusumo Village collectively with Ngara District Council has decided to construct a perimeter wall fence with the linear distance approximately 444.91meters to stymie the above detrimental impacts.

1.3 ESIA Process:

The First Schedule of the Environmental Impact Assessment (EIA) and Audit Regulations, 2005, made under Regulation 5 (1) as amended in GN. No. 474, Regulation 13(c) of 2018 categorizes this project as Type B1 (Borderline projects) - Project requiring a mandatory EIA; that is, the project is likely to have significant adverse environmental impacts and that in-depth study is required to determine the scale, extent and significance of the impacts and to identify appropriate mitigation measures. According to the "List of Projects Requiring EIA (Mandatory List)" in the First Schedule, Item 13, titled Building and Civil Engineering Industries

Furthermore; World Bank (WB) requires Environmental and Social Impact Assessment (ESIA) to be conducted to assess whether is likely to cause significant potential harm (if any) to the surrounding environment before any actual activity is started in the proposed Construction of perimeter fencing

wall. The proposed project is categorized as Category B1 in the Environmental and Social Screening Procedures (ESSP) used by World Bank to categorize initiative based on environmental opportunity/risk and determines depth of environmental analysis needed. The World Bank Safeguard Policy applicable to this proposed project is *Environmental Assessment Policy (OP 4.01)* coupled with *IFC/WBG/WHO Guidelines: Occupational Health and Safety, IFC/WBG/WHO Guidelines: Air Emissions and Ambient Air Quality and IFC/WBG Guidelines: Noise Management, IFC/WBG/WHO Effluent Discharge Guidelines*

In order to meet the requirements of WB and NELSAP/LADP, the ESIA process has also been carried out in compliance with the applicable WB Policy on Environmental Sustainability. This report fulfils both requirements of the WB, environmental legislations of the United Republic of Tanzania and other international environmental requirements.

1.4 Objectives of ESIA

The purpose of this ESIA study was to systematically assess the potential environmental impacts of LADP activities at the targeted construction of block fencing wall through a comprehensive Environmental Impact Assessment (EIA), in compliance with relevant laws and policies of the Government of Tanzania. In addition, this ESIA process was carried out in order to provide a monitoring guideline for the project management to act upon during construction activities. Other objectives of the assessment were as follows:

i. Establish a detailed documentation prevailing baseline conditions before project construction commences;
ii. Identify the anticipated environmental impacts of the project and the scale of the impacts;
iii. Propose mitigation measures to be taken during and after the implementation of the project;
iv. Procurement the consultation process undertaken to inform potential project stakeholders as well as the attitude of the stakeholders towards the project;
v. Consider stakeholders' views and suggestions on project's design;
vi. Consider different alternatives to the project to meet the intended objectives and discuss alternative methods for developing the project to ensure that the project is justified from a broader environmental and social perspective, and
vii. Develop an Environmental and Social Management Plan (ESMP) with mechanisms for monitoring and evaluating the compliance and environmental performance which shall include the cost of mitigation measures and the time frame of implementing the measures.

1.5 Approach and Methodology

1.5.1 Approach

This ESIA Report has been prepared in line with NEMC and WB Environmental and Social Assessment Guidelines, Tanzania's Environmental Management Act (2004), EIA and Audit Regulations (2005), its subsequent regulations of 2018(G.N. No. 474 of 2018.

The approach applied by environmental experts was to divide project area into Direct Impact Zone (DIZ) and the Area of Influence (AI). The Direct Impact Zone is the area that will be immediately and directly affected by the actions undertaken during the construction of Health Centre Perimeter wall fence, operations phase and post-operation phase of the project. This area includes the site itself and marginal zones up to 60 meters on all sides from the project's boundaries.

The DIZ was determined on the basis of the following factors:

- The distance of travel of noise, dust, vibrations and exhaust fumes from operating machineries, trucks from the site boundary; and
- Marginal zones and developments from the site within 60m as it is within this distance that impacts are likely to be felt.

The AI is the area beyond the DIZ where most of the environmental impacts will be induced or influenced by the project activities. It is not subject to direct contact with the site, but is directly or indirectly affected by the presence of the proposed project site. Areas for borrow pits, waste dump, wastewater receptors are also considered as Areas of Influence.

1.5.2 Study Team

The ESIA study team included an EIA expert, Sociologist, Environmental Scientist, Biodiversity Expert, Safety and Health expert, Civil Engineer and AutoCAD Technician. The team was led by the environmentalist who is also an EIA expert. The names of the members of the study team and their responsibilities are provided in the page xix.

1.5.2.1 Documents Review and Study

Information and data were collected by direct observation, through consultations and secondary data sources. Information and data collected include water supply situation, sanitation situation, land use, demography, and other indicators related to environmental and socio- economic trends of the project area.

The consultant reviewed various relevant documents to be familiar with relevant issues pertaining to the study. The review of documents included: The Environmental Impact Assessment and Audit Regulations, 2005, The Environmental Management (Environmental Impact Assessment and Audit) (Amendment) Regulations, 2018, Ngara District Socio-Economic Profile 2015; Ngara District Strategic Plan 2011/2012–2015/2016; National Bureau of Statistics, Population Distribution by age and sex, 2012; and National Bureau of Statistics, Key Findings 2011/2012 Household Budget Survey. Other documents included Status of Livelihood Restoration Program, Geographical info, and maps of project areas, Summary report for LADP activities (June –2018-November, 2020), Environmental and Social Impact Assessment (ESIA) for the proposed Rusumo Falls Hydroelectric Project - Dam & Power Plant Component Report July, 2013, and Feasibility Report for Local Area Development Projects in Ngara District, October 2019.

1.5.2.2 Field Visit

The main objective of the field visit was to gather information relevant for the study. Field studies involved walking on the project site for assessing the existing situation of the proposed site and the nearby surroundings. The ESIA study team visited and did the physical assessment on the proposed site and their core impact areas.

The fieldwork was carried out from in 05th/November – 09th/November/ 2021. Activities carried out during field studies included

- Interviews and consultation with stakeholders,
- Indoor village consultation meetings,
- Appraisal of environmental conditions of the project site and areas that might be impacted by the project – hydrology, flora, fauna, and
- Appraisal of land use and assessment of other relevant socio-economic parameters.

During the field visits, consultation with relevant stakeholders was also conducted. Particular attention was paid to the impact on the livelihood of the people living within or in the immediate vicinity of the proposed project

1.5.2.3 Stakeholders Consultation

The main aim of the stakeholder consultation was to inform the stakeholders about the proposed project and incorporate their views in the design of the mitigation measures and Environmental and Social Management Plan (ESMP). The specific aims of the consultation process were to; reduce problems of institutional coordination; provide precise information about the project to the communities; obtained the main concerns and perceptions of the stakeholders regarding the projects; and obtain opinions and suggestions directly from the affected communities on their preferred mitigation measures.

- **Meetings with Community:** The public stakeholder village consultation meetings were conducted and intended to collect information regarding sources of livelihood, living standards, and views and perceptions of the communities regarding the proposed projects. Stakeholders visited include Residents at Rusumo Village, Nyakahanga Hamlet and Village Chairpersons, Village Executive Officer (VEO) and Ward Executive Officer (WEO).

- **Official Consultation:** The ESIA team met government officials who include District Executive Director (DED), District Manager - Rural Water Supply and Sanitation Agency (RUWASA), District environmental Management Officer, District Land and Natural Resources Officer (DLNSO), District Medical Officer (DMO), District Fire Office, LADP coordinator Ngara DC, and NELSAP representative. Other stakeholders from various agencies who work within Ngara. The names and signatures of the consulted stakeholders are as attached in **APPENDICES**. The visited stakeholders had opportunities to express their views/concerns regarding the project.

1.6 Project Impact Assessment

Superimposing project elements onto the existing social and environmental conditions in the project area did impact assessment. The checklist method was used to identify the impacts and to recommend mitigation measures. Using the matrix method identified significant impacts. A key guiding assumption in this study is that the project will be designed, constructed, operated and maintained with due care for safety and environmental matters using current and practical engineering practice and/or Best Available Technology Not Entailing Excess Cost (BATNEEC). The implementation schedule of the mitigation measures is summarized in the Environmental and Social Management Plan (ESMP).

During environmental assessment the environmental impacts have been evaluated for various alternatives. The impact assessment entailed the following:

(a) Collection of Baseline Data

The collection of baseline data was conducted in parallel subsequent to defining the scope of the ESIA. These data allows the study team to determine whether more detailed information on environmental and social conditions in the project area and surroundings are needed and where such information can be obtained.

Both primary and secondary data were collected. Primary data were collected by direct measurement, observations and using semi-structured interviews with respective and targeted parties. Secondary data were obtained from various relevant sources of information such as District profile and many other official and non-official documents.

(b) Review of Policies, Legal and Institutional Framework for Environmental and Social Management

This allowed the study team to update and enhance their understanding of national policies, legislation and institutional arrangements for environmental and social management in Tanzania and relevant international procedures to ascertain the optimal management of impacts.

(c) Identifying Environmental and Social Impacts

Compiling a contender list of key impacts such as loss of flora and fauna, settlement patterns, social and cultural systems, water resources and land tenure systems undertook this.

(d) Predicting Environmental and Social Impacts

The environmental and social impacts were identified and their potential size and nature were predicted. The prediction of impacts specified the impact's causes and effects and its consequences for the environment and the social aspects.

(e) Determining the Significance of Impacts

The key activity was to evaluate the significance of impacts, engineering judgments were made about which impacts found in the study area were considered important and therefore need to be mitigated. Criteria like *likelihood*, *reversibility* and *severity* of the impact were used. Also the *scale of the impact* in terms of *spatial* and *temporal* was also taken into account.

(f) Identifying Mitigation and Management Options

The options for dealing with identified and predicted impacts were considered. This enabled the study team to analyse proposed mitigation measures. A wide range of measures has been proposed to prevent, reduce, remedy or compensate for each of the adverse impacts evaluated as being significant. Analysis of the implications of adopting different alternatives was done to assist in clear decision-making.

1.7 Organization of the Report

Chapter One - Introduction: Provides the introduction on the background information of the proposed project, its development objectives and scope, project rationale and the methodology used to conduct ESIA.

Chapter Two - Project Description: Describes the general project description, in which there is a description of the location and relevant components of the project and their activities.

Chapter Three – Legislative Framework and International Guidelines: Illustrates policies including World Bank safeguard policies, and legal framework, which are relevant to Tanzania environment and legislation applicable to the project.

Chapter Four – Description of Baseline Situation: Gives the baseline information relevant to the project. It also gives information on Environmental characteristics, which details the physical and socio-economic environment and general environmental condition of the project area.

Chapter Five - Stakeholders Participation, Issues and Concerns: Express the consultation exercise at the project area detailing the list of stakeholders consulted and issues raised.

Chapter Six - Identification of Impacts and Analysis of Alternative: Describes the positive and negative environmental impacts of the project that are likely to be generated from different phases of the project (pre-construction, construction, operation and decommissioning phases), and their level of significance. Describes the project alternatives in terms of sites location, technological choices.

Chapter Seven - Mitigation and Enhancement Measures: Gives the enhancement and mitigation measures for the positive and negative impacts of the project. The chapter also summarizes the grievance procedure and mechanism to be followed.

Chapter Eight - Environmental and Social Management Plan: Presents the proposed environmental and social management plan designed to evaluate the implementation and performance of the mitigation measures. The chapter also explains the environmental, health and safety practices and procedures including the management plan especially during construction phase

Chapter Nine – Environmental Monitoring Plan: Contains the proposed institutions to carry out the monitoring activities, the monitoring indicators, time frame and the proposed budget for monitoring.

Chapter Ten – Decommissioning Plan: The chapter gives activities to be performed after completion of proposed construction works so as to restore site at least to original condition

Chapter Eleven – Conclusion and Recommendations: Gives the conclusion and recommendations of the study, presenting the environmental and social acceptability of the project, taking into account the impacts, measures and recommendations identified during the assessment process.

-References: Presents a list of the references used during the preparation of the ESIA Study.

1.7.1 Review and Approval of the Report

ESIA report will be submitted to the Proponent who also will share it with the WB/NELSAP, the donor with keen interest in environmental and social acceptability and sustainability of all the development projects it funds, for joint review and comments. The comments will be incorporated and finalized the ESIA report that will be disseminated to relevant stakeholders in Tanzania for public access.

CHAPTER TWO: PROJECT LOCATION AND DESCRIPTION

2.1 Project Location

Ngara District is one of the seven districts of Kagera Region of Tanzania. The district is considered to be in the highlands of Tanzania. The total area for Ngara district is 3,744 Km^2. The district lies on the West of mainland Tanzania between latitudes $2^0$45″ South and longitudes 30^0 64″ East. It is bordered to the North by Karagwe District, to the East by Biharamulo District, to the South by the Kigoma Region, to the Northeast by Muleba District and to the West by the countries of Rwanda and Burundi.

The proposed project is located at Nyakahanga Hamlet, Rusumo Village, Rusumo Ward Ngara District in Kagera region

2.1.1 Accessibility

The site is about 5kilometers South-East of Rusumo Boarder and North-West of Mshikamano Village as the nearest Village Centers, also this is approximately 30kilometers by road, north-east of Ngara CBD. The geographical coordinates of Rusumo Health Centre Tanzania are: latitude 9734883 and Longitude 255278

Figure 2: KML Map showing project location – Nyakahanga Hamlet

(Source; GIS Expert-November, 2021)

2.2 Project Site Description and Existing Structures

The proposed linear distance is characterised with relatively flat terrain with sandy clay loam soil type dominated with short grasses and shrubs which will be cleared prior to construction activities. Generally; the proposed project site is located in rural-urban setting environment whereby exotic trees, cropland, grassland and very few scattered residential-Commercial buildings are dominated adjacent to the project site while the indigenous trees have long been cleared-off to pave way for human developments/activities.

The dominant vegetation species within the site specific/proposed linear distance are; Sisal *(Agave Sisalana)*, Giant thatching grass *(Hyparrhenia rufa)* Lantana, Shrub Verbena, Tick Berry and Bunga tahi Ayam *(Lantana Camara),* while adjacent the proposed route there are Banana trees *(Musa Paradisiaca)* and Pine trees *(Pinus Patula).* Dominant short grasses and shrubs within the site specific will be cleared off from the site to allow construction activities to be commenced.

Based on the state of the whole site there is no pristine environment that can promote thriving and existence of the species of conservation concern as per IUCN and CITES standards. Furthermore, there are no sensitive ecological receptors in the vicinity of the project area. Also, there were no cultural or archaeological objects that were noticed or observed during the study or reported earlier during the consultation stage with local community

Nevertheless; within the proposed project area there are several buildings specifically built for the use of the health facility. The constructed health facility is currently not in use until it is equipped with working facilities, connected national grid electricity as well as other potential utilities. The Health Facility consists of;-

- Combined theatre and maternity block
- Laboratory block
- Mortuary block
- Three Staff houses (2 in 1)
- Laundry block
- OPD Building
- Administration building
- RCH block
- IPD building and X-ray building
- Incinerator, Ash and Placenta Pits
- Sanitary facilities such as toilets, bathrooms, etc
- Ancillary services such as parking lots, emergency assembly point, ornamental gardens to be given priority within the premises.

2.3 Land Ownership

The proposed project site is legally owned by Ngara District Council/ Rusumo Village Government under Land and Land Village Act (URT, 1999) (No. 4 of 1999 amended by No. 2 of 2004). The project site has a total coverage area approximately 5.0 Acres. Preliminary consultations with District Executive Office, Ward and Village Government Authorities and nearby residents during the fieldwork revealed that all parts have agreed the project to be commenced as designed. *(See the attached Local Consent Appendix I & Title deed, Appendix III)*

2.4 Major Adjacent Developments

North-West the project site is demarcated by access road, two incomplete commercial buildings and Pine *(Pinus Patula)* farm while on the other sides, the project site is demarcated by undeveloped land and farming plots

2.5 Other Amenities

2.5.1 Manpower

Construction of the proposed project with its ancillary structures may require 30 personnel both skilled and unskilled while 7 technical personnel will be involved in professional works. All unskilled labors (23 people) will be sourced from the project area/Village while local leaders will be involved during the recruitment stage.

Tanzanian labour Law requires that workers should be provided written employment contract at the start of employment. Among others; an employment contract must state the information such as; name, age, permanent address and sex of the worker, job description; date of commencement; form and duration of the contract; place of work; hours of work; remuneration, the method of its calculation, and details of any benefits or payments in kind, and any other prescribed matter. This exercise will be closely supervised by Proponent to ensure that all prescribed terms and conditions of the employment are adhered by both sides.

Security guards will be outsourced from the licensed company as described in the TZS 630: 2013, Code of practice for static guarding, mobile patrol and key holding services.

2.5.2 Power source

During construction, the proposed project shall be relied on mobile generator since the site is not connected with Electricity from TANESCO. The diesel powered generator will be used for lightings, cutting steel reinforced bars, welding, etc. Best Management Practice shall be practiced to ensure the diesel powered generator is used in an environmentally friendly manner.

2.5.3 Water supply

The Contractor shall hire local water suppliers to supply water for construction of the proposed project. It is anticipated that 10,000 Liters will be used during the entire period of construction activities whilst 1,000Litters/day will be used for sanitation for 30 workforces. It must further be noted that the water abstraction from the sources by the contractor should not compromise the water availability for community use so as to avoid the conflicts.

2.5.4 Drainage Systems/Storm water

Drainage system for surface run off will be constructed to drain storm water to a special designated area since within the proposed area there is no public drainage system and surface runoff drainage.

2.6 Project Components

Table 1: Project Components

S/N	COMPONENT	QUANTITY
1.	Wall Fence with the linear distance approximately 444.91meters	1

Source: Engineering design/2021

2.7 Project Development Phases and Activities

2.7.1 Designs phase

The designs for running wall fence and entrance gate have considered the actual project environment and safety standards such as minimum setback distance of 18 inches for decorative landscaping, sidewalk, etc. However; the project design is based on the following aspects;-

- Running/Linear distance approximately 444.91meters
- Entrance gate with approximately 6meters width
- Wall fence with approximately 2.75meters height

- Entrance gate with approximately 2.85meters height.
- Concrete columns approximately 128 with reinforced bars

2.7.2 Mobilization Phase

This initial phase of project implementation will commence when all necessary permits and preparatory processes (including works tender) have been successfully completed. This phase involves creation of awareness to the local communities that are near to the proposed project area, the exercise which has been accomplished. The phase will also involve organization of construction materials and site preparation activities which would include; uprooting of some trees and filling of ground holes. Furthermore, activities that will include in this phase are as follows:

- Topographical Survey
- Site clearance,
- Establishing storage structures and temporarily sanitary facilities where necessary
- Geotechnical investigations
- Architectural, Engineering and Services Designs
- Environmental Impact Assessment
- Securing the project site
- Identification of source of local materials i.e. water, sands, cements, iron bars, concretes and labours
- Security and safety.

2.7.3 Materials to be used, source and quantities

Large percent of the building materials such as sand, aggregates, cement, paints, timber, shall be sourced locally via certified suppliers. The contractor's BoQ dictates the quality and quantity, availability and the material sources. However, most of construction projects in Ngara obtain materials locally, except for specialized building elements and installation. No construction materials and machinery/equipment are expected to be imported from outside the country. To avoid material accumulation with potential for impeding site activities, inducing safety hazards and creating a nuisance in the neighborhood, the main contractor intends to have materials delivered to the site in small quantities or to have a very specific designated are for materials stockpiling.

Timber will be used mainly for column and copping formworks as well as other masonry needs. Consideration will be given to the working area and material storage requirements to ensure there is no conflict with the movement of the workers. Construction equipment's include: bulldozer, motor grader, concrete mixer, water bowser, trucks for carrying site materials, etc.

2.7.4 Construction Phase

The construction phase will generally involve the construction/erection of the perimeter wall fence at Rusumo Health Centre. This includes;

- Clearance of the linear distance/site approximately 444.91meters
- Construction of health center's Perimeter wall fence and associated civil works
- Landscaping

2.7.4.1 Project Activities during Construction Phase

Clearing of vegetation: this involves uprooting of plants/trees and grasses in a confined areas as preparatory works prior to construction activities.

Excavation: Excavation of trenches and top soil will be carried out using hand tools/local tools, Most of this soil will be utilized in backfilling to the foundation as well as general landscaping of the project site.

Leveling: This will be done for the purpose of shaping the surface for architectural activities. The leveling will consider gentle slopes which will support the draining of surface water ie. Storm water, wastewater, etc.

Building the Foundation: The foundation and coping will be built using stones, concrete, cement and steel bars. The foundation is for erecting wall and storm water drainage systems. The process will generate some noise, smoke and dust especially from the operating machineries and cement respectively. However, workers will be sensitized on the use of personal protective equipment and management of air pollution from construction machinery.

Erection of Perimeter Wall Fence: Wall will be built of concrete bricks and cements, while columns and coping will be built of cements, concrete and reinforced bars. Ample time will be given for layers of concrete in the columns and coping to cure. This will ensure the structure to be strong and compact.

Construction of entrance/Main gate: An entrance gate will be erected using steel materials while sidewalls shall be erected using concrete, cements and reinforced bars. The Main Entrance shall be at grade level, sheltered from inclement weather, and accessible to the disabled people.

Finishing

- **Landscaping:** Setback distance of 18 inches for decorative landscaping shall be retained and planted with flowers and grasses. However; the top soil will also be treated with organic manure to encourage faster and improved plant growth.

Duration

The duration of this phase will be three (3) months

Types, Amounts and Sources of Project Requirements

The materials for construction will be derived from authorized areas whereby only licensed person will be allowed to collect materials meanwhile the Contractor will purchase from only the licensed suppliers. The authorized areas in Ngara include Kamatenderi area for stones, Kabiranzwili and Rulenge for sand. Types and sources of project requirements during the construction phase are shown in Table 2 whilst the quantities of materials will be indicated in the Bill of Quantities (BOQ).

Table 2: Types and sources of project requirements during the construction phase

Requirements	Type	Source
Raw Materials	Aggregates	• Ngara (Subcontract to local suppliers)
	Sand	• Ngara (Subcontract to local suppliers)
	Water	• Water Bowser from Authorized sources
	Cement	• Ngara or Kahama
	Reinforcement bars	• Ngara or Kahama

Requirements	Type	Source
	Brick blocks	• Ngara
	Timber	• Ngara
Energy	Electricity	• Mobile Generator
	Fuel	• Ngara fuel stations
Manpower	Skilled	• Contractor
	Unskilled	• Local People
Equipments	Wheel burrows	Contractor
	Water Bowser	• Contractor
	Bulldozer	• Contractor
	Grader Machine	• Contractor
	Concrete mixer	• Contractor
	Tippers	• Contractor

Transportation

Materials (fine and course aggregates) from quarries will be transported by trucks to the construction site. Water will be moved by water bowser. Other materials like cement, timber, concrete bricks, sand and reinforcement bars will be transported by trucks to the construction site from authorized local vendors/suppliers.

Storage

Some of the materials from borrow sites will be used directly after delivery and as such no piling up is expected. Other materials like concrete bricks, timber, aggregates and sand will be stored at the specific designated area with all safety hazards pre-cautions prior to be used. Cement and reinforcement bars will be stored in special storage rooms.

Types, Amounts and treatment/disposal of Wastes

Types, amounts and treatment/disposal of wastes during the construction phase are shown in Table 3:

Table 3: Types, amounts and treatment/disposal of wastes during the construction phase

Waste	Types	Amount	Treatment/ Disposal
Solid Waste (Degradable)	Vegetation (Trees, Grasses and shrubs) and remnants of timber.	About 7m^3 of biomass (Clearance for site construction)	-Disposing t the designated area -Source of energy for cooking to villagers.
	Food remains, cardboards and papers	2kg/day (Based on work load)	-Sorted properly and Temporarily stored in a designated collection cage/point before collected by Authorized dealer
Solid Waste (Non-	Cut Soil	8m^3	Soil will be utilized in general landscaping of the

Waste	Types	Amount	Treatment/ Disposal
Degradable)			compound particularly on leveling stage
	Scrap metals, drums, used tiles	Minimum	Sold to Recyclers
	Tins and plastics	Minimum	Taken to the dumpsite at Ngara District by Authorized Dealer
Liquid waste	Sewage	1m^3/day (Based on 30 people, 33l/capita/day water consumption and 80% becomes wastewater)	Septic tank –Soak away system
	Oils and greases	Minimum (trucks and equipments maintenance will be done at proper garages or designated area	Sold to Authorized recyclers

2. 7.6 Operation Phase

The actual usage of the erected bricks perimeter wall fence is expected to commence immediately after the construction works. The completed project will be directly managed by Ngara district council and respective health facility. The design horizon is 15 years, after which regular rehabilitation will be needed. During this time, Ngara district council /Respective health facility will carry out routine maintenance. Generally the operation phase will involve the following activities;

2.7.6.1 Activities during Operation Phase

Activities under this phase include:

- Periodic repair and Maintenance of the perimeter wall fence
- Regular maintenance of entrance gate
- Retaining and improving the ornamental garden as well as the general aesthetic view

Duration

The duration of this phase will be Fifteen (15) years.

Transportation

Types and quantities of materials for rehabilitation/maintenance will be determined by nature of the problem at the site. Fine and course aggregates will consistently be sourced from the designated quarry sites and will be transported by trucks to the site. Water will be moved by water bowser or supplied by RUWASA depending on the volume required for rehabilitation or maintenances. Other materials like cement, sand, timber and reinforcement bars will be supplied by nearby local vendors.

Storage

In this operation phase, few materials will be required for rehabilitation works. Some of the materials will be used directly after delivery while the remained will be stored to the existing storage rooms. Bulk materials like aggregates, sand, etc will be stored at the designated area within the premise with precautions to HSE.

2.7.7 Decommissioning Phase

This is the final demise of the the new infrastructures will be use value. The decommissioning entails demolition of the fencing block and other appurtenances. However, decommissioning of the project is not anticipated to be done in the near future.

2.7.7.1 Decommissioning Activities

- **Demolition Works:** Upon decommissioning, the project components including perimeter fence and a lot of solid waste will be produced. Some of the waste will be reused for other construction works or if not reusable, disposed of appropriately by licensed waste disposal company.

- **Site Restoration:** Once all the waste resulting from demolition and dismantling works is removed from the site, the site will be restored through refilling of the topsoil and re-vegetation using indigenous plant species. This will be done after acquiring demolition permit from relevant authority and experts.

2.8 Project Budget and Life Span

The proposed HC Perimeter wall fence id not estimated to last for the near future. The project cost is approximately of USD 51,506.97 and the proposed project lifespan shall be about 15 years

CHAPTER THREE: LEGISLATIVE FRAMEWORK AND INTERNATIONAL GUIDELINES

3.1 Introduction

Environmental Regulations in Tanzania are vested in two main Institutions namely; The National Environmental Management Council (NEMC) and Division of Environment (DoE) under the office of the vice president. The NEMC to its capacity is undertaking enforcement, compliance, and review and monitoring of Environmental Impact Assessment (EIA) and Environmental Auditing (EA).The DoE provides policy and technical backup and executes the overall mandate of the Ministry as required.

Thus, in Tanzania project development and implementation normally requires consideration of Environmental concerns as outlined in the National Environmental Policy.

The Environmental compliance and guidelines are entailed in the EIA and Audit regulations of 2005, as well as (Environmental Impact Assessment and Audit) (Amendment) Regulations of 2018. The Environmental Impact Assessment Guidelines prescribe the process, procedures and practices for conducting an EIA and preparing the EIA reports.

3.2 Policy and Legal Framework

A number of policies, instruments, and laws support environment and social management and the environmental and social impact assessment processes in Tanzania. The Environmental Management Act (EMA) No. 20 of 2004, The National Environmental Policy (1997) and the National Environmental Action plan (1994) are the key instruments that cover environmental and social management in all the sectors of development.

Apart from the National Environmental Policy, there are a number of sectoral policies that consider Environmental Impact Assessment as one of the planning tools for facilitating and promoting sustainable development. These policies envisage that by integrating environmental and social considerations in the decision making process it is possible to avoid or minimize impacts associated with project implementation and that may have negative effects to the Environment. They also provide directives on the management of the project in order to ensure minimum impacts on the concerned natural resources and welfare of the society.

In addition, there are a number of legal and regulatory frameworks that the construction project must comply with. The Environmental Management Act, (No.20) 2004 is the principal legislation governing all environmental management issues in the country.

Within each sector, there are sectoral legislations that deal with specific issues pertaining to the environment.

3.2.1 Policy Framework

Policy	Purposes
National Environmental Policy (1997)	The National Environment Policy provides a framework for environmental protection in Tanzania. The policy requires that project development be done in a way that does not compromise the environmental integrity. It stipulates that the chosen technologies should be environmentally sound, socially acceptable and economically viable. Relevant provisions of this policy to the Stone quarry and aggregates project operations are: • Sections 28 and 29, which state that in all projects, environmentally sound technologies (i.e. those that generate no or low waste or protect environment) should be used). • Section 48 (c), which advocates for technologies that use water efficiently and provides wastewater treatment. • Section 56 (f), which states that workers' health should be adequately protected from environmental health hazards. The contractor in collaboration with the Proponent shall adhere to this policy by enhancing Best Environmental Management Practices in all project phases.
National Land Policy (1997)	The National Land Policy advocates for the protection of land resources from degradation for sustainable development. Among other things, the policy requires that project development take due consideration of land capability, ensures proper management of the land to prevent erosion, contamination and other forms of degradation. Important sections of the policy relevant to the proponent are 2.4 (on use of land to promote social economic development) and section 2.8 (on protection of land resources). The proposed project is going to use available land resources such as aggregates and sand for construction of Health Centre Perimeter wall fence and ancillary facilities which will in-turn improve security of the health facility
National Community Development Policy (1996)	Policy recognizes the need to improve community livelihoods through involvement of communities towards attaining government aim of self-reliance. The policy emphasizes among other issues on poverty eradication (through households training and group production activities), provision of basic needs of the community (food, nutrition, education, health, sanitation, water, etc). Implementation of the proposed project is part of government effort in eradication of poverty by ensuring provision of improved health service
National Policy on HIV/AIDS (2001)	This policy provides a framework for leadership and coordination of the National multi-sectoral response to the HIV/AIDS epidemic. One of the major objectives of the policy is to strengthen the role of all sectors, public, private, NGOs, faith groups, CBOs and other specific groups to ensure that all stakeholders are actively involved in HIV/AIDS work and to provide a framework for coordination and collaboration. The policy recognizes that HIV infection shall not be grounds for discrimination in relation to education, employment, health and any other social services. Pre-employment HIV screening shall not be required. For persons already employed, HIV/AIDS screening will be done voluntarily and no employee shall be forced to check his/her health regarding to HIV/AIDS. HIV infection alone does not limit fitness to work or provide grounds for termination. HIV/AIDS patients shall be entitled to the social welfare benefits like other patients among the employees. HIV/AIDS information and education targeting the behaviour and attitudes of employees and employers alike shall be part of HIV/AIDS intervention in the workplace. The project proponent shall adhere to the policy by not entertaining any form of discrimination to People Living with HIV

Policy	Purposes
National Economic Empowerment Policy (2004)	The Policy is intended to address economic empowerment needs of the individual citizens of Tanzania and local companies. The Policy takes on board all economic actors including farmers, livestock keepers, fishermen, employees, traders as well as other groups of individuals in various economic activities. The Policy puts in place the general guidelines for the formulation of strategies to be used by respective sectors depending on the prevailing circumstances. In this respect, each sector is enjoined to come up with concrete implementation strategies. Development is being accelerated by Improved health services within the community. However; the Proponent intends to improve economic status of the households by providing better health services
National Gender Policy (2000)	The policy provides guidelines to ensure gender sensitive plans, programmes and strategies are available in all sectors and institutions. It is emphasizing on gender equality, and establishing strategies on poverty eradication through ensuring that both women and men get access to existing resources for their development. It values the role played by women in bringing about development in the society. The project proponent will ensure that women and men are given equal employment opportunities during project implementation, whenever possible.
Occupational Safety and Health Policy, 2012	The main objective of the Policy is to promote the right of workers to a safe and healthy working environment, in order to contribute to the improvement of workers well-being and national productivity. The policy provides general direction for the occupational health and safety of stakeholders to adopt a management system that is effective in reducing the incidence of work related injury and disease.
National Water Policy, 2002	The main objective of this policy is to develop a comprehensive framework for sustainable development and management of the Nation's water resources and putting in place an effective legal and institutional framework for its implementation (URT, 2002). The policy aims at ensuring that beneficiaries participate fully in all stages of water resource developments. It also recognizes the fundamental but intricate linkages between water and socio-economic development, including environmental requirements. The Policy illustrates on the importance of water for domestic use, agriculture, livestock keeping, mining, energy, fisheries, environment, human health, wildlife and tourism, forestry, navigation and trans-boundary requirements. The Contractor and Proponent shall adhere to this policy by minimizing water use, establishing appropriate wastewater management systems and storm water management systems
The National Employment Policy (1997)	The major aim of this policy is to promote employment mainly of Tanzania Nationals. Relevant sections of this policy are (i) 10, which lays down strategies for promoting employment and section 10.1 is particularly focusing on industry and trade sectors (ii) 10.6 which deals with employment of special groups i.e. women, youth, persons with disabilities and (iii) 10.8 which deals with the tendencies of private sectors to employ expatriates even where there are equally competent nationals. The proponent shall promote this policy by employing many Tanzania especially the indigenous surrounding the project area with equal gender based opportunities.
National Child Development Policy 2008	The policy describes on the Right for Protection concerns the prevention of wicked and evil actions which are done to children. Such protection and security is needed in all stages of growth of children, before and after being born. So, a child needs security and protection against heavy duties and occupations, which are incongruent with the age or to be neglected; illegitimate / criminal abortions; to be oppressed; not to be taken into consideration. However; the Proponent will consider this by not engaging children under 18Years in any activities during project phases

3.3 Applicable Legal Framework

The National Laws, which are relevant for environmental management in relation to this project include;

S/N	Act	Purposes
i	Environmental Management Act (No.20. of 2004)	The Environmental Management Act, Cap 191 seeks to provide legal and institutional framework for sustainable management of the environment in the implementation of the National Environmental Policy. The Environmental Management Act provides for continued existence of the National Environmental Management Council (NEMC). Under this Act, NEMC is mandated to undertake enforcement, compliance, review and monitoring of environmental impact assessment and has a role of facilitating public participation in environmental decision making, exercise general supervision and coordinating over all matters relating to the environment. The Act also requires the Council to determine whether the proposed project should be subjected to an EIA, approves consultants to undertake the EIA study, invites public comments and also has the statutory authority to review EIS and recommend to the Minister for approval and issuance of EIA certificate. This new Act imposes an obligation on Proponents to conduct an ESIA prior to the commencement of the project to determine whether the project may/or is likely to have, or will have a significant impact on the environment. Article 82 makes EIA mandatory to all projects that fall under the EIA mandatory list (Schedule 2). Proponent has complied with relevant provisions of the Act in carrying out this EIA. Other caps where proponent should be aware on them are: Environment Management Act Cap 72 which emphasize on land users and occupiers shall be responsible for the protection, improvement and nourishment of the land and for using it in an environmentally sustainable manner as may be prescribed by the minister. Section 201 among others; as a corporate body, the Act requires the Proponent to comply with other licensing bodies including National Environmental Council (NEMC) and to acquire the clearance certificate.
ii	Land and Land Village Act (URT, 1999b) (No. 4 of 1999 amended by No. 2 of 2004)	The Acts relate to land-use planning processes and land-use management and guidance to land ownership in Tanzania. However, the laws declare the value attached to any piece of land and as such any land rights transfer is subject to compensation. Under the Government Standing Order on expropriation for public utility, the holder of a Right of Occupancy is guaranteed a free enjoyment of the land and is entitled to compensation if dispossessed by the Government for public use. The Proponent/Ngara District Council adhered to this Act by following all legal procedures for land acquisition
iii	The Constitution of Tanzania (1977)	The mother law recognizes the basic rights for its people as outlined in Part III section 14 and 24 (Act No. 15 of 1984). Section 14 states that every person has the right to life – that every person has the right to live and to the protection of his / her life by the society in accordance with the law

S/N	Act	Purposes
		Section 24 stipulates that every person is entitled to own property and has a right to the protection of his property held in accordance with the law. However, there are certain limitations upon enforcement and preservation of basic rights, freedom and duties as stipulated in the Act No. 15 of 1984 Section 6 and Act No. 34 of 1994. The national constitution must be observed by the project proponent, especially in matters concerning human rights as stipulated in the constitution.
vi	Occupation health and safety act (No. 5,2003)	The Act requires assurance of safety to workers during project construction, operation and demolition. Safety should be ensured against any mechanical machinery (cranes, chains, vehicles, etc), chemicals (fumes from generators, etc), liquid and hazardous materials (electrical installations and apparatus, toxic materials, wastewater, etc) and fire. It is indicated that, for the assurance of workers safety, safety provisions will include fire extinguishers, first aid facilities, water supply and sanitary facilities, etc. The Contractor shall therefore address all these issues stipulated in this Act. The project proponent will cause her contractor to safeguard health and safety of construction workers through presence of safety drills, warning signs, provision of Personal Protective Equipment (PPE), installation of well-equipped first aid kit, and conduct of regular health check-ups.
v	HIV and AIDS (Prevention and Control) act (no.28,2008)	The Act generally requires that adequate information on the acquisition, transmission, prevention and post-infection of HIV/AIDS to be provided to the public including workers at workplaces. It also made provisions for appropriate treatment, care and support using available resources to people living with or at risk of HIV and AIDS. Section 4(1) requires every person, institution and organization living, registered or operating in Tanzania, to promote public awareness on causes, modes of transmission, consequences, prevention and control of HIV and AIDS. The project proponent will cause her contractor to prepare and implement program for prevention of HIV/AIDS transmission.
vi	Standards Act, 2009	The Tanzania Bureau of Standards is the designated national authority for developing all kinds of national standards, including environmental standards. The TBS Act establishes the National Environment Standards Committee (NESC), which is responsible for developing environmental standards. The National Environment Management Act 2004 recognises the existence of the NESC. Part X enumerates the types of environmental standards to be established, they include water quality, discharge of effluent into water, air quality, control of noise and vibration pollution, sub-sonic vibrations, soil quality, control of noxious smells, light pollution, and electromagnetic waves and microwaves. Relevant national environmental standards include: i. TZS 932:2006: ACOUSTICS - General Tolerance Limits for Noise This standard specifies limits of environmental noise. It also describes the methodology and standard equipment used for

S/N	Act	Purposes
		measuring noise. ii. TZS 837: 2004Air Quality standards The proponent will endeavour to adhere to this standard by planning to buy modern machines with little noise level.
vii	Water Resources Management Act No. 11 (2009)	This Act provides for institutional and legal framework for sustainable management and development of water resources; outlines principles for water resources management; for prevention and control of water pollution; and provides for participation of stakeholders and general public in implementation of the National Water Policy. Its main objective is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways that among others meets the basic human needs of present and future generations, prevents and controls pollution of water resources and protects biological diversity especially the aquatic ecosystems. The proposed project is planned to secure water from authorized local suppliers. Nevertheless; water shall be used properly with best management plan in order to avoid water scarcity at the sources.
viii	Employment and Labour Relations Act (2004)	The Act provides for core labour rights and establishes basic employment standards, provides framework for collective bargaining, and provides for prevention and settlement of disputes. The Act provides fundamental rights and protection e.g. prohibition of Child Labour, forced labour and discrimination in the workplace. It also sets employment standards. Act also characterizes a contract for an employee as follows; (i) A contract for an unspecified period of time; (ii) A contract for a specified period of time for professionals and managerial cadre, (iii) A contract for a specific task. The Act also states that an employer shall supply an employee, when the employee commences employment, with the following particulars in writing: (a) Name, age, permanent address and sex of the employee; (b) Place of recruitment; (c) Job description; (d) Date of commencement; (e) Form and duration of the contract; (f) Place of work; (g) hours of work; (h) Remuneration, the method of its calculation, and details of any benefits or payments in kind, and (i) Any other given matter. Therefore, project proponent should make sure that all the requirement of this Act are adhered and promotes equal opportunity in employment and strives to eliminate discrimination in any employment.
ix	The Public Health Act 2009	The Act provide for the promotion, prevention and maintenance of the public health with a view to ensuring the provision of comprehensive, functional and sustainable public health services to the general public and to provide for other related matters.

S/N	Act	Purposes
x	The Child Act 2009	The Act provides for reform and consolidation of laws relating to children and stipulates the right of the children in protecting and maintaining welfare of the child. Article 9 guarantees the child's right to education. Article 8 stipulates that parents, legal guardians and those having custody of children have the duty to provide the child with the right to education and guidance. Furthermore, access to education shall not be denied to children by any person. Article 8 also ensures the equal opportunities of education to persons with disability. Articles 77 – 86 clarify child employment laws, setting the minimum age of employment at fourteen (for 'light work'). There is also a prohibition of exploitative child labour, sexual exploitation, night work, forced labour, and hazardous work. The Proponent is committed to adhere with this Act by improving educational infrastructures as well as not engaging Students in any project activities.
xi	The Contractors Registration Act, 1997	The Act establishes the Contractors Registration Board (CRB). CRB has a mandate to register contractors, regulate the conduct of the contractors and for related matters. Among other things CRB is required to take legal action against unregistered contractors who undertake construction; installation, erection or alteration works; ensure that all construction sites are hoarded; and labour laws, occupational health and safety regulations in the construction industry are adhered to. On executing its construction activities Proponent therefore shall appoint a registered contractor and make sure that the provisions of the Act are adhered to. Among other things the registered contractor shall be able to adhere The Workers' Compensations Act of 2008.
xii	Environmental Management Act (Air Quality Standards) Regulations, 2007	These regulations have been made under sections 140, 145 and 230 (2) (s) of the Environmental Management Act, 2004. They are aimed at setting minimum standard of air quality as well as prohibit emission of hazardous substances, chemicals and materials or gas. They also provide for emission limits, highest permissible quantity (emission), and special tolerance limits of emissions from special factories such as cement factories and exhaust emissions of motor vehicles and emissions from mining operations. In its Rusumo HC operations, the proponent shall abide by these regulations including adhering to permissible weight concentration (Emission limits) from the atmosphere to a receptor as set out in the first schedule of the regulations

S/N	Act	Purposes
xiii	The Environmental Management (Soil Quality Standards) Regulations, 2007	These regulations have been made under Section 143, 144 and 230 (2) (s) of the Environmental Management Act, 2004. They are aimed at, among other things, prescribe minimum standard of soil quality to maintain, restore and enhance the inherent productivity of soil in the long term. Section 21(1) stipulates that no person is allowed to discharge effluent from industrial, commercial or any other trade into soil without a consent duly granted by the National Environment Management Council or any other person designated by the council for that purpose. The proponent shall make every effort to adhere to these regulations in its Health Facility operations with associated
xiv	The Environmental Management (Water Quality Standards) Regulations, 2007	These regulations have been made under Section 143, 144 and 230 (2) (s) of the Environmental Management Act, 2004. They are aimed at, among other things, setting permissible limits for municipal and industrial effluents, special permissible limits for chrome tanning industries, special tolerance limits for vegetable industry, special tolerance limits for fertilizer industry, taste, colour and smell of potable water and Chemical and physical limits for quality of Drinking Water Supplies. Of relevance to the proposed Stone quarry and aggregates project is the first schedule particularly Table A and B which stipulate permissible limits for industrial effluents. The proponent shall adhere to the regulations by ensuring that contaminated water from the Health Centre is properly managed so as to avoid environmental degradation
xv	Environmental Management (Hazardous Waste Management) Regulations, 2019	These regulations have been made under section 110(4) and (5), 128, 133 (4), 135 and 130 of the Environmental Management Act, 2004. These regulations apply to all categories of hazardous waste and to generate, storage, disposal and their movement into and out of mainland Tanzania. These regulations require that any person dealing with hazardous waste in Tanzania be guided by following principles of environment and sustainable development: • The precautionary principle • Polluter pays principle, and • The producer extended responsibility Rusumo HC and associated operations is not associated with production of hazardous wastes. However, if it happens hazardous wastes are in the project site the proponent shall take stoke of this regulations in handling them

S/N	Act	Purposes
xvi	Environmental management (Standards for Control of Noise and Vibration) Regulations, 2015	The objectives of the regulations are to set standards for the Control of Noise and Vibrations Pollution from various sources. The regulation is applicable among other areas to the construction sites, plants, machinery, motor vehicles, and aircraft, including sonic booms, industrial and commercial activities. The regulation strictly forbids the making or causing of any loud and unnecessary noise that annoys, disturbs, injures or endangers the comfort, health or safety of others and that of the environment. Proponent observes these regulations by carrying construction activities only at day hours.
xvii	The Occupational Safety and Health (First Aid and Welfare Facilities) Rules 2015	Section 4.-(1) states that, "The employer shall provide for each workplace such equipment, supplies, facilities, first aid attendants and services as adequate and appropriate for": c) Promptly rendering first aid to workers and any other persons within the workplace premises if they suffer an injury at work; and d) Transporting injured workers to medical treatment. While section (2) states that "For the purpose of complying with subsection (1), the employer shall conduct an assessment of the circumstances of the workplace, including Occupational Safety and Health (First Aid and Welfare Facilities) Rules, 2015"
xviii	Penal Code 1981	The Sexual Offences Special Provisions Act 1998 (SOSPA) amended the sexual offences division of the Penal Code. The Penal Code with its laws specifying that for the crime of rape, evidence of resistance such as physical injuries to the body is not necessary to prove that sexual intercourse took place without consent. It also specified that men who abuse a position of authority or trust to commit rape will be subject to the maximum penalty. The Penal Code strictly prohibits all forms of sexual offences in Tanzania. The Proponent in collaboration with Consultant Engineer and Contractor will adhere to this Penal Code during all project phases

3.4 Institutional Framework for the Management of Environment

3.4.1 Overall Management Responsibility

The institutional arrangement for environmental management in Tanzania is well spelt out in the EMA (2004). There are seven (7) institutions mentioned by the act, of which the Minister Responsible for the Environment is the overall in-charge for administration of all matters relating to the environment as provided for in Section 13(1) of the Act.

The legal institutions for environmental management in the country include;

- National Environmental Advisory Committee;
- Minister responsible for Environment;
- Director of Environment;

- National Environment Management Council (NEMC);
- Sector Ministries;
- Regional Secretariat;
- Local Government Authorities (City, Municipal, District, Township, Ward, Village, Sub-Village "Mtaa and Kitongoji")

3.4.2 National Environmental Advisory Committee

The National Advisory Environmental Committee is comprised of members with experience in various fields of environmental management in the public and private sector and in civil society. The committee advises the Minister on any matter related to environmental management. Other functions include:

- Examine any matter that may be referred to it by the Minister or any sector Ministry relating to the protection and management of the environment;
- Review and advise the Minister on any environmental plans, environmental impact assessment of major projects and activities for which an environmental impact review is necessary;
- Review the achievement by the NEMC of objectives, goals and targets set by the Council and advise the Minister accordingly;
- Review and advise the Minister on any environmental standards, guidelines and regulations;
- Receive and deliberate on the reports from Sector Ministries regarding the protection and management of the environment;
- Perform other environmental advisory services to the Minister as may be necessary.

3.4.3 Minister Responsible for Environment

The Minister is responsible for matters relating to environment, including giving policy guidelines necessary for the promotion, protection and sustainable management of the environment in Tanzania. The Minister approves an EIA and may also delegate the power of approval for an EIA to the Vice President's Office – Division of Environment (VPO-DoE), Local Government Authorities or Sector Ministries. The Minister also:

- Prescribes (in the regulations) the qualifications of persons who may conduct an EIA;
- Reviews NEMC reports on the approval of an EIA;
- Issues an EIA certificate for projects subject to an EIA;
- Suspends an EIA certificate in case of non-compliance.

3.4.4 Director of Environment

The Director of Environment heads the Office of the Director of Environment and is appointed by the President of the United Republic of Tanzania. The functions of the Director of Environment include:

- Coordination of various environmental management activities undertaken by other agencies;
- Promotion of the integration of environmental considerations into development policies, plans, programs, strategies, projects;

- Undertaking strategic environmental risk assessments with a view to ensuring the proper management and rational utilization of environmental resources on a sustainable basis for the improvement of quality of human life in Tanzania;
- Advise the Government on legislative and other measures for the management of the environment or the implementation of the relevant international environmental agreements in the field of environment;
- Monitoring and assessing activities undertaken by relevant Sector Ministries and agencies;
- Preparation and issuing of reports on the state of the environment in Tanzania through relevant agencies;
- Coordination of issues relating to articulation and implementation of environmental management aspects of other sector policies and the National Environment Policy

3.4.5 National Environmental Management Council (NEMC)

The NEMC's purpose and objective is to undertake enforcement, compliance, review and monitoring of EIA's and to facilitate public participation in environmental decision-making. As far as EIA is concerned, NEMC is the processor and for that matter the engine for the environmental assessment of development projects. The Environmental Management Act (2004) confers powers on NEMC to;

- Registers experts and firms authorized to conduct EIA;
- Registers projects subject to EIA;
- Determines the scope of the EIA;
- Set-ups cross-sectoral TAC to advise on EIA reviews;
- Requests additional information to complete the EIA review;
- Assesses and comments on EIA, in collaboration with other stakeholders,
- Convenes public hearings to obtain comments on the proposed project;
- Recommends to the Minister to approve, reject, or approve with conditions specific EIS;
- Monitors the effects of activities on the environment;
- Controls the implementation of the Environmental Management Plan (EMP);
- Makes recommendations on whether to revoke EIA Certificates in case of non-compliance;
- Promotes public environmental awareness; and
- Conducts Environmental Audits

3.4.6 Sector Ministries

The existing institutional and legal framework the Sector Ministries are required to establish Sector Environmental Sections headed by the Sector Environmental Coordinator. The Ministry of Health has already established an Sector Environment Office, with the responsibilities among others to ensure environmental compliance by the Sector Ministry; liaise with the DoE and the NEMC on matters involving the environment and all matters with respect to which cooperation or shared responsibility is desirable or required; refer to the NEMC any matter related to the environment; and to oversee the preparation of and implementation of all EIA's required for investments in the water sector

3.4.7 Local Government Authorities

Under the Local Government Act of 1982 (Urban and District Authorities), Local Government Authorities include the City Councils, Municipal Councils, District Councils, Town Councils, Township, Kitongoji, Ward, Mtaa and Village. All administrative levels have Environmental Management Committee of each jurisdiction. The Environmental Management Act (2004), provides for City, Municipal, District and Town Councils to be headed by Environmental Inspectors who are responsible for all environmental matters in the respective jurisdiction

3.5 International Policies Guidelines and procedures

3.5.1 World Bank Safeguard Policies

World Bank has various safeguard policies which governs and ensures that Bank operations do no harm people and the environment. The Bank undertakes screening of each proposed project to determine the appropriate extent and type of Environmental Assessment (EA) to be undertaken and whether or not the project may trigger other safeguard policies. The policies require the borrower (country or private sector) to ensure compliance of environmental and social safeguards to projects that the Bank provides credit. The safeguard policies provide mechanisms for incorporation of environmental and social issues during project implementation. Thus, the proposed project activities may trigger following Bank policy: Environmental Assessment (OP/BP 4.01), as illustrated in the following sub section.

3.5.1.1 Environmental Assessment (OP/BP 4.01)

The World Bank Environmental Assessment Policy (OP. 4.01) requires Environmental Assessment (EA) of projects/programs proposed for Bank financing to help ensure that they are environmentally sound and sustainable, and thus improve decision making The OP 4.01 requires EA process to takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and cultural property) and trans-boundary and global environmental aspects.

This policy helps to ensure that the environmental and social safety and sustainability of investment projects is adhered. It also intends to ensure that Bank financed projects are environmentally sound and sustainable and decision making is improved through appropriate analysis of actions and their likely environmental impacts. The policy also promotes environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions. The proposed construction activities involved assessment of the negative and positive impacts and recommendation made to activate measures that will minimize negative impacts or compensate for adverse impacts. Therefore, the borrower must ensure that appropriate safeguard measures to mitigate potential risks and impacts are addressed prior to commencement of works and during implementation of the construction activities as stated in the ESMP.

The proposed project is under EIA study as required by OP 4.01. The EIA study aimed at identifying environmental and social impacts and thereafter development of mitigation measures to eliminate or reduce the adverse project impacts to acceptable level.

3.6 Environmental, Health and Safety Guidelines

The EHS guidelines are applied in World Bank projects in order to ensure best practice in environmental management during implementation. The implementation of this construction / rehabilitation will require applying the EHS guidelines in all aspects of environment, occupational health and safety, community health and safety, and construction and decommissioning as referred to *www.ifc.org/ehsguidelines.* The EHS Guidelines are technical reference with general and industrial-specific examples of Good International Industry Practice as defined in IFC's performance standards. The EHS Guidelines and International Finance Corporation (IFC) performance standards have been

used as reference in the environmental assessment and implementation of mitigation measures. The following four (4) sections of the EHS guidelines (Source: www.ifc.org/ehsguidelines) shall be used during implementation of this project which includes:

a) **Environmental -** Air Emissions and Ambient Air Quality: The proposed construction activities will apply this guideline in activities that generate emissions to air at any stage of the project life-cycle. Emissions of air pollutants can occur during construction activities of a project. This guideline provides an approach and specific guidance to the management of significant sources of emissions and impacts that may arise due to these emissions.

   Wastewater and Ambient Water Quality: This guideline applies to projects that have either direct or indirect discharge of process wastewater, wastewater from utility operations or storm water to the environment. Process wastewater may include contaminated wastewater from utility operations, storm water, and sanitary sewage. It provides information on common techniques for wastewater management, water conservation, and reuse. There are particular activities which involve wastewater which shall apply these sections of guidelines to incorporate necessary actions to avoid, minimize, and control adverse impacts to human health, safety, or the environment.

   Hazardous Materials Management: This guideline applies to projects that use, store or handle any quantity of hazardous materials which represent a risk to human health, property, or the environment due to their physical or chemical characteristics. The Contractor shall therefore apply this guideline in case of any use of hazardous material during construction phase.

   Noise: The contractor shall follow this guideline to control noise from construction vehicles and machineries which bring chaos to workers and public. The noise level guidelines and noise reduction options are illustrated in the guideline.

b) **Occupational Health and Safety -** This section explains various elements that are applicable to the construction / rehabilitation activities which are general facility design and operation which includes fire precautions, portable water supply safe access and first aid; communication and training, physical hazards, chemical hazards, biological hazards, use of PPE and monitoring. The contractor as well as health and safety officer shall ensure the implementation of this guideline in the proposed project.

c) **Community Health and Safety -** The guideline contains different sections related to the proposed project which are structural safety of project infrastructure, traffic safety, disease prevention and emergency preparedness and response. The project shall apply these guidelines to protect the surrounding community from the core project area risks and impacts.

   Structural safety of project infrastructure: This section describes hazards posed to the public while accessing project facilities and their management actions. The hazards include physical trauma associated with failure of building structures; burns and smoke inhalation from fires; injuries suffered as a consequence of falls or contact with heavy equipment; respiratory distress from dust, fumes, or noxious odors; and exposure to hazardous materials

   Traffic safety: This applies mostly during operation of project equipment on private or public roads. Safety measures to protect workers and road users have been described in the section.

   Disease prevention: This section describes the communicable and vector-borne diseases which are threat to public health and health of workers, recommended interventions at project level and the control strategy.

   Emergency preparedness and response: This section describes the emergency preparedness and response plan that covers basic elements such as communication systems, emergency response procedures, emergency resources, and training.

Construction and Decommissioning - The guideline provides information on prevention and control of community health and safety impacts that may occur during implementation, at the end of

the project life-cycle, or due to expansion or modification of existing project facilities, in different areas of environment (Noise and vibration, soil erosion, sediment mobilization and transport, air quality, solid waste, wastewater discharges), Occupational health and safety (work in heights, slips and falls, moving machinery and other site hazards) and Community health and safety (general site hazards, disease prevention and traffic safety). These guidelines are highly recommended

3.7 IFC/WBG Guidelines

3.7.1 Effluent Discharge Guidelines

This guideline applies to projects that have either direct or indirect discharge of process wastewater, and wastewater from utility operations to the environment. Process wastewater may include contaminated wastewater from utility operations and sanitary sewage. It provides information on common techniques for wastewater management, water conservation, and reuse. This report has incorporated the necessary measures to avoid, minimize and control adverse impacts to human health, safety and environment.

General Liquid Effluent Quality

Discharge to Surface Water

Discharges of process wastewater, sanitary wastewater, wastewater from utility operations to surface water should not result in contaminant concentrations in excess of local ambient water quality criteria or, in the absence of local criteria, other sources of ambient water quality.

Project-specific performance levels for wastewater effluents should take into account the following considerations:

- Process wastewater treatment standards consistent with applicable Industry Sector EHS Guidelines. Projects for which there are no industry-specific guidelines should reference the effluent quality guidelines of an industry sector with suitably analogous processes and effluents;
- Compliance with national or local standards for sanitary wastewater discharges or, in their absence, the indicative guideline values applicable to sanitary wastewater discharges is shown in Table 4

Sanitary Wastewater

Sanitary wastewater from project sites may include effluents from domestic sewage, food service, and other facilities serving site employees. Recommended sanitary wastewater management strategies include:

- Segregation of wastewater streams to ensure compatibility with selected treatment option (e.g. septic system which can only accept domestic sewage);
- Segregation and pretreatment of oil and grease containing effluents;
- If sewage is to be discharged to surface water, treatment to meet national or local standards for sanitary wastewater discharges or, in their absence, the indicative guideline values applicable to sanitary wastewater discharges is shown in table 4
- If sewage is to be discharged to a septic system, treatment to meet applicable national or local standards for sanitary wastewater discharges is required.
- Sludge from sanitary wastewater treatment systems should be disposed in compliance with local regulatory requirements, in the absence of which disposal has to be consistent with protection of public health and safety, and conservation and long term sustainability of water and land resources.

Table 4: Indicative Values for Treated Effluent Discharges

Pollutants	Units	Guideline Value
PH	pH	6 – 9
BOD	mg/l	30
COD	mg/l	125
Total Nitrogen	mg/l	10
Total Phosphorus	mg/l	2
Oil and grease	mg/l	10
Total suspended solids	mg/l	50
Total coliform bacteria	MPN[b]/100ml	400[a]
Notes: [a]Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS guidelines for water and sanitation [b]MPN – Most probable number		

Source: www.ifc.org/ehsguidelines

3.8 Noise Level Guidelines

Noise prevention and mitigation measures should be applied where predicted or measured noise impacts from a project facility or operations exceed the applicable noise level guideline at the most sensitive point of reception. The preferred method for controlling noise from stationary sources is to implement noise control measures at source. Methods for prevention and control of sources of noise emissions depend on the source and proximity of receptors. Noise reduction options that should be considered include selecting equipment with lower sound power levels; installing vibration isolation for mechanical equipment; limiting the hours of operation for specific pieces of equipment or operations, especially mobile sources operating through community areas; re-locating noise sources to less sensitive areas to take advantage of distance and shielding; and reducing project traffic routing through community areas wherever possible.

Regular monitoring is required to provide information necessary to determine impacts from noise and vibration associated with the Project.

The objectives of the noise and vibration monitoring program are to ensure that:

- The objectives of the Noise and Vibration Management Plan are being met;
- Ambient noise does not exceed applicable noise criteria at sensitive receptors;
- Vibration levels do not exceed the applicable criteria and does not cause damage to structures;
- To gather data such that any potential noise and vibration impacts are identified and appropriate mitigation measures are put in place.

Noise impacts should not exceed the levels presented in Table 5 or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

Table 5: Noise Level Guidelines

	One Hour L_{Aeq} (dBA)	
Receptor	**Daytime** **07:00 – 22:00**	**Nighttime** **22:00 – 07:00**
Residential; institutional; educational	55	45
Industrial; commercial	80	60

Source: www.ifc.org/ehsguidelines

3.9 WHO Ambient Air Guidelines

This guideline provides an approach to the management of significant sources of emissions, including specific guidance for assessment and monitoring of impacts. It is also intended to provide additional information on approaches to emissions management in projects located in areas of poor air quality, where it may be necessary to establish project-specific emissions standards.

Emissions of air pollutants can occur from a wide variety of activities during the construction, operation, and decommissioning phases of a project. These activities can be categorized based on the spatial characteristic of the source including point sources, fugitive sources, and mobile sources and, further, by process, such as combustion, materials storage, or other industry sector-specific processes

Where possible, facilities and projects should avoid, minimize, and control adverse impacts to human health, safety, and the environment from emissions to air. Where this is not possible, the generation and release of emissions of any type should be managed through a combination of:

- Energy use efficiency
- Process modification
- Selection of fuels or other materials, the processing of which may result in less polluting emissions.

Projects with significant sources of air emissions, and potential for significant impacts to ambient air quality, should prevent or minimize impacts by ensuring that:

- Emissions do not result in pollutant concentrations that reach or exceed relevant ambient quality guidelines and standards9 by applying national legislated standards, or in their absence, the current WHO Air Quality Guidelines10 (see Table 6), or other internationally recognized sources;

- Emissions do not contribute a significant portion to the attainment of relevant ambient air quality guidelines or standards. As a general rule, this Guideline suggests 25 percent of the applicable air quality standards to allow additional, future sustainable development in the same air shed

Table 6: WHO Ambient Air Quality Guidelines

	Averaging Period	Guideline Value in mg/m^3
Sulfur dioxide (SO_2)	24 hour 10 minute	125 (Interim target-1) 50 (Interim target-2) 20 (guideline) 500 (guideline)
Nitrogen dioxide (NO_2)	1-year 1-hour	40 (guideline) 200 (guideline)
Particulate Matter PM_{10}	1-year	70 (Interim target-1) 50 (Interim target-2) 50 (Interim target-3) 20 (guideline)
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)

Particulate Matter $PM_{2.5}$	1-year	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)
	24-hour	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)
Ozone	8-hour daily maximum	160 (Interim target- 1) 100 (guideline)

Source: WHO Air Quality Guidelines

3.10 Occupational Health and Safety Guidelines

Reasonable precautions must be implemented during project life cycle so as to protect the health and safety of workers. Contractors must have the capability to manage the occupational health and safety issues of the employees. Preventive and protective measures should be introduced according to the following order of priority:

- Eliminating the hazard by removing the activity from the work process. Examples include substitution with less hazardous chemicals, etc;
- Controlling the hazard at its source through use of engineering controls. Examples include local exhaust ventilation, isolation rooms, machine guarding, etc
- Minimizing the hazard through design of safe work systems and administrative or institutional control measures. Examples include job rotation, training safe work procedures, lock-out and tag-out, workplace monitoring, limiting exposure or work duration, etc.
- Providing appropriate personal protective equipment (PPE) in conjunction with training, use, and maintenance of the PPE.

The following should be considered during design and operation:

(i) At Workplace

- Permanent and recurrent places of work should be designed and equipped to protect OHS.
- Surfaces, structures and installations should be easy to clean and maintain, and not allow for accumulation of hazardous compounds.
- Fire resistant, noise-absorbing materials should, to the extent feasible, be used for cladding on ceilings and walls.
- Passages to emergency exits should be unobstructed at all times. Exits should be clearly marked to be visible in total darkness. The number and capacity of emergency exits should be sufficient for safe and orderly evacuation of the greatest number of people present at any time, and there should be a minimum two exits from any work area.

(ii) Fire Precautions

- Equipping facilities with fire detectors, alarm systems, and fire-fighting equipment. The equipment should be maintained in good working order and be readily accessible. It should be adequate for the dimensions and use of the premises, equipment installed, physical and chemical properties of substances present, and the maximum number of people present.
- Provision of manual firefighting equipment that is easily accessible and simple to use
- Fire and emergency alarm systems that are both audible and visible

(iii) Potable Water Supply

- Adequate supplies of potable drinking water should be provided with a sanitary means of collecting the water for the purposes of drinking
- Water supplied to areas of food preparation or for the purpose of personal hygiene (washing or bathing) should meet drinking water quality standards.

(iv) First Aid

- The employer should ensure that qualified first-aid can be provided at all times. Appropriately equipped first-aid stations should be easily accessible throughout the place of work
- Eye-wash stations and/or emergency showers should be provided close to all workstations where immediate flushing with water is the recommended first-aid response
- First aid stations and rooms should be equipped with gloves, gowns, and masks for protection against direct contact with blood and other body fluids
- Remote sites should have written emergency procedures in place for dealing with cases of trauma or serious illness up to the point at which patient care can be transferred to an appropriate medical facility.

(v) OHS Training

- Provisions should be made to provide OHS orientation training to all new employees to ensure they are apprised of the basic site rules of work at / on the site and of personal protection and preventing injury to fellow employees.
- Training should consist of basic hazard awareness, site specific hazards, safe work practices, and emergency procedures for fire, evacuation, and natural disaster, as appropriate. Any site-specific hazard or color coding in use should be thoroughly reviewed as part of orientation training.

(vi) Noise

No employee should be exposed to a noise level greater than 85 dB(A) for a duration of more than 8 hours per day without hearing protection. In addition, no unprotected ear should be exposed to a peak sound pressure level (instantaneous) of more than 140 dB(C).

- The use of hearing protection should be enforced actively when the equivalent sound level over 8 hours reaches 85 dB(A), the peak sound levels reach 140 dB(C), or the average maximum sound level reaches 110dB(A). Hearing protective devices provided should be capable of reducing sound levels at the ear to at least 85 dB(A).

- Although hearing protection is preferred for any period of noise exposure in excess of 85 dB(A), an equivalent level of protection can be obtained, but less easily managed, by limiting the duration of noise exposure. For every 3 dB(A) increase in sound levels, the 'allowed' exposure period or duration should be reduced by 50 percent.
- Prior to the issuance of hearing protective devices as the final control mechanism, use of acoustic insulating materials, isolation of the noise source, and other engineering controls should be investigated and implemented, where feasible
- Periodic medical hearing checks should be performed on workers exposed to high noise levels

(vi) Vibration

Exposure to hand-arm vibration from equipment such as hand and power tools, or whole-body vibrations from surfaces on which the worker stands or sits, should be controlled through choice of equipment, installation of vibration dampening pads or devices, and limiting the duration of exposure.

(vii) Personal Protective Equipment (PPE)

Personal Protective Equipment (PPE) provides additional protection to workers exposed to workplace hazards in conjunction with other facility controls and safety systems. PPE provides the worker with an extra level of personal protection. Table 7 presents general examples of occupational hazards and types of PPE available for different purposes. Recommended measures for use of PPE in the workplace include:

- Active use of PPE if alternative technologies, work plans or procedures cannot eliminate, or sufficiently reduce, a hazard or exposure
- Identification and provision of appropriate PPE that offers adequate protection to the worker, co-workers, and occasional visitors, without incurring unnecessary inconvenience to the individual
- Proper maintenance of PPE, including cleaning when dirty and replacement when damaged or worn out. Proper use of PPE should be part of the recurrent training programs for employees

Table 7: Occupational hazards and types of PPEs the Working Site

Objective	Workplace Hazards	Suggested PPE
Eye and face protection	Flying particles, molten metal, liquid chemicals, gases or vapors, light radiation.	Safety Glasses with side-shields, protective shades, etc
Head protection	Falling objects, inadequate height clearance, and overhead power cords	Plastic helmets with top and side impact protection
Hearing protection	Noise	Hearing protectors (ear plugs or ear muffs)
Foot protection	Falling or rolling objects, pointed objects. Corrosive or hot liquids	Safety shoes and boots for protection against moving and falling objects, liquids and chemicals
Hand protection	Hazardous materials, cuts or lacerations, vibrations, extreme temperatures	Gloves made of rubber or synthetic materials, leather, steel, insulating materials, etc
Respiratory protection	Dust, fogs, fumes, mists, gases, smokes, vapors	Facemasks with appropriate filters for dust removal and air purification (chemicals, mists, vapors and gases). Single or multi-gas personal monitors, if available
	Oxygen deficiency	Portable or supplied air (fixed lines) On-site rescue equipment
Body/Leg protection	Extreme temperatures, hazardous materials, biological agents, cutting and laceration	Insulating clothing, body suits, aprons, etc. of appropriate materials

(viii) Monitoring

The occupational health and safety monitoring program should include:

- Safety inspection, testing and calibration: This should include regular inspection and testing of all safety features and hazard control measures focusing on engineering and personal protective features, work procedures, places of work, installations, equipment, and tools used. The inspection should verify that issued PPE continues to provide adequate protection and is being worn as required. All instruments installed or used for monitoring and recording of working environment parameters should be regularly tested and calibrated, and the respective records maintained.

- Surveillance of the working environment: Employers should document compliance using an appropriate combination of portable and stationary sampling and monitoring instruments. Monitoring and analyses should be conducted according to internationally recognized methods and standards. Monitoring methodology, locations, frequencies, and parameters should be established individually for each project following a review of the hazards. Generally, monitoring should be performed during commissioning of facilities or equipment and at the end of the defect and liability period, and otherwise repeated according to the monitoring plan.
- Training: Training activities for employees and visitors should be adequately monitored and documented (curriculum, duration, and participants). Emergency exercises, including fire drills, should be documented adequately. Service providers and contractors should be contractually required to submit to the employer adequate training documentation before start of their assignment.

CHAPTER FOUR: ENVIRONMENTAL AND SOCIAL BASELINE INFORMATION

4.1 Introduction

The baseline data and information on biophysical and social –economic settings at the site, where the proposed project is located, provide important benchmark necessary for future project environment performance monitoring. Appraisal was made at the core project areas, including the existing premises of the project site at Rusumo Village and its immediate environs as well as broad description of the areas of influence i.e Ngara District Council and Kagera region

To get the big concept of the existing situation on the project site, this chapter provides a comprehensive description of areas that may be impacted by the project activities or vice versa. A more general description that attempt to capture the different setting is presented. There are two methodologies used to get baseline information such as existing source of information include databases, report and local community also field works which include monitoring and survey

4.1.1 Administrative Units

Administratively, Ngara district council social economic profile is divided into 4 divisions and 22 wards, 75 villages (see Table 8 which indicates project village) and 391 hamlets distributed unevenly. Among the divisions, Nyamiaga division covers largest part of land of the district approximately to 33.40 percent followed by Rulenge division with 27.56 percent of the total land and Kanazi division covers 24.81 percent. Finally, Murusagamba division follows which has smallest land covering 14.23 percent. The Nyamiaga Division where the project site is found has the total land approximately 1250.51 Square Kilomiters. It has seven (7) wards, 21 Villages and 127 hamlets. Moreover; the project site is located in Rusumo Village with five (5) hamlets.

4.1.2 Administrative Set Up

The village government is run with a complete governance structure comprised of village chairperson, Village Executive Officer (VEO) and elected members of the village Council whilst there is Ward Office comprised of Ward Executive Officer (WEO) and its Ward Council members. Both Governance levels are directly responsible to the District Executive Director of Ngara District Council.

Table 8: Village with LADP Project

Division	Ward	Village	No. Of Sub Villages
Nyamiaga	Rusumo	Rusumo	5

Table 9: Land Area and Administrative Units of the proposed project Village

Division	Land Area (Sq. km)	No. of ward	No. of Villages	No. of Hamlets	Percent of Land Area
Nyamiaga	1250.51	7	21	127	33.40

Source: Site Visit, November/2021

4.2 Physical Environment

4.2.1 Climatic Condition

4.2.1.1 Rainfalls

Ngara district receives adequate annual rainfall. The rainfall pattern is bi-modal, which occurs between September/October and March/May. Rainfall averages between 800 mm in Bushubi (in Rulenge and

Murusagamba Divisions) and 1,400 mm annually in Bugufi (Nyamiaga and Kanazi Divisions) areas. The annual rainfall within the project site is typically of Nyamiaga Division which ranges between 1,400mm for September and October.

Nyakahanga Hamlet which falls in Nyamiaga Division has four climatic seasons, two dry seasons from June to September and January to February with two rainy seasons from September to October and from March to May. During dry seasons there are sometimes strong winds/hazy air and temperatures vary between 180C and 300C depending on the time of day or night. During the rainy seasons, sudden and heavy downpours may occur daily, lasting from a few minutes to several hours. The rain is sometimes associated with strong winds, floods, mud, fog and temperatures may range between 120C and 280C (Ngara District Profile, 2018).

4.2.1.2 Temperature

Temperatures range between 14ºC - 28ºC. The region consists of series of hilly running North-South and parallel to the lakeshore. September and October are the hottest months with temperature going as high as 28°C while July is the coldest month with minimum temperature of 14ºC *(Ngara District Profile, 2018).*

4.2.1.3 Wind Patterns

Relative humidity around the proposed project area is on average of 79% with little variation during the year. In the wet season values are between 80% and 85% and are slightly lower during the dry season. On a monthly basis wind speed seems to be little variation – averaging to 0.9 m/sec, during the rainy season wind speeds are slightly lower than during the dry season. Strong winds frequently occur associated with rainstorms, particularly at the onset of the rains *(Ngara District Profile, 2018).*

4.3 Topography

Rusumo village is characterized by a series of dissected plateau at different altitude levels forming harsh undulating topography. Subsequent erosion and dissection has resulted into hills and valleys. The altitude ranges between 1,320m (the level of River Kagera) to about 1,550m above the mean sea level. Major landscapes of the proposed project area are comprised of hills, ridges and scarps, dissected plains, plateau, swamps, flood plains, river terraces and valleys. The average elevation of Rusumo village is approximately 1,500m above mean sea level and has been considered to be one of Tanzania highlands. *(Source: Ngara District Social Economic Profile; 2018)*

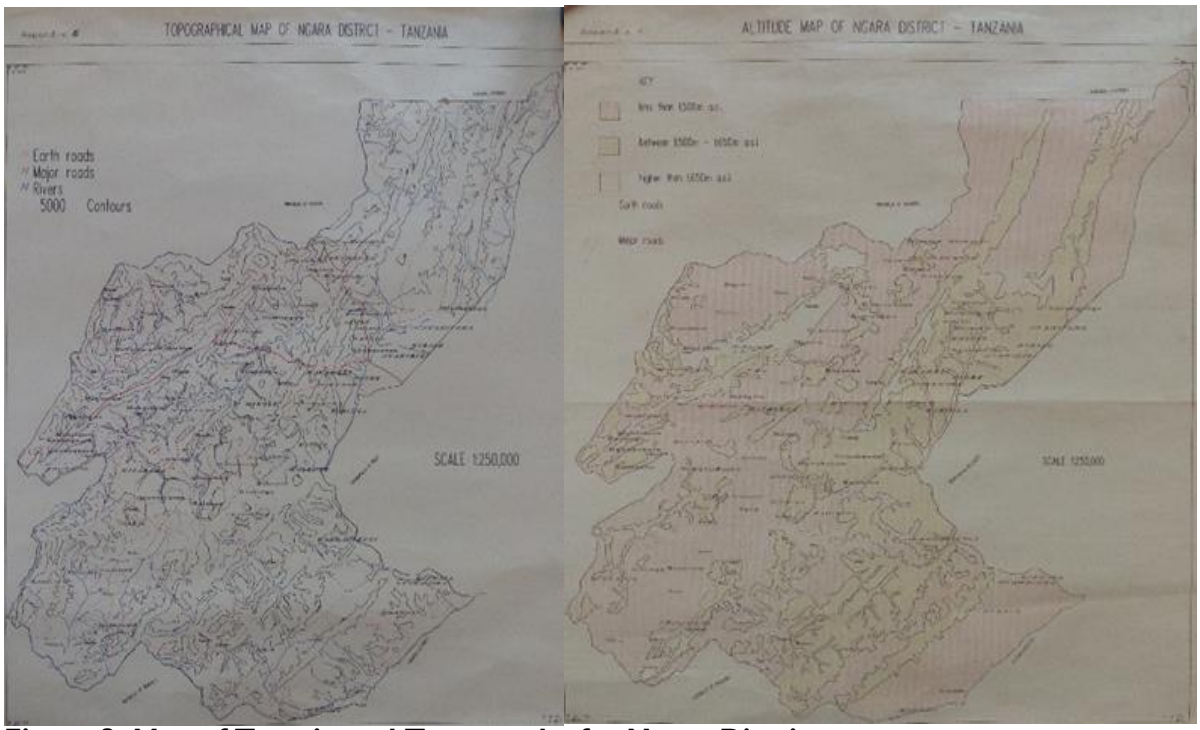

Figure 3: Map of Terrain and Topography for Ngara District

(Source: Ngara District Social Economic Profile; 2018)

4.4 Soils and Geology

Pre-Cambrian rocks of the Karagwe – Ankolean system, dominate the project area. The existing main rock types are phillies, philliticshale's and mixed quartzites. Many parts have remnants of old landscapes, which are characterized by laterites caps. Some parts have few granitic rocks. The soil within Rusumo village is mainly dominated by strongly weathered, reddish, loamy soils on foot- slopes and plateau plains. In highly dissected parts of the rocky areas, shallow soils dominate the hill slopes that have poor water retention capacity. The major landscapes Of Rusumo village comprises hills, ridges, scarps, dissected pen plain, plateaus, swamps, flood plains, river terraces and minor valleys. The soils range from shallow (less than 50 cm) to very deep (more than 120 cm). Most of them have either dark red-to-red or brown to yellowish red clay sub-soil, and deeply weathered, medium to strongly acid and have a low natural reserve of nutrients. In the valleys darker alluvial clays predominate. The soils typically have relatively low infiltration rates and are classified as having slightly impeded drainage characteristics with good agricultural production. The less dissected areas of the Rusumo depression, notably at the proposed project areas are characterized by extremely weathered clay soils. Topsoil's within the village have a wide range of characteristics in terms of thickness, organic matter content and texture. In most areas deep soils, which are good or productive, are found in the low lands where most of the crops are grown.

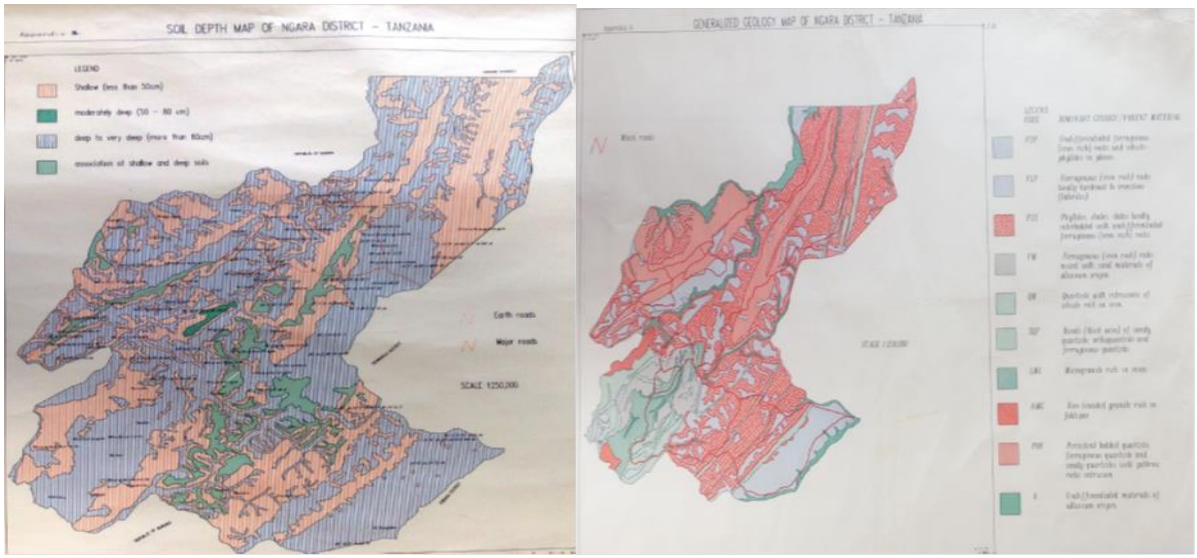

Figure 4: Map of Soil and Geology for Ngara District

(*Source: Ngara District Social Economic Profile; 2018)*

4.5 Hydrology

4.5.1 Surface water characteristics

Rusumo valley harbors three major watershed namely Ruvuvu (or sometimes called Ruvubu), akagera and Kagera Rivers. The river system is a southern portion of Nile basin. Ruvubu River originates about 300km distance from northern highlands of Burundi near Kayanza Town. The River flows its water southwards to Gitega (still in Burundi) and eventually to Rusumo valley through Ngara District in Tanzania. The name Ruvubu means "hippopotamus", because the river, at its origin is a home to a large population of hippos.

Akagera River also originates in Burundi from Lake Rweru and then flows eastwards along Burundi - Rwanda and Rwanda - Tanzania borders. Both Ruvuvu and Akagera Rivers form a confluence at Rusumo valley which resulting into Kagera River. Thus, Ruvubu and Akagera Rivers provide waters of Kagera River. Kagera River flows the northeastwards of the Rusumo village to Lake Victoria through Karagwe, Kyerwa, Misenyi and Bukoba Districts. Rusumo falls are found approximately 100m from Ruvubu and Akagera Rivers confluence. The closest distance from project site to the River is approximately 2 kilometers

Figure 5: Ruvuvu River located 2 km away from the proposed project site.

Source: Site visit, November/ 2021

4.5.2 Ground water characteristics

The water table in the project area is high and water is found at a depth ranging from 15.00m to 20.00m below the ground surface within the drilled depth. *(Source: Ngara District Social Economic profile; 2018)*

4.6 Land Uses

The land of Ngara district is loamy, clay, stretched with some hills, divided into arable land that is suitable for crop production while normal forests are used for grazing. Some areas are of high lands with rocks, stones and gravels which is not fertile for crops production. The largest land area of the Ngara district is used for grazing followed by settlement, arable land and agriculture

Agriculture activities and residential houses largely occupy the proposed project site. Based on the survey conducted by the Consultant in November 2021, most of the houses found within Rusumo Village consist of a cluster of low-rise buildings made of improved building materials such as burnt bricks, and cement floors. Institutions found at Rusumo Village include Police, schools, religious dominations, and several NGOs. Generally; the project site is located within the rural setting environment dominated by agriculture activities. *(Source; Ngara District Social Economic Profile, 2018)*

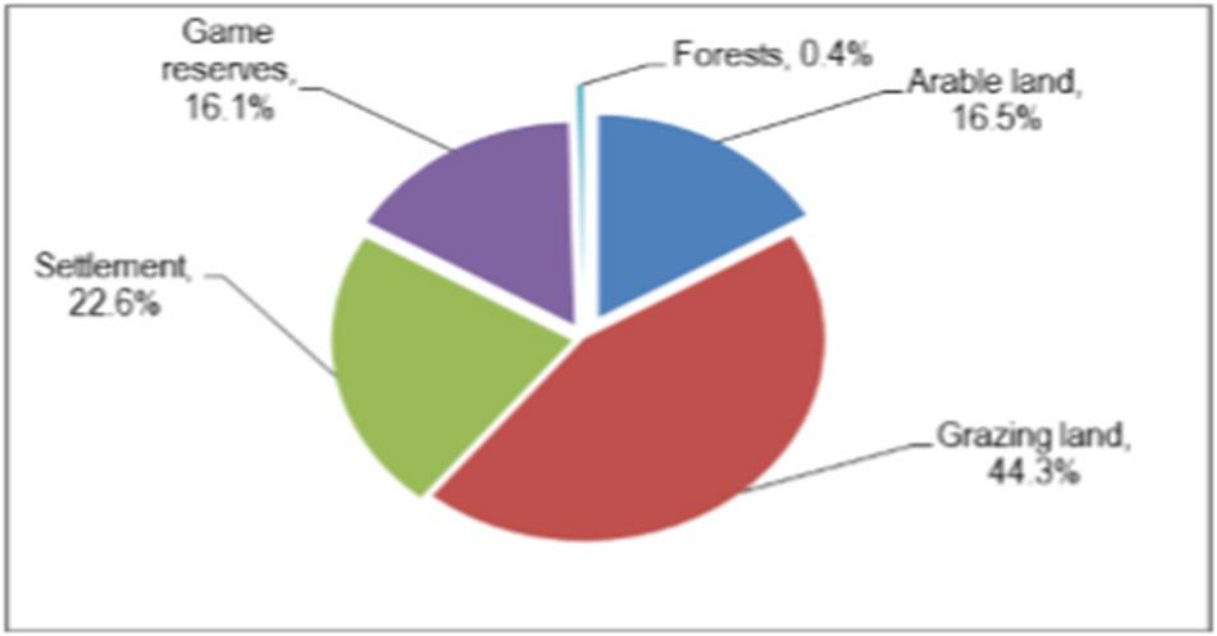

Figure 6: Land use pattern for Ngara District

(Source: Ngara District Council Socio-Economic Profile, 2018)

4.7 Biological Environment

The biophysical environment includes living things such as plants and animals, and non-living things such as rocks, soils and water. The biological and ecological investigations were conducted with emphasis on terrestrial flora and fauna biodiversity. Fauna biodiversity focused on large mammals, small and medium sized mammals, birds and reptiles (reptiles and amphibians) within and around the project areas. Flora biodiversity emphasized on trees, shrubs, herbs, sedges and grasses

A baseline survey of the subject sites was carried out for the purposes of investigating the flora and fauna status in the project areas.

This report focused on the processes that shape the landscape through the movement of water and wind (climate) and through extreme disturbances generated by drought, flood and human activities such as settlement pattern, agricultural practices and bush-fire.

4.7.1 Flora

The vegetation survey was conducted by involving local community in naming the tree species by their vernacular names. The identified tree species were then recorded and the list of tree species was compiled. Further investigation was conducted whereby the recorded list was used to identify the scientific names of the trees by comparing it against the National Forestry Resources Monitoring and Assessment of Tanzania (NAFORMA 2010). The recording of species involved the DAFOR system whereby D=dominant, A=abundant, F=frequent, O=occasional and R=rare.

Mainly exotic and little natural vegetation types adaptive to low land and sub montane habitat dominated the project Village whilst the specific Linear distance for construction activities is dominated by short trees, grasses and shrubs. The dominant vegetation species within the site specific/proposed linear distance are; Sisal *(Agave Sisalana)*, Giant thatching grass *(Hyparrhenia rufa)* Lantana, Shrub Verbena, Tick Berry and Bunga tahi Ayam *(Lantana Camara),* while adjacent the proposed route there are Banana trees *(Musa Paradisiaca)* and Pine trees *(Pinus Patula).* Dominant short trees, grasses and shrubs within the site specific will be cleared off from the site to allow construction activities to be commenced.

On top of that, the species of trees identified to the project area during the survey were also crosschecked against the IUCN list of species of special scientific and conservation interests and further revealed that there are no endemic or endangered species which need special attention during project commencement. The contractor is advised to confine all its activities only in the specified area for the proposed route to avoid vegetation distortion to the adjacent land parcels.

Figure 7: Short trees, Grasses and Shrubs found within the proposed route.

(Source: Site Visit, November/2021)

4.7.2 Fauna

The proposed project site was surveyed using methodologies identified in Duthie 2000 coupled with the consultation of the local community. The consultation with the local community revealed availability of rabbits. The clearance will to some extent affect habitat and pattern of the food web for this organism. The site is also proximity to the built-up areas where the impact of noise is inevitable. This may affect breeding densities for some species however, new species mostly pests and undesirable species like lizards, scavenging birds, rats and snakes hiding may develop and be available in the structures.

The presence of the, Rusumo HC Construction activities, trunk and feeder roads and the associated socio-economic activities within and nearby proposed project site may have probably contributed to the limited number of particular species of organism's multiplication and distribution due to noise generated in this areas and fear of human. Therefore, through observation and interviews it was confirmed that no specific animals sign which suggest the availability of big animals in the area. It is also envisaged that no any fauna will be disturbing the construction activities, as the site is not nearby the wildlife areas.

4.8 Socio-Economic Environment

4.8.1 Population and Housing

The population of Ngara District has experienced significant growth in the last decade. Population has decreased by 4.29 percent in 2012 from 334,409 people in 2002 to 320,056 people reported in the 2012 Population Census, resulting in a significant decrease of 14,353 people during the inter-censal period. The 2012 population census put the council's population at 320,056 out of which, females account for 52.36 percent (167,613) of the population whilst the population for Rusumo Ward is about 27,425. The population composition of the Village in the proposed LADP project (Rusumo Village) is presented in Table 10. However; in this proposed Village, the sex ratio is less than 90.

Table 10: Population Distribution in the Rusumo Village.

			Population				Sex Ration
				Total Number			
Division	Ward	Name of Village	Households	Males	Females	Total	
Nyamiaga	Rusumo	Rusumo	780	1,520	1,786	3,306	99

Source: Village Council Records November/2021

Generally, Ngara District is one of the areas that might require great attention because had been receiving refugees from Burundi since 1993 and Rwanda in 1994 during the Great Lakes Refugee Crisis. A number of refugee camps were established to accommodate refugees and to date some of the camps have been closed. Despite of the recorded population data from existing district profile, consultant updated population data from respective Village.

4.8.2 HIV/AIDS Infections Status

The impact of HIV/AIDS pandemic have also replicated to the high rates of orphans experienced in the 2012-population census. Ngara District Council is among the councils in Kagera region with average rates of orphans of 8.1 percent. Orphan males were more than orphan females. There is a need for the council management to conduct a survey in order to know the current status of orphan hood and factors contributing to have higher rates of orphans and come up with solutions.

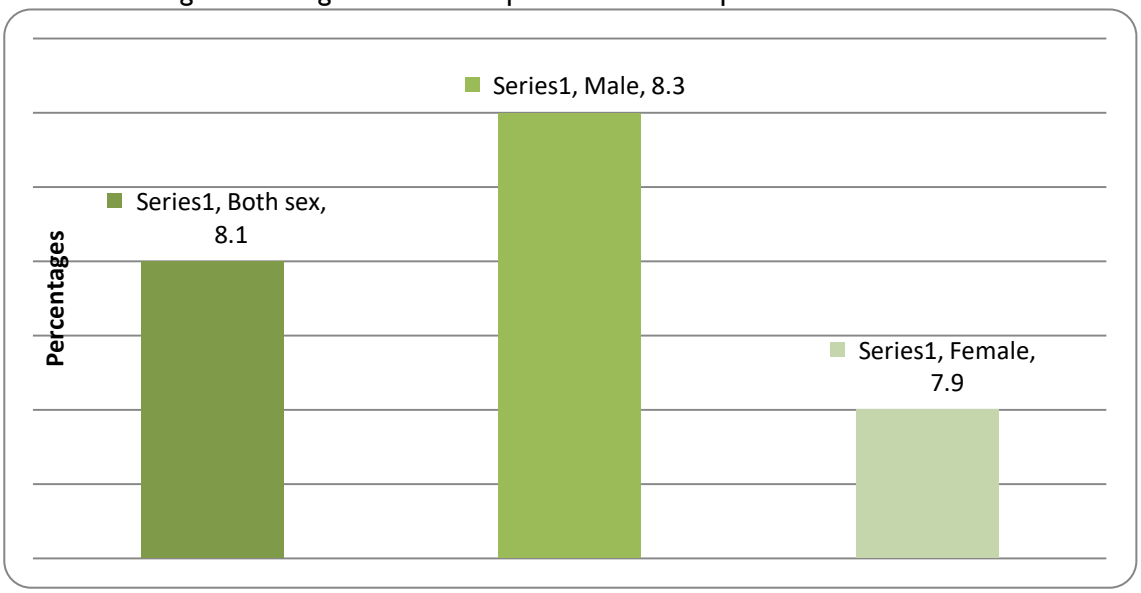

Figure 8: Percentage Distribution of Orphans by Sex,

(Source: Ngara District Council, 2012 Census)

4.9 Economic Activities

This section provides baseline information on economic activities in the project area as per requirements of EIA and EA regulations. These activities may not have direct impact to the proposed project, but may in one way or another influence activities, employments and income to the communities around the project area, district and regional and large.

4.9.1 Agriculture

The main economic activities in the proposed project village are agriculture, employment, livestock keeping, and small-scale enterprises. Agricultural crops include both food and cash crops. The main food crops are beans, bananas and maize. Other food crops include cassava, sweet potatoes, yams and vegetables. However, surplus production of food crops is sold to earn cash income to the households. Presence border and its associated activities is the essence of constructing the proposed project will create employment opportunities to the villagers. In addition, proposed project's operations will enhance running of small scale businesses such as food vending and petty trading, retail shops, kiosks and food stalls that are regarded as alternative sources of income to the households.

At Nyakahanga Hamlet where the proposed project is located the major agriculture crops includes Banana, Sweet potatoes, and Cassava. The table below presents agricultural land productivity in Ngara District.

Table 11: Agricultural Land Uses in Ngara District

Agricultural land uses	Size (Ha)	Proportion
Total District's land Size	374,400	
District's arable land	303,483	81%
Arable land which is currently in use	64,940	21%
Land size suitable for Irrigation	5,000	2%
Non - arable land	70,917	19%

Source; Ngara DC Website: www.ngaradc.go.tz

Figure 9: Banana Plantation adjacent to the project route-Nyakahanga Hamlet

(Source; Site survey, November/ 2021)

4.9.2 Livestock Keeping

Livestock keeping is the second most important economic activity after agriculture in Ngara DC. Most of the livestock keeping are cattle, sheep, goats and chicken. The Hangaza and Tutsi tribes are dominating in livestock keeping. Most of them develop scattered settlements in the district searching for green pastures. Also they practice shifting grazing around the district and nearby areas. Within the project village, livestock keeping is practiced at low level since it is an urbanized area hence experiencing challenges in grazing. *(Source; Ngara District Social Economic Profile; 2018)*

4.9.3 Other Economic Activities

Kagera Region Investment Guide (2019) mentions other economic activities in Ngara district to include local trade and businesses, tourism, mining (Kabanga Nickel Project) and cross border trade.

4.10 Economic Infrastructure

4.10.1 Transport Services

Roads

The truck road (T03) Isaka - Lusahunga - Rusumo passes across the village on its way to Rwanda. This road is in double surface treatment bituminous standard and was constructed late 1980's. Due to recurrent traffic loads, heavy down pour and ageing some of T03 road sections have been deteriorated such that there is significant number of pot holes that causing difficult passage of trucks.

On the other hand the village has a total of 28km gravel local roads, which are well maintained and passable throughout the year.

Railway

Rusumo Ward including Ngara District is not serviced with railway transport. According to the Feasibility Study Report prepared by East African Community in 2010 there is plan for construction a railway line from Isaka to Kigali (in Rwanda) via Rusumo village. It is envisage that constructions of Isaka - Rusumo - Kigali railway line will easy transportation of passengers and goods at Rusumo village and in Ngara District at large

4.10.2 Electricity

TANESCO is the sole supplier of electrical power at Rusumo Village. Electricity supply in the village is not yet stable and faces a number of problems such as intermittent power supply, low voltage and rationing. In one way or another, these problems affect production of goods and services in the village. In order to eliminate problems related to power supply there is on-going Rusumo Hydro Power Generation Project under NELSAP that will produce about 80 MW to be equally shared between Tanzania, Rwanda and Burundi. Nyakahanga Hamlet where the proposed project is located has no electricity hence the construction of MV electric line will improve social service mainly at the Health Centre.

4.10.3 Telecommunication

There has been a recent improvement in telecommunications within Rusumo Village. Six mobile phone service providers namely Airtel, Tigo, Zantel Vodacom, Halotel and TTCL are in operational at Rusumo Village. With the exception of a few areas, the mobile telecommunication networks can reach almost all parts of the village. Radio and Television (TV) broadcasts already reached Rusumo Village. TBC Taifa and Radio Kwizera are examples of radio broadcasts that can be received at Rusumo Village Nevertheless, like other parts in Tanzania the access of some television network at Rusumo Village is subject to payment of monthly pre-paid service charges imposed at different rates depending on televised company and user requirement.

4.11 Social Services Infrastructure

4.11.1 Health Facilities

Ngara district, like other rural councils in the region, experiences shortages of health facilities, practitioners such as Medical officer, assistant medical officers (AMOs), nursing officers, pharmaceutical technologist, laboratory technologist, nutritionist, assistant laboratory technologist, pharmaceutical technologist assistant, clinical officers (COs), dental surgeon, dentist, nurses, physiotherapist, environmental health officers, assistant environmental health officers, health assistant, medical attendant, radiologist and radiographic assistants. These shortages cause unnecessary loss of people's lives due to incomplete treatment of preventable diseases. Top ten diseases in Ngara district are ARI, Malaria, Diarrhea, Pneumonia, intestinal worms, other diagnosis, skin disease, eye condition, emergency surgical condition and ear condition.

Ngara district is still improving the health sector by constructing and renovating health facilities, especially dispensaries and health centers. Ngara district had remained with only 60 health facilities in the last five years covering with 6 health centers and 54 dispensaries. It is obvious that, the available facilities cannot serve the ever increasing population of the district. The council authority should continue motivating the community to participate in current initiative of construction more health facilities in order to meet health strategies as stipulated in the Policy. Implementation of the LADP projects in the health sector, which include dispensary and health centers is expected to improve the situation in the district. There are three health centers at the

Implementation of the LADP projects in the health sector which include health Centers and Dispensaries is expected to improve the situation in the district. In Rusumo Village there is no any health facility hence LADP Phase I is establishing a Health Centre which is expected to serve more than 20,000people around the Rusumo Ward and the nearby Villages. Currently; inhabitants in Rusumo Village are obtain medical service at neighboring Villages of Kyenda, Nyamiaga and Mshikamano which is about 10-28Km.

4.11.2 Educational Services

Enrolment of primary school pupils dropped from 66,704 in 2013 to 61,164 in 2015 which was eight (8) percent decrease. The main reason attributed to the decrease of enrolment was the parents' lack of funds to finance school expenses including fees. In 2018 the enrolment increased by 38% compared to that of 2015. The increase was said to be due to the introduction of the new Government policy of free education for primary and secondary education. Rusumo ward having both primary school and secondary school owned by government. The proposed LADP projects phase two on construction of building facilities for two primary schools and five secondary schools are likely to improve the delivery of education services in the Ward and the district at large. Currently; Rusumo Village has only one Primary school whilst depending on Rusumo B secondary school which is about 12km from the Village.

4.11.3 Ethnic Groups

Ngara District council is among the eight district councils in Kagera region; experiencing slow population growth by natural birth and moderate population growth by migration. As a result, more ethnic groups are found in the council. However, among all people, the council has three main ethnic groups namely Hangaza, Shubi and Haya. Hangaza being the main ethnic group occupy most wards of the council, while Shubi occupy most of the Rulenge division and Haya are found mostly in Bugufi i.e. Kanazi and Nyamiaga Divisions especially in the high altitudes

4.11.4 Sanitation Services

With the exception of town centers such as Ngara Town, more than 90% of the households in the rural areas of the district use traditional pit latrines. There is an ongoing campaign in the district to ensure that each household owns and uses a latrine. The fact that only about 0.02% of the households is without toilets indicates success of the campaign.

4.11.5 Water Supply

The National Water Policy requires every person to get water within short distance from an improved source of water, such as piped water, protected boreholes, dug wells and springs. The region, therefore mainly uses different types of water sources including Rusumo water supply, shallow wells, bore holes, charcoal dams and surface water such as springs, lake, river and rain water harvesting. Rusumo Village where the project site is found obtains water from Mshikamano Village through a Pipeline. However; NELSAP Phase I project is constructing a pipeline for water supply within the Ward and the nearby areas. Other sources within the Village are Ruvuvu River, Kagera River, shallow wells and rainwater harvest

Table 12: Number and Type of Rural Water Sources by Ward, Ngara DC; 2018

Water Source	Working	Percent Working	Not Working	Percent Not Working	Total	Percent Source
Charcoal	0	0	0	0	0	0
Spring	176	84.2	33	15.8	209	29.2
Shallow wells	236	112.9	50	17.5	286	39.9
Rain Water Harvesting	78	37.3	6	7.1	84	11.7
Bore Holes	24	11.5	4	14.3	28	3.9
Piped Scheme	38	18.2	7	15.6	45	6.3
	Permanent	**Percent**	**Season**	**Percent**		
River water	64	100	0	0	64	8.9
Lake	0	0	0	0	0	0
Dam	0	0	0	0	0	0
Total	**616**	**86.0**	**100**	**14.0**	**716**	**100**

Source: Compiled data from district executive director's office, Water Supply and Sanitation Department, 2017

4.11.6 Financial Services

Only two financial institutions are operating in Ngara DC, which is NMB and CRDB Bank. There is local financial institute which is also operating in the district. This is an indication the council is in need of more financial institutions as there is an increase of number of formal and informal small scale businesses. Also the District council has some credit facilities targeted to women and youth. These credit facilities are provided to individuals as well as group for economic activities. Moreover; nowadays the raise of money transaction done through different mobile networks such as tigo pesa, Hallo Pesa, Mpesa and Airtel money has accelerated the growth of the financial services in the Ngara Town and Ngara District.

4.12 Income Poverty Rate, Poverty Gap and GINI Coefficient

The Poverty Gap is an estimate of how far the poor are below the poverty line, expressed as a percentage of the poverty line. The GINI coefficient is a measure of equality of the income distribution. A measure of 100 corresponds with complete inequality; a measure of 1 corresponds with complete equality. District poverty and GINI estimates show a negative correlation, indicating that low poverty rates are associated with a high inequality in income distribution.

According to the 2015 REPOA report (Where are the poor poverty map), Ngara District Council was among the low-income councils on Tanzania Mainland in regard to the least number of people living below the basic needs poverty line. The Report indicates 41.7 percent of Ngara DC residents live below the basic needs poverty line.

The situation is different as regards to the GINI Coefficient Rate. All councils had better inequality and variation in the distribution of wealth in Kagera region

4.13 Database for Monitoring

To facilitate easy follow up and monitoring of socio-economic activities and development processes in general at the village level functional departments of Ngara District Council should be encouraged to track and keep in their databases data of their particular performance indicators at village level.

Each functional department should be required to update data using the variables contained in the Socio-Economic Profile of the District so as to enable one to make updated interpretation of the variables contained therein.

CHAPTER FIVE: STAKEHOLDERS CONSULTATION AND ANALYSIS

5.1 Introduction

The Environmental Management Act 2004 provides directives and guidelines on public participation during the EIA process. Regulation 17 under Part IV of the EIAAR 2005 stresses that "the Proponent or proponent shall in consultation with the Council, seek the views of any person who is or is likely to be affected by the project". Section 89 of the EMA No. 20 of 2004 provides directives on public participation issues and its importance in ESIA. The EIA and Audit Regulations of 2005, provides further details and procedures for public participation in environmental assessments. Nevertheless; World Bank Environmental and Social Standards (ESS10: Stakeholder Engagement and Information Disclosure) recognizes the importance of open and transparent engagement between the Borrower and project stakeholders as an essential element of good international practice. Effective stakeholder engagement can improve the environmental and social sustainability of projects, enhance project acceptance, and make a significant contribution to successful project design and implementation. Generally; Stakeholders involvement ensures all interested and affected parties are involved in the project.

5.2 Stakeholders Identification and Consultations

Section 89 of the EMA No. 20 of 2004 provides directives on public participation issues and its importance in ESIA. The EIA and Audit Regulations of 2005, provides further details and procedures for public participation in environmental assessments. In this ESIA the concept stakeholder was given a broad definition to encompass all key stakeholders required to be involved in the proposed project. The names and contacts of the people consulted are appended in this report (prior permission was granted to allow their details to be used in this report). To accomplish the need of getting the public's opinion on the proposed project, discussions with communities residing or running businesses around the proposed facilities were conducted. Efforts were made to involve more women as they much highly affected by the particular project. All the respondents were in support for the project to be implemented and that construction of the perimeter wall fence is for their benefits as one of the best strategy to improve health/medical services. Their views and concerns have been included in the recommendations and suggestions part of this report.

Consultant carried out consultations with stakeholders with the assistance from counterpart staffs from Ngara District Council. Consultation took place in the project community. Interviews were conducted with village government officials, local people representatives, Ngara District officials and Regional level officials

5.3 Methods Used In Stakeholders Consultation

Various methods were used during consultative meetings subject to the nature of the information that was required. However, the following methods were pertinently used

5.3.1 Semi-Structured Interviews with Key Informants

Semi-structured interviews were conducted with key informants at the, village, district and regional levels. At the district level semi-structured interviews were conducted with District Executive Officer and functional departmental staffs namely District Executive Director (DED), District Manager - Rural Water Supply and Sanitation Agency (RUWASA), District environmental Management Officer, District Land and Natural Resources Officer (DLNSO), District Medical Officer (DMO), Fire and Rescue Force- District Office and all other related Departments at district level

At the village level semi-structured interviews were conducted with Village Chairperson, Village Executive (VE) Ward Executive (WE) and other nearby communities. These interviews enabled the consultant to have in-depth information on the socio-economic, political and cultural conditions of the people in the proposed project areas. The knowledge gained from the interviews helped the consultant to make evaluation of the socio-economic and cultural impacts.

5.3.2 Indoor Village Consultation Meetings

In the village, with the proposed project, the consultant made an indoor consultation meeting with the village council members and village influential persons. Subjects of discussion included the village social, economic, political, and cultural aspects including life styles of the community people and main ethnic groups of the village.

5.3.3 Public Village Consultation Meetings

Before conducting meeting, letters were sent to the selected villages in Ngara district with the proposed project. These letters were sent prior to the commencement of the study. The main aim of the stakeholder village consultation meetings was to inform the stakeholders about the proposed project and incorporate their views in the design of the mitigation measures. The specific aims of the consultation process were to; reduce problems of institutional coordination; provide precise information about the project to the communities; obtained the main concerns and perceptions of the stakeholders regarding the projects; and obtain opinions and suggestions directly from the affected communities on their preferred mitigation measures. The public stakeholder village consultation meetings were also intended to collect information regarding sources of livelihood, living standards, and views and perceptions of the communities regarding the proposed projects.

Figure 10: Consultation meetings with Rusumo Villagers and Ngara DC-CMT

Source: Site Visit November/2021

5.4 Consultation Process and Stakeholders Consulted

The overall goal of the consultation process was to disseminate Project information and to incorporate the views of stakeholders in the design of the Environmental mitigation measures,

management plan and Monitoring Plan. The specific aims of the consultation process are to improve project design and hence minimize conflicts and delays in implementation; Increase long term Project sustainability and ownership; and to gather the information needed to complete the assessment. Stakeholders consulted include those at village and district level. List of Stakeholders consulted and minutes during village meetings is as shown in Appendix I

Table 13: Consulted Stakeholders

Date	Venue	Stakeholders	Participants
09.11. 2021	Ngara District Council Conference Room	Ngara District Council Departmental Staffs	24
09.11. 2021	Ngara LADP Office	Ag. Environmental Officers & LADP Coordinator	4
09.11. 2021	Ngara District TANESCO Office,	Ngara District TANESCO Staffs, DMO Office, Environmental Officer	7
07.11. 2021	Rusumo Ward/Village	Direct and indirect project beneficiaries, and Village leaders.	90
Total			**125**

5.5 Stakeholders' Major Concerns, Comments and Recommendations

In respect of the intended project activities, the stakeholders that were consulted raised concerns on a number of issues that need attention. The summaries of issues/concerns raised by stakeholders are as presented in Table 14

Table 14: Summaries of Issues / Concerns arise from Stakeholders

S/N	Stakeholder	Issue/concern
1	District Executive Director (DED)	- Wider stakeholder consultations and community involvement with regard to land issues should be done before construction. - In order to avoid delays of the implementation of the proposed project, there should a memorandum of understanding between World Bank, NELSAP and Ngara DC
2	District Environmental Management Officer (DEMO)	- The issue was how environment can be protected to avoid environmental degradation. The district has managed to have bylaws that govern. The bylaws have been adopted from Environmental and Management act No.20 of 2004. - As a department for environment has managed to prepare monitoring strategies which will govern contractor from extracting construction materials. All materials must be sources from the designated areas. - Ward Executive Officers have been given by laws that govern them on how communities are required to take care of their environment as per set guidelines. The issue still in question due to irresponsible leaders. - Management of solid waste is still a problem though the project design considered it. - Environmental Education should be properly provided to local residents and staffs for management and sustainability.

3	District Community and Development Officer (DCDO)	- Community development had to be involved from the initial stage of the project development. - Each department should know that community development is a crosscutting issue that should be shared to the department too; DCDO has to be involved at early stages of the project to have better community participation.
4	District Land and Natural Resource Officer (DLNRO)	- The department is well informed about this proposed project. - Good enough, land is 100% owned by Rusumo Village Authority and customary title ded has provided hence no any social conflict is expected from local community. - The proposed area has no any conflict, this has approved during Village General Assembly. - Ngara DC in collaboration with Rusumo Village Government shall be responsible to supervise all construction activities to make sure no any activity is conducted offsite.
5	District Planning Officer (DPLO)	- Education on proper land use plan should be given to all communities and to instruct them not to offer lands illegally to investors without prior permission.
6	TARURA-Ngara DC	- The proposed project land is under Rusumo Village hence TARURA has no any mandate. - The Contractor shall be well monitored not to distort Rusumo HC access road during the construction activities. - The Contractor must be aware and well supervised during project commencement not to destruct individuals' properties beyond the project site.
7	TANESCO-Ngara Office	- The project area is expected to be connected with National Grid as soon as possible - During construction activities all co-contractors can use one power source /mobile diesel powered generator to reduce nuisance on site and to nearby residents
7	Rusumo Ward & Rusumo Village Officials and Villagers	- Employment should be given to the local people surrounding the project site - Local suppliers to be given priority during construction stage - The contractor should extract construction materials in an environmentally friendly ways. - They should participate in programs of developments of the Village - They should consider the safety of their workers - Construction activities will increase unplanned and early pregnancy cases, especially to School girls because their lusts they tend to date project workers. The contractor is advised to take precaution and strictly enforcement to his employees. - Construction of perimeter wall fence will improve security to people and their properties as well as land management.

Source: Consultant's Field Data, November 2021

CHAPTER SIX: ASSESSMENT OF IMPACTS AND IDENTIFICATION OF ALTERNATIVES

6.1 Introduction

This chapter describes an assessment and analysis of the physical, biological and human environment impacts identified during ESIA. Since the proposed construction activities are in groupings that fall under similar geographical area, impacts were assessed in terms of their magnitude (size) and significance (importance) and actions necessary to mitigate them. Impacts' monitoring requirements are summarized in a section of this report. The proposed project is expected to have some impacts on certain aspects of the physical, biological and human environment of the proposed project area. These impacts may occur during construction or operation or during decommissioning phases. These impacts may be beneficial (positive) or negative

6.2 Impacts Identification and Analysis

Impact identification is a process designed to ensure that all potential significant impacts are identified and taken into account in project design and implementation. A number of 'tools' are available to assist in impact identification. The simplest, and most frequently used, are checklists of impacts, although matrices, network diagrams and map overlays are also commonly used. In this study, a checklist and matrix methods were used. The checklists, developed from previous experiences, provide lists of potential impacts associated with specific activities. They provide a quick method of identifying the impacts and in such help also practitioners to avoid overlooking some of potential of the impacts associated with a particular activity. The matrix provides a rather systematic way of evaluating the identified impacts.

The Impact Identification Checklist was used for identification of impacts associated with the proposed project at different phases. The identification of impacts was based on the interaction between project activities during pre-construction or mobilization, construction, decommissioning or demobilization of the project and the characteristics of the project environment that could be affected. The main receptors of impacts associated with the anticipated project include human livelihood, public health and safety, physical environment (hydrology, surface water quality, soils, geology, vibration, air quality and noise) and biophysical environment (vegetation characteristic and fauna). In general, Health Centre Perimeter wall fence construction is for public interest, it has significant positive socio-economic impacts to the national, regional and local levels. Therefore; the project is accelerated to have potential impacts whilst on the other hand the proposed project contributes negative impacts to the general environments

6.3. Potential Impacts during Mobilization and Construction Phase

Construction phase shall begin with the site preparations for construction works to take place. Construction Impacts have the potential to create nuisance for residents in the neighborhood, however these shall be managed within acceptable limits. In addition, the construction impacts are also temporary in nature.

6.3.1. Positive Impacts

6.3.1.1. Employment Opportunities

Both direct and indirect forms of employment shall arise from the project initiation. Direct employment will be mainly through skilled and unskilled laborers whose workforce shall be needed to construct the Health Centre Perimeter wall fence and the ancillary infrastructures. Employment opportunities will be a benefit both in economic and social sense. In the economic sense it means abundant unskilled labour will be used in economic production. Several workers including casual laborers, masons and electricians are expected to work on the site for a period that the project will start to the end. Apart from casual labour, semi-skilled and unskilled labour and formal employees are also expected to obtain gainful employment during the period of construction. *This impact is considered to be direct, positive, short-term and of moderate significance.*

6.3.1.2 Increased Income to Rusumo Villagers

There is an expectation that majority of unskilled labours will be employed from residents of Rusumo village. This will increase the income to local people who might have the opportunities to be employed by the contractor. However, some of the villagers, especially women will also get opportunity to sell food items to the construction workforce, thus increase income at the household level. *This impact is considered to be direct, positive, short term and of high significance*

6.3.1.3 Benefit to Local Producers and Suppliers of Construction Materials

Construction of the Health Centre Perimeter wall fence and ancillary infrastructures has considered the use of local laborers and local available materials. This is economically and socially viable hence streamed as the efforts to improve the standards of living for local suppliers. *This impact is considered to be direct, positive, short term and of low significance*

6.3.1.4 Increased Human Capital

Villagers may gain new skills and knowledge from the people outside the village coming to seek employment in the project. *This impact is considered to be direct, positive, short-term and of moderate significance.*

6.3.2 Potential Negative Impacts

6.3.2.1 Air Pollutions (Fugitive Dust and Exhaust Emissions)

The proposed construction activities will involve trench and foundation excavations, transportation construction materials, as well as, handling of cement bags. This is likely to generate dust in and around construction site. Exhaust emissions from the trucks, machinery and construction equipment are likely to generate mixture of toxic gases such as carbon monoxide (CO), nitrogen oxides (NOX), Oxides of sulphur (SOX), Hydrocarbons (HC) and Suspended Particulate Matter and possibly Lead (Pb). Dust and

exhaust emission may create nuisance and in extreme cases may lead into adverse health impacts. *This impact is considered to be direct, negative, long term and of high significance.*

6.3.2.2 Soil erosion

Clearance of vegetation due to construction activities will leave considerable soil surface to be exposed and can be easily eroded by runoff. Movement of heavy equipment to the site may lead into soil compaction and soil erosion. *This impact is considered to be direct, negative, long term and of high significance*

6.3.2.3 Population Influx (Labor Influx)

In many cases, labor influx is compounded by an influx of other people (followers) who follow the incoming workforce with the aim of selling them goods and services, or in pursuit of job or business opportunities. The influx of workers and followers can lead to adverse social and environmental impacts on local communities, especially if the communities are rural, remote or small. Such adverse impacts may include increased demand and competition for local social and health services, as well as for goods and services, which can lead to price hikes and crowding out of local consumers, increased volume of traffic and higher risk of accidents, increased demands on the ecosystem and natural resources, social conflicts within and between communities, increased risk of spread of communicable diseases, and increased rates of illicit behavior and crime. These impacts need to be well mitigated. *The impact is considered to be negative of short-term duration with high significance*

6.3.2.4 Increased Risk of GBV, SEA and Harassment

Males seeking employment in the project are likely to come there without their spouses. Women and girls are at risk of gender-based violence from such males seeking forced social relationships. Victims of violence can suffer sexual and reproductive health consequences, including forced and unwanted pregnancies, unsafe abortions, traumatic fistula, sexually transmitted infections including HIV, and even death. *This impact is considered to be direct, negative, short term and of high significance*

6.3.2.5 Loss of Biodiversity

It should be noted that at the time of undertaking the specific EIA study for the proposed structures, within the proposed site for this specific project there are other structures which will be used for Health Centre. Based on the above fact, land clearance had already taken place to some areas meanwhile other areas are typically occupied by exotic and natural vegetation. Further, the constructed Health Centre is located within the rural area dominated by trees, shrubs, grasses and farming activities. In this respect the flora and fauna conditions might be affected by construction activities. *This impact is considered to be direct, negative, short term and of low significance*

6.3.2.7 Vegetation clearing

Construction work will involve vegetation clearing to prepare the ground for civil works and installations. However, as large part of the land is occupied with health center structures and ancillary facilities, then overall loss of vegetation from land clearing will be limited. This will also affect avifauna that uses those tree species for the nesting and roosting sites. However; during site clearance, any vegetation that is not properly disposed can block drains and waterways, and also spread invasive species causing environmental degradation. This can also bring about health risks by creating pools of stagnant water, encouraging vector populations. Site clearance can also lead to or aggravate soil erosion

especially during the rainy season. The linear distance of about 288meters is expected to be cleared during the construction phase. *This impact is considered to be direct, negative, short term and of low significance*

6.3.2.8 Generation of Solid Wastes

It is obvious that the proposed project construction activities will be associated with production of solid wastes. These waste streams are likely to be generated from fabrication and domestic activities of the workers at the construction site. The type of solid wastes likely to be generated during construction activities include vegetation residues, garbage, pieces of wood, excess soil materials, cement paper bags, pieces of bricks, plastic materials (bottles and bag), broken pipes, pieces of metals and paint containers. *This impact is considered to be direct, negative, short term and of high significance*

6.3.2.9 Generation of Liquid Waste (Human Sanitary Waste)

Contractor's workforce to be involved for construction of boundary fence and ancillary facilities will generate liquid waste consists of grey water, urine and faecal matters. If not properly managed, the anticipated liquid waste from construction workers can significantly impair aesthetic value of the proposed site and cause threat to public health. *This impact is considered to be direct, negative, short term and of high significance*

6.3.2.10 Generation of hazardous waste

Repair and maintenance activities of construction machinery and equipment will produce significant quantity of hazardous wastes including used oil filters, scrap metals, waste oils, greases and used batteries. However, construction of structures will result into generation of hazardous wastes including sharp objects (e.g. broken nails) and waste containers used for material packaging. Improper handling of the generated hazardous wastes can lead into soil contamination, underground water pollution and public health threat

6.3.2.11 Change of Landscape of the Area

Large part of the project site has characterized by native vegetation hence construction activities in such an environment will definitely change the natural appearance of the place. *This impact is considered to be direct, negative, long-term and of low significance*

6.3.2.12 Noise Pollution and Vibration

Noise is considered as an interference to and imposition upon comfort, health and the quality of life. Construction activities are expected to produce point source noise, which is defined as noise that remains in one place for extended period of time. For example, noise which will be generated from concrete mixer, trucks, jackhammers, bulldozer or motor grader working in one location. Noise from a point source spreads spherically over distance, and travels in all directions equally from the source. The significant noise is expected from operation of noise creating equipment like grader machinery, bulldozer and concrete mixture. *This impact is considered to be direct, negative, short term and of low significance*

6.3.2.13 Soil and Water Quality Contamination

Project related excavation could lead to soil and ground water quality degradation. Contaminated soil or ground water in the path of the project could be disturbed by excavation resulting in a potential transfer of the contamination to surface waters. The excavated area, if linear could act as a conduit to extend groundwater contamination to new areas. Spills of hazardous materials in excavated areas during construction could introduce contaminants to ground water. The machines on site may be containing moving parts which will require continuous oiling to minimize the usual corrosion or wear and tear. Possibilities of such oils spilling and contaminating the soil and water on site are real. Likewise, moving vehicles on site may require oil change. However, the impact will be small and local. Appropriate handling of materials prone to contamination and waste management are likely to reduce the impact. It is expected that the impacts will be mild, local, and they will occur mostly during the construction stage (short term). With the mitigation measures in place, the residual impact is none to insignificant.
The impact is considered to be negative of short-term duration with high significance.

6.3.2.14 Disruption of Traffic Flow

According to the project location and accessibility, Benaco-Rusumo and Mshikamano roads will mainly be used for the entire construction period. The movement of construction vehicles/trucks to and from the construction site may result into disruption of traffic flow, hence risk of accidents along the access road. During construction, there will be frequent turning of trucks from and to the construction site. This could result into disruption of movement of traffic along the access road and if no measures are taken it could result into accidents. *This impact is considered to be direct, negative, short term and of medium-term significance*

6.3.2.15 Occupational Health and Safety Hazards to Workers

During construction of the proposed project, it is expected that construction workers are likely to have accidental injuries and hazards as a result of handling hazardous waste. Because of the intensive engineering and construction activities including erection and metal grinding and cutting, concrete work, steel erection and welding among others, construction workers will be exposed to risks of accidents and injuries. At times, such injuries may be from accidental falls from high elevations, injuries from hand tools and construction equipment cuts from sharp edges of steel sheets and collapse of wall sections among others. Personal Protective Equipment (PPE) will accordingly be provided. Furthermore, during construction phase, workers are also likely to be exposed to diseases from building materials. It is therefore recommended that before the construction commences, there is need for the materials to be well inspected according to the occupational health and safety standards.

With clear instructions, safety measures, awareness training and protective equipment in place there are no features of the Project that would result in a higher potential for accidents, malfunctions, and unplanned events resulting in harm to workers, the public, or the environment to occur.

With the anticipated considerable number of workers and visitors, the social interaction among them may not be avoided and will be of high significance. Considering the nature with which HIV/AIDS is contracted and spread, this makes a significant contribution to the pandemic. The beneficiaries of some of the activities within the facilities especially youth and women are the most venerable group to that social interaction due to their social economic background. Nevertheless; Gender-Based Violence (GBV)

and the associated sex abuse, harassment and exploitation may happen onsite due to high interaction of people with different norms and values. Differences between women and men's exposure to the risk of specific forms of work-place violence are reinforced by sex-segregated workplaces – both horizontally and vertically. This also has been influenced by better paying and higher positions group against lower paying and lower positions at the work place meanwhile the acts of rapping girls can be done by unscrupulous employees around the project community. Any act of physical, psychological and sexual harassment is against 1948 United Nations Universal Declaration of Human Rights as well as the Sexual Offences Special Provisions Act 1998 (SOSPA). With the mitigation measures in place, the residual impact is none to insignificant.

Other public health hazards could occur due to high congestion of people into a small area where disease like TB, eye disease, upper respiratory tract infections and spread of COVID 19 etc. may occur. Moreover, community health and safety issues associated with the operation of school site are generally negligible for well-designed and managed facilities. These may include potential public exposure to spills, fires, and explosions. Also at the work place environment there are several issues on occupational health and safety has to be comply with which include the following;

- **Ergonomics hazards** (long standing hours, long working hours, working in confined space and lightning hazards.)
- **Biological hazards:** Physical risk factors to which workers are exposed on construction site include noise from vehicles, extreme air temperatures (hot and cold) during the seasons with extreme temperatures characteristic of a project area risk factor include contact with the bacteria, viruses, fungi which the construction workers come into contact due to diversity of people.

The impact is considered to be negative of short-term duration with high significance.

6.3.2.16 Land Degradation from Extraction and Use of Building Materials

Most of the building materials such as hard core/aggregates, rough stone and sand required for construction of the proposed project will be obtained from quarries and sand harvesters who extract such materials from natural resource banks such as rivers and land. Since substantial quantities of these materials will be required for construction of the development, the availability and sustainability of such resources at the extraction sites will be negatively affected as they are not renewable in the short term. In addition, the sites from which the materials will be extracted may be significantly affected in several ways including landscape changes, displacement of animals and vegetation, poor visual quality and opening of depressions on the surface leading to several human and animal health impacts.
The impact is considered to be negative of long-term duration with high significance.

6.3.2.17 Possible Spread of HIV/AIDS, COVID-19 and Other Infectious Diseases.

The main health risk associated with the project relates to the HIV/AIDS epidemic. Considering the socio-economic as well as geographical characteristics of the project area, there exist a number factors (including poverty) that either may influence high infection rate, or deter efforts to combat the epidemic. For example, the problem of low or irregular incomes among young women aged 15 – 45 years is the HIV/AIDS risk factor, which can influence high infection rate in the project area. It is expected that the project will increase interaction between people in the cause of livelihood sustenance or social relaxation. However; recently the country experiencing COVID-19 pandemic that requires great

attention with proper preventive measures to be in place especially in all congested areas. It should be noted that during construction phase the contractor employs different workers from different areas hence increasing the potential for infectious diseases especially to students at Health Centre Perimeter wall fence.

6.3.2.18 Child labour and forced labour

Child labour, forced labor and human trafficking are the results of many factors, including poverty, social norms condoning them, lack of decent work opportunities for adults and adolescents, migration and emergencies. These factors are not only the cause but also a consequence of social inequities reinforced by discrimination. The project Proponent, Contractor, Consultant engineer and other stakeholders need critical attention to abide with employment Act No.6 (2004)

6.3.2.19 Teenage Pregnancies

Teenage pregnancies are a global problem as well as Tanzania in particular but occur most often in poorer and marginalized communities. Early pregnancies remain the major contributors to maternal and child mortality whilst complications relating to pregnancy and childbirth are the leading cause of death for girls aged 15-18. Adolescent pregnancy can also have negative social and economic effects on girls, their families and communities such as drop out of schools, limiting opportunities for future employment, perpetuating poverty cycle, etc. Nevertheless; the proposed project will cause high socio interactions both during construction and mostly during operation phase. Contractor and his employees who are mostly Men will highly interact with local community at Ngara Town Ward the state that may cause sexual interaction and sexual infidelity.

6.3.2.20 Risk of Construction Materials vandalism

Generally; construction projects experience vandalism and theft of construction materials mainly by locals in conjunction with construction technicians. For the proposed project these acts of vandalism may take a number of forms including cements, blocks, fuels theft from trucks storage tanks, theft of valuable spare parts and other accessories leading to an increase in the construction costs and state of trepidation to Contractor. Vandalism and theft acts will totally jeopardize the proposed project and subsequently cause directly great loss to the Proponent and Contractor.

6.3.2.21 Public Health Hazards due to Wastes

Workers working on site during development phase definitely will generate some wastes in solid and liquid form including human wastes. This might result into sanitary related diseases such as cholera, dysentery and alike. Depending on the number of construction workers and the season when work will be done the impact might become significance. Likewise, mismanaged solid wastes such as plastic bottles, food remains, used packaging material (e.g. cement bags) and alike might end up into drainage system and interfere the usual flow of storm water. This might also create untidy condition in the area while also creating favourable condition for germs. The impact is considered negative, short term and of moderate significance

6.4 Demobilization Phase

6.4.1 Positive Impacts

6.4.1.1 Restored Clean Site

It is anticipated that soon after completion of construction works for the proposed Rusumo HC wall fence and ancillary facilities, the Contractor will be caused to remove all unwanted and left over materials from the site. Similarly, all loose soil found within excavated areas either within or along the

project site will be backfilled and properly compacted to allow uninterrupted use of land by the general public. *This impact is direct, positive, long term and of medium significance.*

6.4.1.2 Vegetation Regeneration

Proper backfilling of the excavated areas within and along the project site will allow vegetation growth and thus contribute to improve scenic beauty of the surrounding hence it will support regeneration of planted vegetation which had been uprooted during project construction stage. *This impact is direct, positive, long term and of medium significance*

6.4.2 Negative Impacts

6.4.2.1 Loss of income generating opportunities by local people

The local people who will be benefiting from the project during construction phase through selling of their commodities and services to the construction workers will lose the created potential market during previous phase. This situation will result into loss of household income to Rusumo Ward. *This impact is direct, negative, long term and of high significance*

6.4.2.2 Loss of Temporary Employment

Laborers who will be employed during the construction phase will lose job after decommissioning of the project phase. Some labours may change job and be employed to work on industries that will emerge and some may leave the place for other jobs in other areas. In most cases most laborers employed during construction phase are semi-skilled laborers that move to seek for similar jobs in other areas. *This impact is rated as moderately significant with wide spread impact occurring over short period of time*

6.5 Impact during Operational Phase

Operational activities of the proposed project will associate with repairing and maintenance of the health center Perimeter wall fence

6.5.1 Safety hazards to public due to fall of the Perimeter wall fence

The health Centre Perimeter wall fence if not well constructed or rehabilitated on the appropriate time might fall and cause significant public safety risk such as bruises, fractures, strains, sprains as well as death. *The impact is considered negative, short term and of low to moderate significance*

6.5.2 Occupational Health and Safety Risks to workers due to Maintenance of perimeter wall fence

The operation of the health centre Perimeter wall fence and its entrance gate require routine maintenance from time to time and this might cause significant safety hazards to workers such as bruises, fractures, strains, sprains as well as death. Appropriate measures must be in place to stymie occurrences of such safety risks to workers. *The impact is considered negative, short term and of low to moderate significance*

6.5.3 Flooding

If no proper drainage channels constructed the built Perimeter wall fence might block drains and waterways result into stagnant water which enhancing vector populations and may cause epidemics such

as Malaria, Cholera etc. Nevertheless; prolonged stagnant water can cause the wall to weaken, leading to collapse and may pose significant health and safety risks to people within and nearby the project site.

6.6 Potential Impacts during Decommissioning Phase

The Project will be designed, built, and maintained to operate efficiently for several decades. The decommissioning of the Project is not expected at the near future. Decommissioning may involve excavation and other activities that will lead to temporary increase in noise and vibration as well as air pollution due to dust emissions. The deconstruction of fence and dismantling of sewerage and drainage systems, uninstallation of electrical system will also result in the creation of both hazardous and non-hazardous waste which needs to be handled according to waste management regulations.

The earth moving works during top soil replacement will lead to significant deterioration of the acoustic environment within the site and the surrounding areas. This will be as a result of the noise and vibration that will be experienced from machines and workforce being utilized. Dust will also be emitted affecting the surrounding environment. People working on the proposed project will inevitably be laid off or replaced to other Government institutions but decommissioning works create short-term jobs.

The decommissioning works will involve occupational health and safety risks similar to those of the construction phase. However, in case of decommissioning the following impacts may happen

6.6.1 Air Pollution due to Dust Emission

As noted above the demolition process will entail breaking of walling and reinforced slabs using sledge hammers and/or jack hammers, which utilize compressed air and lowering of materials from high to low levels. The exercise will inevitably generate dust into the atmosphere. Furthermore, the land levelling and grading while reinstating the area close to its nature condition will also generate dust to the atmosphere as well as transportation of debris and other unwanted materials from the site. Dust generated will impair local atmospheric condition. The impact receptors are likely to include site workers and nearby community as well as people/community centres along the route where the spoil will be disposed. The likelihood for public health concerns for onsite activities is minimal due to distance to the nearby settlement. The impact is considered negative, short term and of low to moderate significance. *The impact is considered negative, short term and of low to moderate significance*

6.6.2 Air Pollution due to Exhaust Emission

The trucks and earth moving equipment will be used for demolition works that will emit exhaust fumes which are unwanted atmospheric pollutants. Atmospheric pollutants from engines of vehicles/machinery include SO2, NOx, CO_2 and particulate matters. Main impact is impairment of local air quality, the extent of which will depend on quantities emitted, duration and prevailing atmospheric conditions. However, for demolition works to be involved the equipment to be involved will be fewer compared during construction. Thus, the exhausts emissions from the machineries/vehicles will neither have significance impacts to the local air quality nor to the global pollution. *The impact of air pollution due to exhaust emission is considered negative, cumulative, short term and of low significance.*

6.6.3 Noise Pollution from Demolishing Works

The demolition process will entail removal of wall and column using crowbars and hammers, breaking of walling and reinforced slabs using sledge hammers and/or jack hammers, which utilize compressed air and lowering of materials from high to low levels. The exercise will inevitably result into generation of noise the aspect of which might create hazard condition to the receptors (both nearby communities and workers within the project site. *This is considered to be negative, short-term and of negligible significance.*

6.6.4 Water Pollution from Salvaging and Stockpiling

The debris resulting from the demolition will be required to be transported for disposal at an approved site or used as base material for new construction work. Haphazard disposal of demolished wastes may cause contamination/impaired quality of receiving body – especially land, and water resources. Further the material may be carried out by rain water and thus increasing turbidity and sediments loads on the receiving water body. *This impact is considered to be negative, short term and moderate significance.*

6.6.5 Water Pollution from Hydrocarbons (oil, fuel and lubricants)

If servicing and maintenance of large vehicles and machines will take place at the demolition site there will be fuel and lubricants to be involved. This will create the opportunity for accidental spills of hydrocarbons and contaminants could be washed into the environment. Furthermore, the hydrocarbons that might remain at site if not handled properly might leak or spill on site and thus contaminating the site and eventually could be washed by rain water to the nearby water bodies. *The impact is considered to be negative irreversible, short-term duration and of moderate significance.*

6.6.6 Traffic Accidents

The demolition activities as indicated in previous sections will involve transportation of demolition materials from the site to the disposal sites away from the source. Traffic accidents involving both the workers and the general public can be expected to occur if precautions are not taken. Drivers might cause accident to children in the residential areas along the route. *The impact is indirect (offsite), negative, short term and of high significance.*

6.6.7 Occupational Health and Safety Hazards to workers

The demolition works and reinstating the site close to its natural condition will definitely results into various occupational health and safety hazards which if precautions are not taken might result into long-term health effects, injuries, fatal and loss of life as well as damage to properties. Some of the hazards are obvious which require some management; issues like excessive noise levels from the machinery, excessive dust emission from earth works. Injuries to construction workers may result from moving equipment. According to the OHS Act of 2003 causes of accidents in construction sites includes but not limited to poor site layout; poor erection and improper use of scaffolds; falling objects from high level such as poles; improper method of lifting; sharp edges; improper use of Personal Protective Equipment (PPE); inadequate provisions of PPE; falling through uncovered openings especially at upper floor levels and carelessness of workers. *The impacts are considered negative, short term and of high significance.*

6.6.8 Loss of Aesthetics due to Abandoned Project Facilities

In closure of the project, the proponent may decide to demolish the facilities including all other temporary structures. Loss of aesthetics may result from the demolished waste remaining on site for a long time to the extent of becoming an eyesore. *The impact is then considered to be negative of short-term duration with high significance.*

6.6.9 Loss of Employment due to Closure of the Project

If for whatever reason the project is closed down, the people employed permanently will secure same jobs in other Government institutions whilst those temporarily employed will lose their jobs. This will have significant impact to these people and their families. Other groups of people who are dependent on the project, such as suppliers of various services will lose their vital market. *The impact is then considered to be negative of short-term duration with high significance*

6.7 Consideration of Alternatives

The ESIA study requires identification and analysis of project alternative which includes consideration of different options in implementing the project. Identifying project alternatives provides the chance to compare different options, the advantages and disadvantages of implementing a specific option. Conducting environmental assessment for each project alternative helps to weigh out the best alternative that meets the project objective. In the analysis of these options, it is also important to consider the no project alternative which will help to assess what will happen in the absence of the proposed project. The analysis of project alternatives in this study has considered several options as discussed in the following sections

6.7.1 No Project Alternative (Zero option)

The no project alternative (zero option) considers maintaining the current status quo by not doing anything. This option keeps the current situation in the proposed area by not constructing the Health Centre Perimeter wall fence infrastructures in Nyakahanga Hamlet, Rusumo Village. This option considers avoiding all negative impacts that could happen when implementing the project; this could be the best option in avoiding environmental disturbance to the environment. However, this option will result to denying all the potential benefits that could be gained from the project. Therefore, choosing the no project alternative would mean failure to implement the proposed project and in turn increasing detrimental impacts that might stem from the current situation such as insecurity, theft and vandalism, land conflicts, lack of privacy and confidentiality etc. generally; the no project alternative denies enhanced health centre security and a safe place.

6.7.2 Project Alternative

The choice of "Project alternative" means the project should be implemented as proposed. The implementation of this project shall lead into achieving all anticipated benefits at local, district and regional levels.

6.7.3 Alternatives on project location

Relocation option to a different site is an option normally available for project implementation. But for this kind of project there is no any other site relocation since the main objective of the project is to secure the health centre by building the Perimeter wall fence.

6.7.4 Analysis of Alternative Construction Design, Materials and Technology

The project has been scaled down for Health Centre Perimeter wall fence in view ground space available. The proposed development will be constructed using modern, locally and internationally accepted materials to achieve public health, safety, security and environmental aesthetic requirements. Equipment that saves energy and water will be given first priority without compromising on cost or availability factors.

Heavy use of timber during construction is discouraged because of destruction of forests. The exotic timber species would be preferred to indigenous species in the construction where need will arise. However with modern building methods and technologies that will be used will require very little timber.

6.7.5 Alternative on power or energy

During construction phase the machines/equipment to be deployed shall use power from the mobile diesel powered generator since the site is not yet connected to national Grid (TANESCO) and not biomass so as to avoid environmental degradation from vegetation losses. The use of energy from the national grid and petroleum products, will increase TANESCO revenue collection and improving business to fuel suppliers, protect the environmental integrity from air pollution which would have been caused by emission of greenhouse gases particularly Carbon dioxide.

CHAPTER SEVEN: IMPACTS MITIGATION AND ENHANCEMENT MEASURES

7.1 Introduction

This chapter presents mitigation measures and/or compensatory actions and enhancement measures for the identified impacts. Many of the potential impacts identified in the preceding chapter can be eliminated or reduced/enhanced through the implementation of appropriate mitigation/enhancement measures either at the planning stage or when applied to specific project tasks and activities.

The proponent will ensure that any significant impacts identified is managed (mitigated/enhanced) within its capability in collaboration with other relevant stakeholders. A contractor on behalf of the proponent will:

- plan and design the project with environmental consideration to reduce the impacts to the natural and social environment;
- raise awareness of employees and communities surrounding the project site regarding environmental protection, social interaction with communities, security, safety and health issues (e.g. infectious diseases such as HIV/AIDS, COVID-19, STIs, accidents and theft);
- ensure daily environmental and safety management best practices to minimize and prevent accidents, spill of hazardous material, soil erosion and improve waste management;
- put in place a mechanism for waste collection and safe disposal of all kinds of wastes generated from the working site;
- make a provision of monitoring the implementation of mitigation measures during construction and operation phases; and
- Continually improve the mitigation measures following monitoring and evaluation exercise.

7.2 Mitigation Measures during Mobilization & Construction Phase

7.2.1 Enhancement Measures for Positive Impacts

7.2.1.1 Employment Opportunities

- The Proponent shall be encouraged to employ local, unemployed yet willing to work hard, manpower to the extent viable subject to a maximum of 50% unskilled labour. This will ensure that local people are more benefited out of the project.
- Employment should be on equal opportunities for both gender
- Proponent shall provide on job and safety training
- Proponent shall not cause children under the age eighteen (18) to be employed or be engaged in any project activities.

7.2.1.2 Increased Income to Rusumo Villagers

- Ensure all payments are timely completed
- Contractor shall provide shelter, water supply and sanitary facilities to the food vendors to ensure that they sell food to construction workforce in a clean and hygienic environment.
- Encourage women to participate in the food vending business

7.2.1.3 Benefit to Local Producers and Suppliers of Construction Materials

- Purchasing construction materials to local suppliers
- Limiting unnecessarily importation of construction materials which might be sourced locally
- Ngara District Council to register local suppliers/producers for aggregates and sand to simplify management of the borrow pits

7.2.1.4 Increased Human Capital

- On the job-training to villagers when working with skilled projects' personnel

7.2.1.5 Secure the health Centre by having a Perimeter wall fence

- The wall shall be constructed around the health Centre for security purposes

7.2.2 Mitigation of Negative Impacts during Construction and Mobilization Phase

7.2.2.1 Vegetation clearing

- The destruction of exotic/natural vegetation could not be avoided during the start of construction works.
- The problem could be minimized by confining the construction activities within the proposed project site.
- The Contractor shall avoid unnecessary clearing of vegetation beyond the proposed project construction area
- All cleared and compacted areas should be scarified and planted with natural vegetation to stabilize the soil
- Indigenous trees should be planted around project area to enhance natural habitat
- The Contractor shall always ensure that the excavated areas are reinstated whenever possible

7.2.2.2 Air Pollutions (Fugitive Dust and Exhaust Emissions)

- The Contractor shall apply water sprinkling on created dusty areas during undertaking of construction works to minimize dust emission
- The Contractor shall provide dust protection masks to construction workers
- The Contractor shall ensure that appropriate construction machines are used for construction works
- The Contractor shall avoid as much as possible stockpiling of dusty construction materials or loose soils.
- The Contractor shall avoid use of old construction equipment/machinery which emit black smoke. All construction machinery/equipment and vehicles must be inspected during contract award to ensure that they do not emit black smoke.
- The Contractor shall operate and maintain vehicles and equipment in good working condition.
- The Contractor shall cover all trucks hauling dusty construction materials with tarpaulins during transportation.
- Minimum Excavator bucket height will be maintained during loading and unloading activity of construction materials
- Maintain and store piles of loose/friable materials and soil in a suitable manner to minimize dust dispersion

7.2.2.3 Population influx

- Establish transparent recruitment procedures to avoid site followers in form of job-seekers
- Establish a recruitment policy that gives priority to local residents for less specialized services
- Recruitment procedures to be shared with the local authorities for further dissemination
- Opportunities for sub-suppliers and sub-contractors should be awarded to local firms which in turn employ local labour
- Conduct public health campaigns addressing issues of behavioral change, water and sanitation, malaria, HIV/AIDS, etc.

7.2.2.4 Increased Risk of GBV, SEA and Harassment

- Regular training for workers on required lawful conducts in the project communities.
- Creation of partnership with local offices of the Ministry of Women Affairs and Youth Development, NGOs and community women groups to report workers' misconduct and complaints/reports on gender-based violence
- Gender based equal opportunities in all project phases
- Create opportunities for employment of women in both management and casual placements
- Formulation of proper Grievance Redress Mechanism for GBV and SEA actions occurred in working area or around the local community
- All gender based employment must consider labor act (18+ Years and above)
- The Consultant Engineer with Proponent shall strictly make sure the Contractor adheres to Employment and Labour Relations Act No. 6 (2004) of United Republic of Tanzania

7.2.2.5 Generation of Solid Wastes

- Waste management on site shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed as prescribed in The Environmental Management Act, 2004, Part IX (a). This section gives mandate the local government authority to choose the best method of solid waste disposal for their areas of jurisdiction in consideration to climatic conditions, economic ability, interest of the community, environmental, hygienic and social benefits; and availability of tipping sites.
- All solid waste shall be disposed of offsite at an approved dumping site located at Nyachonga Hamlet, Ngara Mjini Ward.
- Inert construction rubble and waste materials shall be disposed at an approved site located at Nyachonga Hamlet, Ngara Mjini Ward.
- Ensure that site personnel are instructed in the proper disposal of all waste.
- Ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter. Measures shall be taken to reduce the potential for litter and negligent behavior with regard to the disposal of all refuse.
- At all places of work provide litterbins, containers and refuse collection facilities for later disposal.
- Solid waste may be temporarily stored on site in a designated area prior to collection and disposal. Waste storage facility shall be covered, tip-proof, weatherproof and scavenger proof. The waste storage area shall be fenced off to prevent wind-blown litter.
- The Contractor shall provide metal refuse bins or equivalent plastic refuse bins, all with lids, for domestic waste. Refuse shall be collected and removed from all facilities at least twice per week.

7.2.2.6 Generation of Liquid Waste (Human Sanitary Waste)

- Contractor may use the existing toilets at Rusumo Health Centre during the construction period. These toilets are currently not in use
- Improved Pit latrines and/or septic tanks/soak-away pits at the site for liquid waste collection and regular emptying when is full.
- Emptying will be done by the licensed contractor and will be disposed in an approved sewage system as prescribed in The Environmental Management Act, 2004, Part IX (c). This section gives mandate to local government authority to issue guidelines on how liquid waste from domestic premises should be disposed off. The local government authorities shall ensure that sewage is appropriately treated before it is finally discharged into water bodies or open land, and that it does not increase the risk of infections or ecological disturbance and environmental degradation

7.2.2.7 Generation of hazardous waste

- Separate all hazardous wastes from domestic waste during collection and transportation
- All vehicle and equipment mechanical repair activities shall be conducted on proper designated space within the project site or at a nearby garage
- All generated hazardous during construction of structures shall be temporarily stored at designated area at the site and then to be removed from site by a registered hazardous waste dealer. The process shall be complied with The Environmental Management (Hazardous Waste Control and Management) Regulations, 2021, Part V (15). This section described that the Minister may issue permits for in-country management of hazardous waste for the activities such as collection of hazardous waste, storage of hazardous waste, transportation of hazardous waste, owning or operating a plant, facility or site for recycling or recovery or re-use or treatment or disposal of hazardous waste, etc.
- Replaced oil and brake fluid to be properly handled in a designated area with primary and secondary containments prior to be disposed by an authorized dealer
- All storage containers will be properly sealed and monitored to avoid any possible Oil spillage and the use of oil kits

7.2.2.8 Noise Pollution and Vibration

- Noise levels along the perimeters of the project area shall be monitored and recorded to insure that activities at the site are not exceeding standards.
- Workers will be provided with personal protective equipment (PPE) such as ear muffs/plugs during construction and especially workers working in noisy areas.
- Concrete mixing will be done away from residential area.
- Additionally work will be carried out during the day.
- Vehicles and equipment will be maintained and serviced as required to ensure they do not generate excessive noise

7.2.2.9 Soil erosion

- The problem could be minimized by confining the construction activities within the proposed project site

- Ensure management of excavation activities
- Light compaction will be necessary to stabilise the soil.
- In areas where construction activities have been completed and where no further disturbance would take place, rehabilitation and re-vegetation should commence as soon as possible.
- Ground clearance should be minimized and if possible concentrated only to the specific building foundation areas, and only when it is necessary.
- Prompt reclamation of exposed soils should be done.
- Construction during long rains period should be done with caution to avoid soil from being washed away.
- Topsoil excavated from wall foundations should be stored for re-use on other areas for rehabilitation

7.2.2.10 Loss of Biodiversity

Despite the impact being rated of negligible significance, the following shall be done to ensure the impact remains negligible throughout the project life span and also for continuous environmental improvement of the plant site; -

- The contractor is responsible for informing all employees about the need to prevent any harmful effects on natural vegetation on or around the construction site as a result of their activities;
- Clearing of natural vegetation is kept to a minimum;
- Unnecessary removal, damage and disturbance of vegetation are prohibited;
- Re-vegetation of the proposed project site is undertaken;
- Indigenous trees are planted around project area to enhance natural habitat

7.2.2.11 Soil and water quality contamination

- All machinery must be keenly observed not to leak oils on the ground.
- Maintenance must be carried out in a designated area and where oils are completely restrained from reaching the ground. Such areas should be covered to avoid storm from carrying away oils into the soil or nearby surface run-off. Waste water/ wash water from these areas should be properly disposed.
- Maintain hygiene conditions at construction site i.e. Good industrial hygiene practices will be maintained
- Establishment of primary and secondary containments for waste oil storage before final disposal.

7.2.2.12 Change of Landscape of the Area

- The problem could be minimized by confining the construction activities within the proposed project site
- Ensure management of excavation activities
- Light compaction will be necessary to stabilise the soil.
- In areas where construction activities have been completed and where no further disturbance would take place, rehabilitation and re-vegetation should commence as soon as possible.
- Ground clearance should be minimized and if possible concentrated only to the specific building foundation areas, and only when it is necessary.
- Prompt reclamation of exposed soils should be done.

- Construction during long rains period should be done with caution to avoid soil from being washed away.
- Topsoil excavated from fence foundations should be stored for re use on other areas for rehabilitation

7.2.2.13 Disruption of Traffic Flow

- Only qualified drivers with appropriate driving license shall be engaged
- Induction course shall be done to all drivers prior starting driving
- Drivers shall be sensitized on maintaining speed limits for main road and on access roads/internal driveways.
- Promoting safe drive with specified hours for long drive to avoid fatigue
- Provision of road and safety signs shall be done on site and surrounding areas that are to be followed by drivers and public in collaboration with local authority
- Where necessary; the problem will be mitigated by informing the members of the public about possible disruption of traffic movements along the access road, and the inconveniences caused by the project construction activities. This can be through a conduct of consultative meeting with residents nearby the project so that the general public and particularly the road users can be made aware of the problem and proposed mitigation measures

7.2.2.14 Occupational Health and Safety hazards to Workers

- Appropriate working gear (such as nose mask, ear muff, hard hats, and safety clothing) and good construction site management will be provided.
- The contractor will ensure that the construction site is hygienically kept with adequate provision of facilities including waste disposal receptacles, clean toilets, firefighting and clean and safe water supply.
- A well-stocked First Aid kit (administered by qualified first Aider personnel) shall be maintained at the construction site.
- The medical personnel shall also be responsible for primary treatment of ailments and other minor medical cases as well as providing some health education to the workforce.
- The Contractor shall strictly follow occupational health and safety procedures as required in Occupational Health and Safety Act No. 5 of 2003

7.2.3 Land Degradation from Extraction and Use of Building Materials

- Depletion of resource cannot be avoided for developing this project.
- However, the contractor shall not be responsible to extract construction materials from the sources, only licensed suppliers will supply all required materials to Contractor
- Ngara District Council under environmental department in collaboration with other potential stakeholders shall strictly prohibit the Contractor to extract materials direct from the borrow pits/sources

7.2.4 Risk of Construction Materials vandalism

- Ngara District Council shall collaborate with prospective communities in creating community sense of ownership
- Security guards should be present all the time for safety of all properties within the construction site.

- Security guards will be outsourced from the licensed company as described in the TZS 630: 2013, Code of practice for static guarding, mobile patrol and key holding services.

7.2.5 Child labour and forced labour

- Employment must consider labor act (18+ Years and above)
- Prohibit Students to engage in any contractor's activities
- Spread awareness among parents and surrounding communities
- Strict laws in place to prevent child, forced labors and human trafficking
- The Consultant Engineer with Proponent shall strictly make sure the Contractor adheres to Employment and Labour Relations Act No. 6 (2004)

7.2.6 Possible Spread of HIV/AIDS, COVID-19 and Other Infectious Diseases.

- Workers will be sensitized on the issue of HIV/AIDS and STDs and on the usage condoms etc.
- Establishment and implementation of HIV/AIDS awareness and prevention programs.
- HIV/AIDS testing will be conducted and counseling services will be done
- Providing protection gears where needed such as condoms
- Workers and the nearby community will be sanitized on the issues of COVID-19 and protection measures
- The contractor shall provide employment priority to local unskilled laborers to minimize number of new comers
- The Contractor shall develop and implement HIV/AIDS and STIs prevention and control programme
- The Contractor shall put in place the COVID-19 contingency plan developed by Ngara District Council

7.2.7 Teenage Pregnancies

- Strictly enforcing labors to avoid sexual with teenagers
- Developing a community based approach which utilizes school sex education integrated with parent, church, and community groups
- Increasing teenage knowledge of contraception
- Providing counseling and medical and psychological health and education
- Put in place the prepared Grievance Redress Mechanism for GBV and SEA actions occurred in working area or around the local community

7.2.8 Public Health Hazards due to Wastes

- The contractor shall regularly conduct community communication and engagement meetings with villagers so as to raise health and safety awareness to the people
- Establishment of temporary and comprehensive sanitary facilities such as toilets, bathrooms etc during the construction phase
- Proper storage and management of solid waste as well as other hazardous materials to avoid surface water contamination to nearby water sources through storm water overflow.
- Ensures hygienic environment on site to avoid the outbreak of disease such as cholera, dysentery, etc
- The Contractor shall entirely barricade with visible nets or tapes excavated trenches.

7.3 Demobilization Phase

7.3.1 Restored clean site

- Collection and transportation of unwanted materials to the disposal site
- Allow community to take valuable building materials for example timber for reuse in construction of wastes

7.3.2 Vegetation Regeneration

- Supporting vegetation growth along the project site
- Provision of training to scheme attendants in nurturing of planted vegetation around the project site

7.3.3 Loss of Temporary Employment

- Adapt a project – completion policy: identifying key issues to be considered.
- Assist with re-employment and job seeking of the involved workforce.
- Compensate and suitably recommend the workers to help in seeking opportunities elsewhere.
- Offer advice and counseling on issues such as financial matters.

7.4 Mitigation and Enhancement Measures during Operation Phase

7.4.1 Enhancement of Positive Impacts

7.4.1.1 Improved Security within the Rusumo Health Centre

- This shall be attained by regular maintenance of the established perimeter wall fence for Rusumo Health Centre
- The design shall conform national and international standards

7.4.2 Mitigation of Negative Impacts during Operation Phase

7.4.2.1 Creation of public safety hazard due to Falling of Wall fence

- Regular maintenance of perimeter wall fence
- Affixing safety signs to warn people to stay close to the wall fence
- Stabilize and secure structural bricks wall against leaning and bulging outwards/Inwards by using concrete columns after each 3.5meters.
- Establishment of proper storm water drainage system to prevent soil erosion along the wall fence.

7.4.3 Occupational Health and Safety Risks to workers due to Maintenance of perimeter wall fence

- Hiring skilled contractor to undertake maintenance/rehabilitation works
- Provision of appropriate safety gear to protect construction workers from injuries caused by falling of objects eg. Head injuries, etc

7.4.4 Flooding

- Proper drainage channels shall be built within the health centre to avoid rain water run off blockage by the fence
- The erosion control plan needs to show what Best Management Plan (BMPs) will be used and where, as well as the total disturbance area. The plan must include measures to prevent soil erosion, contain sediment and drainage control.

7.5 Mitigation Measures during Decommissioning Phase

7.5.1 Air Pollution due to Dust Emission

The following measures shall be applied; -

- Protection and well-being of the employees shall be ensured by minimising their vulnerabilities to dust generated areas on-site. The contractor shall use an appropriate shift system and ensure that workers wear necessary protection gears like masks, safety glasses, and ensure that the necessary and standard precautions are rigorously followed to prevent human health impacts.
- Measures to suppress dust shall be applied to include watering the area vulnerable for dust in the specific potential dust area within the project area

7.5.2 Noise Pollution from Demolishing Works

The following shall be done; -

- Personal protective equipment (PPE) shall be properly selected, operated and maintained to minimize noise
- All demolition works are advised to be carried out during the day time
- Best practice - methods of working will be developed and strictly observed
- Light machineries should be applied during demolition activities whilst operators/workers in various sections with significant noise levels shall be provided with ear plugs

7.5.3 Water Pollution from Salvaging and Stockpiling

To mitigate the impact, the following shall be done; -

- All excavated unwanted materials will be stockpiled away from drainage features.
- Prior instructions to contractor on handling of hazardous waste such as oils, lubricants and gasoline during decommissioning process will be provided.
- A site waste management plan shall be prepared by the contractor prior to commencement of the works. This will include designation of appropriate waste storage areas, collection and removal schedule, and a system for supervision and monitoring.
- All refuelling for vehicles will be done on dedicated area that has been provided with concrete structure to retain any leaks
- All services will also be done away from the demolition site
- Emergency response measures will be put on site in case of accidental oil spill that will include having absorbent materials and sand kits.

7.5.4 Occupational Health and Safety Hazards to Workers

Accidents will be minimized through;

- Comprehensive Decommissioning Plan shall be established to guide prior to undertake any activities
- Workers at the site should use appropriate protective gears such as boots, respiratory masks etc.

- The contractor shall insist on their workers to use the gears properly
- Fatal accidents shall be reported to OSHA within 24hrs of occurrence so as to prevent further recurrences by doing investigation
- All respective government authorities should be involved prior to decommissioning activities

7.5.5 Creation of safety risk impacts to local people

- Comprehensive Decommissioning Plan shall be established to guide prior to undertake any activities
- The Developer shall ensure that all non-degradable solid wastes are well collected and safely disposed off-site
- The Developer shall ensure that all materials which are re-usable or recyclable are treated accordingly in other places.
- All fine earth materials will be enclosed during transportation to the designated disposal site to prevent dust generation along the route. Trucks used for that purpose will be fitted with tailgates that close properly and with tarpaulins to cover the materials.
- Protection and well-being of the nearby communities shall be ensured by minimizing their vulnerabilities to dust, noise generated by the machinery on-site.
- Measures to suppress dust shall be applied to include watering the area vulnerable for dust in the specific potential dust area within the project area

7.5.6 Impacts due to vegetation degradation

- Ensure that demolition activities are safer and more environmentally friendly
- Demolition activities should be confined in a specific site to avoid significant destruction of surrounding vegetation
- Driveways and loading areas for demolished materials should be established with precautions to avoid destruction of vegetation
- Vegetation restoration should be given priority in the Project Decommissioning Plan

7.5.7 Loss of aesthetics due to abandoned structures

- The contractor shall ensure that demolished waste is removed from the site and properly disposed of in designated location.
- The site will be rehabilitated to its original state, whereby will be handled over to project proponent who is the owner of the plot. Before handling over, the proponent will conduct internal environmental audit and the report will be submitted to NEMC for approval.

7.5.8 Solid Waste Generated from Demolishing Activities

- Waste separation, reuse/recycling and disposal through appropriate techniques as per Ngara District Council and respective Authorities
- Unusable materials remains shall be taken to the approved dumping site

- The site will be rehabilitated to its original state, whereby will be handled over to project proponent who is the owner of the plot. Before handling over, the proponent will conduct internal environmental audit and the report will be submitted to NEMC for approval

7.5.9 Loss of Employment due to Closure of the Project

- Transfer of permanent employees to other Government institutions
- Provision of training that can make temporary workers competent for jobs elsewhere shall be provided.
- Ensuring that Social Security contributions are remitted to the applicable fund at the right time
- Create a severance package in the event of abrupt closure of the facility
- The safety of the workers should surpass as a priority of all other objectives in the decommissioning project
- Adapt a project – completion policy: identifying key issues to be considered.
- Assist with re-employment and job seeking of the involved workforce.
- Compensate and suitably recommend the workers to help in seeking opportunities elsewhere.
- Offer advice and counselling on issues such as financial matters

7.6 Impacts Assessment and Evaluation

The identified impacts above have been subjected to assessment by using matrix method, whereby two types of matrices were used. These include the Impact Categorization Matrix (ICM) and Impact Evaluation Matrix (IEM). The ICM has been used to categorize impacts according to environmental components (biophysical and socio-economic) that are likely to be affected, and IEM was used for determination of the significance of impacts. The significance of impacts was based on the following factors:

- Type of impact – whether positive or negative
- Its effects – whether direct, indirect or cumulative
- Intensity – whether low, medium or high
- Magnitude – whether site specific, local or regional
- Duration – whether short-term, long-term or permanent
- Reversibility- reversible or irreversible
- Significance- whether negligible, low, moderate or high

As demonstrated in **Table 15** the proposed Health Centre Perimeter wall fence construction project is expected to have both negative and positive impacts of minor, moderate and major significance during mobilization, construction and operation phases. The results of the assessment indicate that most of the impacts are negative; indirect; have moderate intensity; site specific; short term; reversible and with low to medium significance.

Table 15; Summary of Impact Assessment

Impacts	Category	Mobilization Phase	Construction Phase	Demobilization Phase	Operation Phase	Decommissioning phase
Employment Opportunities	S	+2	+2	0	+2	0
Increased Income to Rusumo Villagers	S	+2	+3	0	0	0
Benefit to Local Producers and Suppliers of Construction Materials	S	0	+2	0	0	0
Increased Human Capital	S	0	+2	0	0	0
Population Influx (Labor Influx)	S	0	-2	0	0	0
Vegetation clearance	B	0	-1	0	-1	-1
Air pollution	B	0	-3	0	0	-3
Soil Erosion	B	0	-2	0	0	-2
Change of Landscape of the Area	B	0	-1	0	0	-1
Increased Risk of GBV, SEA and Harassment	S	0	-2	0	0	0
Loss of Biodiversity	B	0	-1	0	0	0
Solid waste generation	B	0	-2	-2	-2	-2
Liquid waste generation	B	0	-2	0	0	0
Generation of hazardous waste	B		-2	0	-1	-2
Noise and Vibration Pollution	B	0	-2	0	0	-2
Soil and Water Quality Contamination	B	0	-2	0	0	0
Land Degradation from Extraction and Use of Building Materials	B	0	-2	0	0	0

Impacts	Category	Mobilization Phase	Construction Phase	Demobilization Phase	Operation Phase	Decommissioning phase
Risks of Fire and Explosions	S	0	-1	0	0	0
Occupational Health and Safety Hazards	S	0	-2	0	-2	-2
Creation of Safety Risk to local people	S	0	-2	0	-2	-2
Disruption of traffic flow	S	0	-2	0	0	0
Increased in Incidence of HIV/AIDS and STIs	S	0	-3	0	0	0
Loss of temporary employment	S	0	0	-1	0	-1
Loss of income generation opportunities	S	0	0	-1	0	-1
Restored Clean Site	B	0	0	+2	0	+2
Vegetation Regeneration	B	0	0	+3	+3	+3
Risk of infrastructure vandalism	S	0	-3	0	-1	0
Water Pollution from Salvaging and Stockpiling	B	0	0	0	0	-1
Increased Sediments Load in Water Bodies due to Erosion & Spoils	B	0	0	0	0	-1

KEY:

S	Socio-economic impact	B	Bio-geophysical Impact
0	Negligible	+2	Moderate positive impacts
-1	Minor negative impacts	+3	Major positive impacts
-2	Moderate negative impacts	-3	Major negative impacts

Source: *Consultant's Analysis (November/ 2021)*

CHAPTER EIGHT: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

8.1 Introduction

The EIA guidelines define an Environmental and Social Management Plan (ESMP) as a report or document prepared by the proponent after the conduction of ESIA study to present the case for the assessment of their proposal as part of the environmental and social impact assessment process. The ESMP as presented in this chapter contains recommendations and cost estimates for mitigation measures designed to address the negative impacts of the proposed project. The ESMP provides a general outlay of the environmental and social aspects, potential impacts, mitigation measures, performance indicators, monitoring means and frequency, responsibility for monitoring and associated cost estimates.

The responsibility for the incorporation of mitigation measures for the project implementation lies with the Supervising Engineer, who must ensure that the contractor implements all specified mitigation measures. In order for the contractor to carry out environmental management activities during construction, the contractor should draw up an environmental management plan of his/her own to show how s/he will address the mitigation measures during the construction period. The Supervising Engineer is responsible for assessing the contractor's environmental management plan.

The ESMP has been developed with project knowledge and information available to date. As project commencement and scheduling plans are developed and changed, components of the ESMP might require amendments. This is therefore a working document, which can be updated whenever new information is received or site conditions change.

The objectives of the ESMP are to:

(i) To bring the project into compliance with applicable national environmental and social legal requirements social policies and procedures; and

(ii) To outline the mitigation/enhancing, monitoring, consultative and institutional measures required to prevent, minimize, mitigate or compensate for adverse environmental and social impacts, or to enhance the project beneficial impacts

The objectives, activities, mitigation measures and allocation of costs and responsibilities pertaining to prevention, minimization and monitoring of significant negative impacts and maximization of positive impacts associated with the project equipment installation and operational phases are outlined in the proposed ESMP in the following section. It outlines corresponding management strategies proposed in chapter 7 that will be employed to mitigate potential negative environmental impacts and assign responsibility for the implementation of mitigation measures.

8.2 Implementation of the Management Plan

The environmental and social mitigation measures of the proposed project shall be handed over to the contractor during construction period. The Contractor shall take stock of the contents of the Environmental and Social Management Plan of the Project. The contractor shall implement the ESMP

during the construction period under close supervision of Proponent. During the Operation Phase, Proponent shall implement the ESMP

8.3 Environmental and Social Cost

The total cost for implementation of ESMP is estimated at Tshs. **37, 500,000.00** in which those of construction phase are included in the works contract of this project. The environmental and social cost estimates was developed based on the measured items in the contractual bill of quantities and experience of the Consultant on projects of similar nature

Table 16: ESMP's Institutional Responsibilities

Unit / Personnel	Responsibilities
National Environment Management Council (NEMC)	• Conduct environmental compliance monitoring and enforcement to ensure that project proponent is efficiently implement approved ESMP • Undertake screening of the project to determine level of ESIA study • Reviewing and approval of the project ESIA reports submitted by Ngara DC • Reviewing of the annual environmental and social audit reports submitted by Ngara DC;
Ngara District Council	• Holds final responsibility for the environmental and social performance of the project • The Client will be represented by Consultant who will be in charge of the supervision works, and overseeing the contract from initiation stage to completion of construction activities at various proposed site; • The Client has to procure a contractor who will be responsible for the implementation of the entire project activities; • Responsible for ensuring the site development is implemented according to the requirements as stipulated in ESMP; • Ensure that sufficient resources are available to the other role players to efficiently perform their tasks as indicated in ESMP; • Overall management of all project activities; • Receive and supervise the implementation of the recommendations of the environmental report from the Consultant; • Cooperate with Consultant to periodically supervise contractors' activities; and • Ensure availability of key staff for social, environmental, health and safety monitoring during project phases. • Carry out annual environmental and social audits of the project and submit the

Unit / Personnel	Responsibilities
	subsequent reports to NEMC for review and approval.
NELSAP PIU	• To provide support to the District where required to facilitate the implementation of LADP activities. • Ensure timely availability and reliability of funding for agreed and approved LADP activities and related interventions. • Ensure timely processing of the direct payments to contractors and consultants on behalf of the district. • Monitoring and evaluation of the progress of LADP activities implemented by the district. • Liaise closely with Ngara DC in preparing a coordinated response on environmental and social management aspects of the project; • Carrying out safeguards due diligence; and • Preparation of quarterly environmental and social performance reports for the project.
World Bank	• Financing the entire project activities • Provision of technical support and guidance to Ngara DC, NELSAP PIU, Contractor and Supervising Engineer • Recommending on additional measures to strengthening the ESMP/EMP implementation performance
Consultant (Supervision Engineer)	• monitoring and supervision of the construction works including overseeing implementation of ESMP • administer all construction works, progress review and monitor the works undertaken by the Contractor and implementation of ESMP to ensure compliance with contract specification and contractual requirements • Cooperate with Ngara DC to periodically supervise contractors' activities. Scheduled meetings held between the contractor, Ngara DC representative and Consultant. • Include, among its staff, an environmental officer who will oversee the implementation of the ESMP and report to Ngara DC and NELSAP PIU.
Contractor	• responsible for implementation of construction works and ensure compliance with environmental requirements; • Contractor shall prepare/update a Contractor's ESMP (C-ESMP), and ensure that the measures related to environmental and social safeguards are fully carried out

Unit / Personnel	Responsibilities
	as stipulated; • Preparing/Updating the project's Environmental Health and Safety Management Plan; • Conduct general training on occupational health, safety and environment to the construction workforce • Reporting arising works that are detected by Environmental Officer to Consultant and Ngara DC representative for further actions. • Prepare and implement COVID-19 contingency plan, prepare and implement emergence preparedness plan, prepare and implement traffic management plan,

Table 17: Environmental and Social Management Plan (ESMP)

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
Mobilization and Construction Phase					
Employment Opportunities	• The Proponent shall be encouraged to employ local, unemployed yet willing to work hard, manpower to the extent viable subject to a maximum of 50% unskilled labour. This will ensure that local people are more benefited out of the project. • Employment should be on equal opportunities for both gender • Proponent shall provide on job and safety training • Proponent shall not cause children under the age eighteen (18) to be employed or be engaged in any project activities.	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Monthly	5,000,000	100% of unskilled labours to be recruited from project village
Increased Income to Rusumo Villagers	• Ensure all payments are timely completed • Contractor shall provide shelter, water supply and sanitary facilities to the food vendors to ensure that they sell food to construction workforce in a clean and hygienic environment. • Encourage women to participate in the food vending business	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During Construction Phase	0	Created maximum numbers of opportunities
Benefit to Local Producers and Suppliers of Construction Materials	• Purchasing construction materials to local suppliers • Limiting unnecessarily importation of construction materials which might be sourced locally • Ngara District Council to register local suppliers/producers for aggregates and sand to simplify management of the borrow pits	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During Construction Phase	0	More than 70% of construction materials to be sourced at Ngara DC
Increased Human Capital	• On the job-training to villagers when working with skilled projects' personnel	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During Construction Phase	0	100% of local employees are imparted skills

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
Noise and Vibration Pollution	• Noise levels along the perimeters of the project area shall be monitored and recorded to insure that activities at the site are not exceeding standards. • Workers will be provided with personal protective equipment (PPE) such as ear muffs/plugs during construction and especially workers working in noisy areas. • Concrete mixing will be done away from residential area. • Additionally work will be carried out during the day. • Vehicles and equipment will be maintained and serviced as required to ensure they do not generate excessive noise	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During Construction Phase	1,000,000	-Not exceeding TZS Limit 75dB -Construction workers wearing noise protection gears: (ISO 45001)
Population Influx (Labor Influx)	• Establish transparent recruitment procedures to avoid site followers in form of job-seekers • Establish a recruitment policy that gives priority to local residents for less specialized services • Recruitment procedures to be shared with the local authorities for further dissemination • Opportunities for sub-suppliers and sub-contractors should be awarded to local firms which in turn employ local labour • Conduct public health campaigns addressing issues of behavioral change, water and sanitation, malaria, HIV/AIDS, etc.	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Quarterly	500,000	Zero impact
Vegetation clearing	The destruction of natural/exotic vegetation could not be avoided during the start of construction works hence the contractor shall adhere to the following measures; • Confining the construction activities within the proposed project site could minimize the problem.	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction phase	2,000,000	No widespread destruction of vegetation around the project areas

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• The Contractor shall avoid unnecessary clearing of vegetation beyond the proposed project construction area • All cleared and compacted areas should be scarified and planted with natural vegetation to stabilize the soil • The Contractor shall always ensure that the excavated areas are reinstated whenever possible • Only indigenous plant species should be used for re-vegetation				
Increased Risk of GBV, SEA and Harassment	• Regular training for workers on required lawful conducts in the project communities. • Creation of partnership with local offices of the Ministry of Women Affairs and Youth Development, NGOs and community women groups to report workers' misconduct and complaints/reports on gender-based violence • Provision of opportunities for workers to regularly return to their families or take advantage of entertainment opportunities away from rural host communities. • Gender based equal opportunities in all project phases • Create opportunities for employment of women in both management and casual placements • All gender based employment must consider labor act (18+ Years and above)	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent -Proponent	Monthly during construction phase	400,000	Zero Case
Soil Erosion	• The contractor implements erosion control measures as an on-going exercise; • During construction, the contractor protects all areas susceptible to erosion by installing	-NELSAP -Consultant Supervisor engineer	After construction period	500,000	Attaining an even/level surface

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	necessary temporary and permanent drainage works as soon as possible and by taking any other measures necessary to prevent storm water from concentrating in streams and scouring slopes, banks, etc.; • Any tunnels or erosion channels developed during the construction or maintenance period shall be backfilled and compacted and the areas restored to a proper condition. • Areas where construction activities have been completed and where no further disturbance would take place are rehabilitated through re-vegetation; • Ground clearance is minimized and if possible concentrated only to the specific foundation areas, and only when it is necessary; • Prompt reclamation of exposed soils is done; • Construction during long rains period should be done with caution to avoid soil from being washed away	-Site Contractor -Proponent			
Air Pollutions (Fugitive Dust and Exhaust Emissions)	• The Contractor shall apply water sprinkling on created dusty areas during undertaking of construction works to minimize dust emission • The Contractor shall provide dust protection masks to construction workers • The Contractor shall ensure that appropriate construction machines are used for construction works • The Contractor shall avoid as much as possible stockpiling of dusty construction materials or loose soils. • The Contractor shall avoid use of old construction equipment/machinery which emit black smoke. All construction machinery/equipment and vehicles must be inspected during contract award to ensure that	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Monthly	500,000	Within the standard limits: TZS 845:2012 & ISO 10007:2003

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	they do not emit black smoke. • The Contractor shall operate and maintain vehicles and equipment in good working condition. • The Contractor shall cover all trucks hauling dusty construction materials with tarpaulins during transportation. • Minimum Excavator bucket height will be maintained during loading and unloading activity of excavated materials				
Generation of Liquid Waste (Human Sanitary Waste)	• Contractor may use the existing toilets established by Co-contractor during the construction period • Pit latrines and/or septic tanks/soak-away pits at the site for liquid waste collection and regular emptying. • All storage containers will be properly sealed and monitored to avoid any possible Oil spillage and the use of oil kits	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Monthly	500,000	-Zero adverse impact -Number of operating toilet facilities/ TZS 1117:2009
Generation of Solid Wastes	• Waste management on site shall be strictly controlled and monitored. Only approved waste disposal methods shall be allowed as prescribed in The Environmental Management Act, 2004, Part IX (a). This section gives mandate the local government authority to choose the best method of solid waste disposal for their areas of jurisdiction in consideration to climatic conditions, economic ability, interest of the community, environmental, hygienic and social benefits; and availability of tipping sites. • All solid waste shall be disposed of offsite at an approved dumping site located at Nyachonga Hamlet, Ngara Mjini Ward. • Inert construction rubble and waste materials shall be disposed at an approved site located at	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Monthly	600,000	Adequate volume of solid waste is reused or recycled/ TZS 1117:2009

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	Nyachonga Hamlet, Ngara Mjini Ward. • Ensure that site personnel are instructed in the proper disposal of all waste. • Ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter. Measures shall be taken to reduce the potential for litter and negligent behavior with regard to the disposal of all refuse. • At all places of work provide litterbins, containers and refuse collection facilities for later disposal. • Solid waste may be temporarily stored on site in a designated area prior to collection and disposal. Waste storage facility shall be covered, tip-proof, weatherproof and scavenger proof. The waste storage area shall be fenced off to prevent wind-blown litter. • The Contractor shall provide metal refuse bins or equivalent plastic refuse bins, all with lids, for domestic waste. Refuse shall be collected and removed from all facilities at least twice per week.				
Generation of hazardous waste	• Separate all hazardous wastes from domestic waste during collection and transportation • All vehicle and equipment mechanical repair activities shall be conducted on proper designated space within the project site or at a nearby garage • All generated hazardous during construction of structures shall be temporarily stored at designated area at the site and then to be removed from site by a registered hazardous waste dealer. The process shall be complied with The Environmental Management (Hazardous Waste Control and Management) Regulations, 2021, Part V (15). This section	-NELSAP/WB -Consultant Supervisor engineer -Site Contractor -Proponent	Monthly	500,000	100% of generated waste are recycled/re-used

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	described that the Minister may issue permits for in-country management of hazardous waste for the activities such as collection of hazardous waste, storage of hazardous waste, transportation of hazardous waste, owning or operating a plant, facility or site for recycling or recovery or re-use or treatment or disposal of hazardous waste, etc. • Replaced oil and brake fluid to be properly handled in a designated area with primary and secondary containments prior to be disposed by an authorized dealer • All storage containers will be properly sealed and monitored to avoid any possible Oil spillage and the use of oil kits				
Soil and Water Quality Contamination	• All machinery must be keenly observed not to leak oils on the ground. • Maintenance must be carried out in a designated area and where oils are completely restrained from reaching the ground. Such areas should be covered to avoid storm from carrying away oils into the soil or nearby surface run-off. Waste water/ wash water from these areas should be properly disposed. • Maintain hygiene conditions at construction site i.e. Good industrial hygiene practices will be maintained • Establishment of primary and secondary containments for oil storage before final disposal.	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Before and after construction phase	1,000,000	Mg/l/pH WHO and TBS standards, No contamination
Loss of Biodiversity	• Despite the impact being rated of negligible significance, the following shall be done to ensure the impact remains negligible throughout the project life span and also for continuous environmental improvement of the plant site; -	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During the entire construction period	600,000	100% of disturbed areas are re-stored to its origin state

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• the contractor is responsible for informing all employees about the need to prevent any harmful effects on natural vegetation on or around the construction site as a result of their activities; • clearing of natural vegetation is kept to a minimum; • Unnecessary removal, damage and disturbance of vegetation are prohibited; • re-vegetation of the proposed project site is undertaken; • indigenous trees are planted around project area to enhance natural habitat				
Land Degradation from Extraction and Use of Building Materials	▪ Depletion of resource cannot be avoided for Depletion of resource cannot be avoided for developing this project. ▪ However, the contractor shall not be responsible to extract construction materials from the sources, only licensed suppliers will supply all required materials to Contractor • Ngara District Council under environmental department in collaboration with other potential stakeholders shall strictly prohibit the Contractor to extract materials direct from the borrow pits/sources	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	700,000	No direct extraction of materials from the source
Child labour, and forced labours	• Employment must consider labor act (18+ Years and above) • Prohibit Students to engage in any contractor's activities • Spread awareness among parents and surrounding communities • Strict laws in place to prevent child, forced labors and human trafficking	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	400,000	No Child Employment

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• The Consultant Engineer with Proponent shall strictly make sure the Contractor adheres to Employment and Labour Relations Act No. 6 (2004)				
Teenage Pregnancies	• Strictly enforcing labors to avoid sexual abstinence with teenagers • Developing a community based approach which utilizes school sex education integrated with parent, church, and community groups • Increasing teenage knowledge of contraception • Providing counseling and medical and psychological health and education • Put in place the prepared Grievance Redress Mechanism for GBV and SEA actions occurred in working area or around the local community	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	400,000	Zero case
Risk of Construction Materials vandalism	• Ngara District Council shall collaborate with prospective communities in creating community sense of ownership • Security guards shall be present all the time for safety of all properties within the construction site.	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	500,000	Zero case recorded
Public Health Hazards due to Wastes	• The contractor shall regularly conduct community communication and engagement meetings with villagers so as to raise health and safety awareness to the people • Establishment of temporary and comprehensive sanitary facilities such as toilets, bathrooms etc during the construction phase • Proper storage and management of solid waste as well as other hazardous materials to avoid surface water contamination to nearby water sources through storm water overflow. • Ensures hygienic environment on site to avoid the outbreak of disease such as cholera, dysentery, etc	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	200,000	No significant cases related to health and safety risks ISO 45001

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• The Contractor shall entirely barricade with visible nets or tapes excavated trenches				
Creation of occupational health and safety risks to workers	• Appropriate working gear (such as nose mask, ear muff, hard hats, and safety clothing) and good construction site management will be provided. • The contractor will ensure that the construction site is hygienically kept with adequate provision of facilities including waste disposal receptacles, clean toilets, firefighting and clean and safe water supply. • A well-stocked First Aid kit (administered by qualified First Aider personnel) shall be maintained at the construction site. • The medical personnel shall also be responsible for primary treatment of ailments and other minor medical cases as well as providing some health education to the workforce. • The Contractor shall strictly follow occupational health and safety procedures as required in Occupational Health and Safety Act No. 5 of 2003	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	2,000,000	No significant cases related to health and safety risks ISO 45001
Disruption of Traffic Flow	• Only qualified drivers with appropriate driving license shall be engaged • Induction course shall be done to all drivers prior starting driving • Drivers shall be sensitized on maintaining speed limits for main road and on access roads/internal driveways. • Promoting safe drive with specified hours for long drive to avoid fatigue • Provision of road and safety signs shall be done on site and surrounding areas that are to be followed by drivers and public in collaboration with local authority • Where necessary; the problem will be mitigated	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	During construction period	200,000	Smooth continue flow of normal traffic

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	by informing the members of the public about possible disruption of traffic movements along the access road, and the inconveniences caused by the project construction activities. This can be through a conduct of consultative meeting with residents nearby the project so that the general public and particularly the road users can be made aware of the problem and proposed mitigation measures				
Possible Spread of HIV/AIDS, COVID-19 and Other Infectious Diseases.	• Workers will be sensitized on the issue of HIV/AIDS and STDs and on the usage condoms etc. • Establishment and implementation of HIV/AIDS awareness and prevention programs. • HIV/AIDS testing will be conducted and counselling services will be done • Providing protection gears where needed such as condoms • Workers and the nearby community will be sanitized on the issues of COVID-19 and protection measures • The contractor shall provide employment priority to local unskilled laborers to minimize number of new comers • The Contractor shall develop and implement HIV/AIDS and STIs prevention and control programme • The Contractor shall put in place the COVID-19 contingency plan developed by Ngara District Council	-NELSAP/WB -Consultant Supervisor engineer -Site Contractor -Proponent	Construction Phase	2,000,000	No new cases of HIV / AIDS and STI's infections
Change of Landscape of the Area	• The problem could be minimized by confining the construction activities within the proposed project site • Ensure management of excavation activities • Light compaction will be necessary to stabilise the soil.	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	Final stage of construction phase	2,000,000	100% of the disturbed areas are reinstated to its origin state

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• In areas where construction activities have been completed and where no further disturbance would take place, rehabilitation and re-vegetation should commence as soon as possible. • Ground clearance should be minimized and if possible concentrated only to the specific building foundation areas, and only when it is necessary. • Prompt reclamation of exposed soils should be done. • Construction during long rains period should be done with caution to avoid soil from being washed away.				
OPERATION PHASE					
Creation of public safety hazard due to Falling of Wall fence	• Regular maintenance of perimeter wall fence • Affixing safety signs to warn people to stay close to the wall fence • Stabilize and secure structural bricks wall against leaning and bulging outwards/Inwards by using concrete columns after each 3.5meters. • Establishment of proper storm water drainage system to prevent soil erosion along the wall fence.	Proponent	Quarterly	1,000,000	Zero accident
Occupational Health and Safety Hazards to Workers during maintenance of the Perimeter wall fence	• Skilled contractor shall be hired during routing Perimeter wall fence maintenance • Provision of appropriate safety gears to protect construction workers from injuries caused by falling of objects eg. Head injuries, etc	Proponent and contractor	During maintenance of the HC Perimeter wall fence	TBD	No significant cases related to health and safety risks ISO 45001
Flooding	• The erosion control plan needs to show what Best Management Plan (BMPs) will be used and where, as well as the total disturbance area. The plan must include measures to prevent soil	Proponent	Rainy seasons	2,000,000	Zero impact

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	erosion, contain sediment and drainage control. • Proper drainage channels shall be built within the health centre to avoid rain water run-off blockage by the fence				
Decommissioning Phase					
Air pollution due to dust emission	• Protection and well-being of the employees shall be ensured by minimising their vulnerabilities to dust generated areas on-site. The contractor shall use an appropriate shift system and ensure that workers wear necessary protection gears like masks, safety glasses, and ensure that the necessary and standard precautions are rigorously followed to prevent human health impacts. • Measures to suppress dust shall be applied to include watering the area vulnerable for dust in the specific potential dust area within the project area	Contractor	Weekly	1,000,000	Within the standard limits: TZS 845:2012 & ISO 10007:2003
Air pollution due to exhaust emission	• Equipment maintenance shall be undertaken in accordance with manufacturer's instructions and at the specified maintenance interval to reduce exhaust emission; • Equipment operators will be trained in and will follow equipment operational guidelines and standards.	Contractor/ Proponent	Decommissioning Phase	1,000,000	Within the standard limits: TZS 845:2012 & ISO 10007:2003
Noise Pollution from Demolishing Works	• Personal protective equipment (PPE) shall be properly selected, operated and maintained to minimize noise • All demolition works are advised to be carried out during the day time • Best practice - methods of working will be developed and strictly observed	Contractor	Decommissioning Phase	500,000	-Not exceeding TZS Limit 75dB -Construction workers wearing noise protection gears: (ISO

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• Light machineries should be applied during demolition activities whilst operators/workers in various sections with significant noise levels shall be provided with ear plugs				45001)
Water Pollution from salvaging and stockpiling	• All excavated unwanted materials will be stockpiled away from drainage features. • Prior instructions to contractor on handling of hazardous waste such as oils, lubricants and gasoline during decommissioning process will be provided. • A site waste management plan shall be prepared by the contractor prior to commencement of the works. This will include designation of appropriate waste storage areas, collection and removal schedule, and a system for supervision and monitoring. • All refueling for vehicles will be done on dedicated area that has been provided with concrete structure to retain any leaks • All services will also be done away from the demolition site • Emergency response measures will be put on site in case of accidental oil spill that will include having absorbent materials and sand kits.	Proponent	Decommissioning Phase	1,000,000	Mg/l/pH WHO and TBS standards, No contamination
Water Pollution from Hydrocarbons (oil, fuel, lubricants)	• Re-fuelling of big machines shall be done on concrete paved area with small channel towards oil scooping chamber • Vehicles shall be refueled at dedicated dispersing area • All services for vehicles & machinery shall be done at workshop area with proper system of oil/spill management	Contractor	Decommissioning Phase	1,000,000	Mg/l/pH WHO and TBS standards, No contamination

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• Emergency response measures will be put on site in case of accidental oil spill that will include having absorbent materials and sand kits. • Hydrocarbons to include oil, grease and Fuel is stored at designated area that will have concrete surface with the containment bund.				
Increased Sediments Load in Water Bodies due to Erosion & Spoils	• Progressive rehabilitation and re-vegetation of disturbed land surfaces will be ensured. All water draining from cleared areas will be directed through a sedimentation pond ensuring enough retention time for trapping sediments. • Sediment traps will be constructed along drains and all water from the disturbed area will be directed through a sedimentation pond. • All unwanted materials will be stockpiled in a dedicated area away from drainage features. • A site waste management plan (WMP) shall be prepared by the contractor prior to commencement of the works. This will include designation of appropriate waste storage areas, collection and removal schedule, and a system for supervision and monitoring.	Contractor	Decommissioning Phase	1,000,000	Mg/l/pH WHO and TBS standards, No contamination
Occupational Health and Safety Hazards to workers	• Comprehensive Decommissioning Plan shall be established to guide prior to undertake any activities • Workers at the site should use appropriate protective gears such as boots, respiratory masks etc. • The contractor shall insist on their workers to use the gears properly • Fatal accidents shall be reported to OSHA within 24hrs of occurrence so as to prevent	Contractor	Decommissioning Phase	1,000,000	No significant cases related to health and safety risks ISO 45001

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	further recurrences by doing investigation • All respective government authorities should be involved prior to decommissioning activities				
Creation of safety risk impacts to local people	• Comprehensive Decommissioning Plan shall be established to guide prior to undertake any activities • The Developer shall ensure that all non-degradable solid wastes are well collected and safely disposed off-site • The Developer shall ensure that all materials which are re-usable or recyclable are treated accordingly in other places. • All fine earth materials will be enclosed during transportation to the designated disposal site to prevent dust generation along the route. Trucks used for that purpose will be fitted with tailgates that close properly and with tarpaulins to cover the materials. • Protection and well-being of the nearby communities shall be ensured by minimizing their vulnerabilities to dust, noise generated by the machinery on-site. • Measures to suppress dust shall be applied to include watering the area vulnerable for dust in the specific potential dust area within the project area	Contractor	Decommissioning Phase	1,000,000	No significant cases related to health and safety risks ISO 45001
Loss of Employment due to Closure of the Project	• Transfer of permanent employees to other Government institutions • Provision of training that can make temporary workers competent for jobs elsewhere shall be provided. • Ensuring that Social Security contributions are remitted to the applicable fund at the right time	Contractor	Decommission Phase	1,000,000	Zero complain

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	• Create a severance package in the event of abrupt closure of the facility • The safety of the workers should surpass as a priority of all other objectives in the decommissioning project • Adapt a project – completion policy: identifying key issues to be considered. • Assist with re-employment and job seeking of the involved workforce. • Compensate and suitably recommend the workers to help in seeking opportunities elsewhere. • Offer advice and counselling on issues such as financial matters				
Loss of Aesthetic Value due to Abandoned Structures	• The contractor shall ensure that demolished waste is removed from the site and properly disposed of in designated location. • The site will be rehabilitated to its original state, whereby will be handled over to project proponent who is the owner of the plot. Before handling over, the proponent will conduct internal environmental audit and the report will be submitted to NEMC for approval	Contractor	Decommission Phase	1,500,000	100% of the distrusted areas are restored
Solid waste generation from demolition activities	• Waste separation, reuse/recycling and disposal through appropriate techniques as per Ngara District Council	Contractor	Decommission Phase	1,000,000	Adequate volume of solid waste is reused or recycled/ TZS 1117;2009
Impacts due to vegetation degradation	• Ensure that demolition activities are safer and more environmentally friendly • Demolition activities should be confined in a specific site to avoid significant destruction of surrounding vegetation • Driveways and loading areas for demolished materials should be established with	Contractor	Decommission Phase	1,000,000	Maximum restoration of the disturbed areas to its origin state

Identified Impact	Mitigation & Enhancement Measure	Responsible Institution	Timeframe	Relative Budget (TZS)	Target Level
	precautions to avoid destruction of vegetation • Vegetation restoration should be given priority in the Project Decommissioning Plan				
TOTAL ESMP COSTS				**37, 500,000.00**	

CHAPTER NINE: ENVIRONMENTAL MONITORING PLAN

9.1 ENVIRONMENTAL MONITORING PLAN

This section discusses the need for programmes covering both internal and periodic external monitoring. The overall objective of environmental and social monitoring is to ensure that mitigation and enhancement measures are implemented and that they are effective. The activities and indicators that have been recommended for monitoring are presented in the EMP in the next section. Environmental monitoring will be carried out to ensure that all construction and operation activities comply and adhere to environmental provisions and standard specifications, so that all mitigation measures are implemented. Such monitoring can act as an early warning system to management, providing a feedback mechanism to enable damaging practices to be altered.

Simple monitoring systems should be set up during construction by the Supervising Engineer (SE) and Contractor and by the Proponent during operation, so that potentially environmentally problematic areas can be detected well in advance and the appropriate remedial action taken. This could simply be a checklist of items that need to be inspected as a matter of routine, or periodically, depending on the nature of the aspect.

There are four types of monitoring that are also relevant to this EIA.

- **Baseline monitoring**: the measurement of environmental parameters during a pre-project period and operation period to determine the nature and ranges of natural variations and where possible establish the process of change.
- **Impact/effect monitoring:** involves the measurement of parameters (performance indicators) during establishment, operation and decommissioning phase in order to detect and quantify environmental and social change, which may have occurred as a result of the project. This monitoring provides experience for future projects and lessons that can be used to improve methods and techniques.
- **Compliance monitoring:** takes the form of periodic sampling and continuous measurement of levels of compliance with standards and thresholds – e.g. for waste discharge, air pollution.
- **Mitigation monitoring**: aims to determine the suitability and effectiveness of mitigation programs designed to diminish or compensate for adverse effects of the project.

Table 18: EMP's Institutional Responsibilities

Unit / Personnel	Responsibilities
National Environment Management Council (NEMC)	• Conduct environmental compliance monitoring and enforcement to ensure that project proponent is efficiently implement approved ESMP • Undertake screening of the project to determine level of ESIA study • Reviewing and approval of the project ESIA reports submitted by Ngara DC • Reviewing of the annual environmental and social audit reports submitted by Ngara DC;
Ngara District Council	• Holds final responsibility for the environmental and social performance of the project • The Client will be represented by Consultant who will be in charge of the supervision works, and overseeing the contract from initiation stage to completion of construction activities at various proposed site; • The Client has to procure a contractor who will be responsible for the implementation of the entire project activities; • Responsible for ensuring the site development is implemented according to the requirements as stipulated in ESMP; • Ensure that sufficient resources are available to the other role players to efficiently perform their tasks as indicated in ESMP; • Overall management of all project activities; • Receive and supervise the implementation of the recommendations of the environmental report from the Consultant; • Cooperate with Consultant to periodically supervise contractors' activities; and • Ensure availability of key staff for social, environmental, health and safety monitoring during project phases. • Carry out annual environmental and social audits of the project and submit the subsequent reports to NEMC for review and approval.
NELSAP PIU	• To provide support to the District where required to facilitate the implementation of LADP activities. • Ensure timely availability and reliability of funding for agreed and approved LADP activities and related interventions. • Ensure timely processing of the direct payments to contractors and consultants on behalf of the district. • Monitoring and evaluation of the progress of LADP activities implemented by the

Unit / Personnel	Responsibilities
	district. • Liaise closely with Ngara DC in preparing a coordinated response on environmental and social management aspects of the project; • Carrying out safeguards due diligence; and • Preparation of quarterly environmental and social performance reports for the project.
World Bank	• Financing the entire project activities • Overall ESMP supervision and monitoring • Provision of technical support and guidance to Ngara DC, NELSAP PIU, Contractor and Supervising Engineer • Recommending on additional measures to strengthening the ESMP implementation performance
Consultant (Supervision Engineer)	• monitoring and supervision of the construction works including overseeing implementation of ESMP • administer all construction works, progress review and monitor the works undertaken by the Contractor and implementation of ESMP to ensure compliance with contract specification and contractual requirements • Cooperate with Ngara DC to periodically supervise contractors' activities. Scheduled meetings held between the contractor, Ngara DC representative and Consultant. • Include, among its staff, an environmental officer who will oversee the implementation of the ESMP and report to Ngara DC and NELSAP PIU.
Contractor	• responsible for implementation of construction works and ensure compliance with environmental requirements; • Contractor shall prepare/update a Contractor's ESMP (C-ESMP), and ensure that the measures related to environmental and social safeguards are fully carried out as stipulated; • Preparing/Updating the project's Environmental Health and Safety Management Plan; • Conduct general training on occupational health, safety and environment to the construction workforce • Reporting arising works that are detected by Environmental Officer to Consultant and Ngara DC representative for further actions.

Unit / Personnel	Responsibilities
	• Prepare and implement COVID-19 contingency plan, prepare and implement emergence preparedness plan, prepare and implement traffic management plan,

Table 19: Environmental Monitoring Plan (EMP)

Environmental Aspect	Parameters	Monitoring Frequency	Sampling Area	Measurement Units	Measurement Method	Target level/Standard	Responsible Institution	Annual Estimates Cost (TZS)
Pre-construction Phase & Construction Phase								
Noise Pollution	Noise level	Monthly	Project Site	dBA	Noise Detectors/Sound Meters	75dBA daytime	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	3,000,000
Water pollution due to accidental spill of oil, fuel, lubricants on site	- Influent originating from storm water runoff (pH, colour, EC, TDS, COD, BOD, DO, Pb, Zn, Cu, TSS)	Monthly	Project Site/Nearby Water bodies	Mg/l/pH	Laboratory/Visual	<10 / Zero oil spilled area - WHO and TBS standards, No contamination	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
Loss of biodiversity	Cleared area	-Before to start construction -After construction (Before Operation)	Project site	m^2	Inspection/metering the affected area	100% of disturbed areas are re-stored to its origin state	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	500,000
Soil erosion	Amount and type of soil used	Once during and after construction phase	Project site	m^2	Physical observation	Attaining an even/level surface	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	500,000
Vegetation Clearance	Presence of natural/exotic vegetation.	Weekly	Project site	N/A	Physical observation	No widespread destruction of vegetation around the	-NELSAP -Consultant Supervisor engineer -Site Contractor	1,500,000

Environmental Aspect	Parameters	Monitoring Frequency	Sampling Area	Measurement Units	Measurement Method	Target level/Standard	Responsible Institution	Annual Estimates Cost (TZS)
						project areas	-Proponent	
Population Influx	Number of new job seekers	Weekly	Project site and project Area	No. of cases	Recording	Zero cases	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
Employment and Gender Based Violence (GBV)	--No of cases reported -No. of workers trained on GBV and SEA	Daily	Project site	No. of cases	Reports/ Documents Review/Observations	Zero cases	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
Child labour, forced labour and human trafficking	-Number of incidences recorded	Daily	Project site and project Village/Ward	No. of cases	Reports/ Documents Review/Observations	No child employment	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
Teenage Pregnancies	-Number of incidences recorded and reported	Daily	Project site and project Village/Ward	No. of cases	Reports/ Documents Review/Observations	Zero cases	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
Air pollution due to dust emission from transportation activities and earth works	Particulate matter (TSP, PM10, PM2.5)	Weekly	Established monitoring stations	mg/m^3	DustTrack Aerosol Particulate Monitor	TSP < 0.23, PM10 < 0.05 & PM2.5 < 0.025	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
Air pollution from exhaust emission during	SO_2 CO_2	Weekly	Established monitoring stations	$mg/Nm^3/yr$ $mg/Nm^3/yr$	Portable detector tubes	SO_2< 0.5 CO_2 < 500,	-NELSAP -Consultant Supervisor engineer	4,000,000

Environmental Aspect	Parameters	Monitoring Frequency	Sampling Area	Measurement Units	Measurement Method	Target level/Standard	Responsible Institution	Annual Estimates Cost (TZS)
transportation and machinery operating on site	NOx CH_4			mg/Nm³/yr mg/Nm³/yr		NOx < 0.2, CH_4<20	-Site Contractor -Proponent	
Water pollution due to domestic activities	BOD, Total Coliform (TC)	Weekly	Nearby water bodies	Mg/l, Counts	Laboratory Analysis	BOD<30, TC<100 counts	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	900,000
Public health hazards due to poor management of Solid waste	Solid Waste/Litter	Daily Inspection	Project area & the vicinity	None	Recordings/ Site inspection & observations	Zero adverse impact	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	200,000
Traffic Accidents	Number of Accidents reported Number of trainings conducted Number of qualified drivers	Daily	Project Site	Number of cases	Recording/ Inspection/ Observation/	Zero accident	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	2,000,000
Occupational Health and safety hazards associated with construction work	PPEs, Warning Signs, Trainings, Medical examinations, Safety Procedures	Daily	Project site	Number of cases	Recordings/ Inspections Observation and Interviews	No significant cases related to health and safety risks ISO 45001	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,000,000
HIV/AIDS Infections	Number of infected persons Illness of construction	Monthly	Project site	Number of cases	Affected People	No new cases of HIV / AIDS and STI's infections	-NELSAP -Consultant Supervisor engineer -Site Contractor	1,500,000

Environmental Aspect	Parameters	Monitoring Frequency	Sampling Area	Measurement Units	Measurement Method	Target level/Standard	Responsible Institution	Annual Estimates Cost (TZS)
	workers						-Proponent	
Employment Opportunities	Number of local employments	Weekly	Project Site	Number of local employments	Employed people	100% of unskilled laborers from project village	-NELSAP -Consultant Supervisor engineer -Site Contractor -Proponent	1,500,000
Waste Management	Solid Waste	Weekly		Kg of waste	Weight	Zero adverse impact and adequate volume of solid waste is reused or recycled/ TZS 1117:2009	-NELSAP -Consultant Supervisor engineer -Site Contractor	1,500,000
	Liquid Waste	Weekly		Litres of waste	Volume			
Operation phase								
Public Health and Safety Hazards due to HC Perimeter wall fence falling	No. of Accident	Quarterly	Project area	Number of cases	Affected people	No significant cases related to health and safety risks ISO 45001	Proponent/Respective facility	1,000,000
Occupational Health and Safety Hazards to Workers during maintenance of the Perimeter wall fence	No. of accident	Routine maintenance	Project area	Number of cases	Affected people	No significant cases related to health and safety risks ISO 45001	Proponent and contractor	1,500,000
Flooding	Floods	During rainy	Project area	mm	Visual	Zero impact	Proponent/Respective facility	TBD

Environmental Aspect	Parameters	Monitoring Frequency	Sampling Area	Measurement Units	Measurement Method	Target level/Standard	Responsible Institution	Annual Estimates Cost (TZS)
Decommissioning Phase								
Air pollution due to dust emission from demolition works	Particulate matter (TSP, PM10, PM2.5)	Monthly	Project area	Mg/m³	Dust Track Aerosol Particulate Monitor	PM10 < 0.05	Contractor/ Proponent	500,000
Noise Pollution	Noise Levels	Monthly	Project Area	dBA	Noise Meter	Daytime <75dB Night time <65dB	Consultant Supervisor engineer -Site Contractor	2,000,000
Increased sediment loads in water bodies due to erosion and spoils	Eroded area, turbidity/sediments	Monthly	Project area, nearby water bodies	m² NTU	Visual, laboratory analysis, sediment measuring	No eroded area, < 300 NTU	Consultant Supervisor engineer -Site Contractor	1,000,000
Air pollution from exhaust emission during transportation and machinery operating on site	SO_2, NOx, CO_2, CO,	Monthly	Established monitoring stations	Mg/m³	Portable Gas Analyser	SO2< 0.5, NOx < 0.2, CO2 < 500, CO <30,	Contractor/ Proponent	1,000,000
Water Pollution from Salvaging and Stockpiling	Physical and Chemical parameters	Monthly	Nearby Water bodies	Mg/l/pH	Laboratory Analysis	Mg/l/pH WHO and TBS standards, No contamination	Consultant Supervisor engineer -Site Contractor	1,500,000
Water Pollution from Hydrocarbons	Hydrocarbons/ Oil & Grease / area affected	Monthly	Project area, nearby water body	Mg/l, m²	Laboratory analysis	<10 / Zero oil spilled area	Consultant Supervisor engineer -Site Contractor	1,000,000
Occupational Health and Safety Hazards	PPEs, Safety signs, safety procedures, safety training done, periodic	Monthly	Project Site	N/A	Number of PPEs distributed Documents review, visual, interview	No significant cases related to health and safety risks	Consultant Supervisor engineer -Site Contractor	1,000,000

Environmental Aspect	Parameters	Monitoring Frequency	Sampling Area	Measurement Units	Measurement Method	Target level/Standard	Responsible Institution	Annual Estimates Cost (TZS)
	medical checks, safety inspection					ISO 45001		
Traffic Accidents	Awareness of safe drive, safety signs, road humps, awareness to community & pupils along the routes.	Monthly	Project site	N/A	Inspection/observation, document review	100% awareness campaign	Proponent	750,000
	Accidents/Incidents	Monthly	Project area	Number	Review of accident & incident records	Zero accident	Proponent	500,000
TOTAL SOCIAL AND ENVIRONMENTAL MONITORING PLAN COSTS								**44,350,000**

10.1 Introduction

Decommissioning forms the end part of the project life cycle. The proposed project is not expected to end at near future due to its nature and inelasticity. However; if decommissioning becomes inevitable due to any causative factors then the Closure Plan must be abided. During decommissioning of the project, various disturbances that will have been caused in the area need to be addressed quickly and efficiently in order to minimize the possible impacts that could continue to happen even after closure of the project. It is also important, that all remediation plans suggested be conducted by taking into consideration the needs for sustainable development of the project area. In order to achieve this, consultations with various stakeholders during preparation of the Closure Plan (CP) will be undertaken. It is the requirement of the Environmental Impact Assessment and Audit regulations of 2005 that the Proponent prepare a closure plan in order to indicate how impacts will be dealt with, including cost of mitigation measures. "Health Centre Perimeter wall fence site closure Committee" involving local and district levels will be established by the proprietor through consultations with relevant authorities. It is the closure committee that will review from time to time the implementation of the plan and set priorities of the future use of various infrastructures. The choice of whether the project site should be demolished or renovated or the project site should be re-planned for other development project or used by the locals for other purpose and other closure priorities will be decided by the closure committee

10.2 Preliminary Decommissioning and Closure Plan

The closure committee will be chaired by the council director in collaboration with local leaders including WEO and VEO. Members of the committee will be selected through consultations with the local authorities and relevant government institutions i.e. NEMC, TANESCO, NSSF, and TANROADS offices. This is the set –up and implementation procedure of the closure plan that will be followed as part of the ESMP. The Preliminary Decommissioning and Closure Plan *(Table 20)* objectives are set as follows:

- The closure plan must limit the potential adverse effects of the closed project site on the receiving environment and that the quality of life of the surrounding communities is not compromised after operation of Health Centre Perimeter wall fence site.
- The rehabilitation of the area in its natural appearance and closure plan complies with current regulatory requirements and must facilitate the attainment of site relinquishment after demonstration of successful implementation of the closure measures stipulated in the plan.
- That decommissioning and rehabilitation are carried out in a planned sequential manner consistent with best practice.
- That as far as is practicable the post project site operation landform is safe stable non-erodible and is integrated into the surrounding environment.
- Prevent or minimize adverse long term social and environmental impacts of the post-project site
- Create a self-sustaining ecosystem or ultimate land use based on an agreed set of objectives
- Enable all stakeholders to have their interests considered during project closure.
- Ensure the process of closure occurs in an orderly cost effective and timely manner.
- Ensure that the cost of closure is adequately represented in proponent's budgets.
- Ensure clear accountability and sufficient resources for the implementation of the closure plan
- Establish appropriate indicators for evaluating success of the closure process. The achievements from this process will justify relinquishment of the project license.

The Proprietor will participate in rehabilitation for disturbed and impacted areas depending on their location, the type of impact, and the proposed end land use. The closure plan identifies those actions that will be undertaken upon completion of project activities and subsequent decommissioning of the site. This includes the removal of structures, the disturbed landscape and vegetation will be restored to make it compatible with future use.

The Proprietor understands the importance for planning for decommissioning and closure early to ensure that the final landforms are properly designed and able to function as ecological systems in the long term and reach a point where the project proponent has met agreed completion criteria to the satisfaction of the Government and surrounding community

Table 20: Preliminary Decommissioning and Closure Plan

Activity	Closure Plan	Responsibility	Budget (TZS)
Demolition of the structures at the project site eg. Wall fence, gate, etc	• Disassemble electrical appliances connected to fence for lighting • Consult TANESCO to disconnect electricity from the project site. • Demolition of all concrete and metal structures including bricks wall, gates, concrete walls, etc. • Warning signs will be posted and fence installed around project site • All disassembling and demolition activities will be supervised by qualified engineers. • Closure Committee will be monitoring all closure activities to ensure they are done appropriately • All relevant stakeholders will be consulted for technical assistance during the closure phase	Environmental Managers and Closure Committees	5,000,000
Personal Protective Equipment (PPE)	• All workers during the closure phase shall use appropriate PPE including helmet, safety boot, dust mask, safety gloves, goggles, protective garment and safety vest.	Environmental Managers and Closure Committees	2,000,000
Waste Management	• All waste generated during the closure phase will be sorted for easy management • A review process will be introduced so that the closure plan for waste dumps is adjusted and updated for the inevitable changes to quarrying and plant site plans schedules, community standards and recognized best practices • Debris may be used on the road to fill on earth roads instead of dumping over land. • Metal materials will be collected and transported to steel factories where could be recycled for metal production. • All hazardous wastes found at the site during decommissioning will be cleaned up and disposed of in accordance with the regulations. • The closure committee will make sure that no wastes will be disposed in the water bodies.	Environmental Managers and Closure Committees	5,000,000
TOTAL			**12,000,000**

10.3. Post –Closure Monitoring

10.3.1 Site Monitoring

Monitoring of the project site will be continued for six month after closure phase to monitor if there are any impacts which have been caused by closure activity during the removal of structures. Post closure monitoring will then be finalized after six months when an appropriately qualified independent third party establishes that steady state conditions have been achieved and there is no risk at the site.

If contamination related to the hazardous materials spill, oil spills or waste management facilities is detected at any point consultations with regulatory authorities shall be made to agree on mitigation measures, timeframe followed by carrying out of implementations.

10.3.2 Vegetation

Semi-annual inspection of re-vegetation areas will be carried out until an appropriately qualified independent third–party establishes that they are self-sustaining and that habitat restoration objectives have been achieved

10.3.3 Physical Stability

Semi-annual assessment of the stability of the following rehabilitated areas and as appropriate and necessary corrective action shall be taken with particular attention on

- The stability of the soil used to fill pits of the site;
- Stability of compacted areas in resistance to soil erosion; and
- Stability of the planted vegetation to avoid soil erosion.

CHAPTER ELEVEN: CONCLUSION AND RECOMMENDATIONS

11.1 Summary and Conclusion

The Environmental Impact Assessment study has identified a number of issues pertaining to the proposed project. The issues/impacts have been described and assessed in detail to gain adequate understanding of possible environmental effects of the proposed project at all stages from construction/installation, operation to decommissioning. The Environmental Management plan provides a way forward for implementation of the proposed mitigation measures. The Environmental Monitoring Plan shows what has to be monitored during construction and implementation phases. The estimated costs for implementing the mitigation measures as well as monitoring are just indicative based on consultant's informed judgment

11.2 Conclusions

While a number of environmental impacts have been identified and assessed accordingly, none of them are considered to be too severe to make their amelioration impossible. Given the nature and location of the development, the conclusion is that the potential impacts associated with the proposed development are of a nature and extent that can be reduced, limited and eliminated by the application of appropriate mitigation measures. Further, the consultant is of the opinion that implementation of the proposed ESMP and EMP will safeguard the integrity of the environment and welfare of the people in the project area

11.3 Recommendations

The Consultant recommends that the proposed project be allowed to proceed on condition that the proponent implements the ESMP and EMP proposed in this ESIA Report as appropriate and any further conditions that may be imposed by NEMC/NELSAP following consultations with lead agencies like TANROADS, and other stakeholders. This should go hand in hand with obtaining statutory approvals as in Table 21 below.

Table 21: Statutory Permits, Certificates and Licences for the Project

	Permit, Certificate and License	Relevant Act/Regulation	Responsible authority	Owner/who to apply for	Status
1.	EIA Certificate	EMA No. 20, of 2004	VPO-DoE through NEMC	Ngara DC	This document is part of the application
2.	Workers Compensation Fund (WCF) registration	The Workers Compensation Act No. 20 of 2008.	Workers Compensation Fund	Ngara DC	To be applied for
3.	Fire Safety Certificate	Fire and Rescue Act, No. 14 of 2007	Fire and Rescue Force - Ministry of Home Affairs	Ngara DC	To be applied for
4.	Customary Title Deed	Land and Land Village Act (URT, 1999b) (No. 4 of 1999 amended by No. 2 of 2004)	NGARA District Council	Ngara DC	Obtained – Annex III
5.	Construction permit	The Contractors Registration Act No. 17 of 1997	Contractors Registration Board (CRB)	Ngara DC	To be applied for

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APPENDIX I: Consulted Stakeholders & Minutes of the Village Meeting

MUHTASARI WA KUTHIBITISHA UWEPO WA ARDHI KWA AJILI YA MIRADI YA KITUO CHA AFYA CHA RUSUMO NJIA YA UMEME KUENDA KITUO CHA AFYA NA CHANZO CHA MAJI, MRADI WA SOKO LA KAHAZA, MRADI WA BARABARA IENDAYO KITUO CHA AFYA. 7-11-2021

AGENDA ZA MKUTANO

1. KUFUNGUA KIKAO
2. UTAMBULISHO
3. UPATIKANAJI WA ARDHI KWA AJILI YA MIRADI
4. TATHMINI YA ATHARI ZA MAZINGIRA NA KIJAMII
5. KUFUNGUA KIKAO.

MUHT NA 1/2021/2022: KUFUNGUA MKUTANO.

Mwenyekiti alifungua mkutano mnamo saa 9:12 jioni kwa kuwakambisha wananchi kwenye mkutano na kujadili mada zilizotolewa mbele ya mkutano.

MUHT NA 2. 2021/2022 UTAMBULISHO.

Utambulisho ulifanyika kwa mongozi wa Serikali ya kijiji wataalam kutoka kwa mkurugenzi wa Halmashauri ya wilaya ya Ngara na wananchi kwa kupata utongoji.

MUHT NA 3: UPATIKANAJI WA ARDHI YA KUTEKELEZA MIRADI YA KIJIJI CHA RUSUMO:

Katika mkutano huo mtaalam kutoka kwa mkurugenzi wa wilaya alisimama na kuwasiliha agenda hiyo kwa kutaka kujua kama kuna ardhi ihyotengwa kwa ajili ya utekelezaji wa miradi hiyo.

Baadae wananchi walielezwa kuwa eneo litolewe kwa ajili ya miradi; na hapatakuwa PO na migogoro au manyanyaso ya ardhi; na ardhi huyo itumike kwa ajili ya miradi tajwa kwa ajili ya maendeleo ya wananchi wote. Na wameshukuru na wananchi kushukuru kwa Benki ya Dunia kuwafadhili miradi maana maisha yao yanaboreka.

MUHT NA 4: TATHMINI YA ADHARI ZA MAZINGIRA

Mtaalam alisimama na kueleza kuwa Yapo madhara yanatokana na uwepo wa miradi wakati wa bado huyo ameomba wananchi wajadili madhara hayo na faida za miradi hiyo, Baada ya maelezo wananchi wamesema kuwa Ajira zitapatikana nap katapatikana na mazingira yata haribika kutokana w Uchimbaji na barbara na mashimo ya mgwizo zitameme, lakini hasara zitakabiliwa, na faida ni nyingi ukilinganisha hasara za miradi hiyo.

wakati amesimama wananchi walimwomba atoje
ni miradi gani inayotarajiwa kutekelezwa. Aliele
kuwa miradi kwa kusimo ni miradi ya kutu
cho afya kupeleko umeme wa taneco kwenye
kituo cho afya na kwenye chanzo cho maji
na Barbara lendaye kwenye kituo cho afya.
uwekaji wa bens kituo cho afya na uyoni wa soko la kahaza
alielezea kuwa katika kutekeleza miradi huyo
maneno ya kuwekeza miradi huyo inatakiwa
ardhi, na alielezea kuwa faida zinazopatikana kutokana na miradi hiyo ni pamoja na

① wananchi kupata huduma za afya wakati wote na ufio utapunguza kwa kuwa umeme unakuwepo na huduma zinazotolewa na kuwepo kwa umeme.

② Maji yatapatikana kutokana. na umeme na Barbara Harchusisho kusafisha wagonjwa na wananchi kwa ujumla.

Bado ya maelezo hayo wanenchi waliuli za kama: Je wakati wa kutekeleza miradi wananchi wanaozungukwa kusimo watapata ajira au shughuli huyo itafanyika na kampuni. Wananchi walielezwa kuwa ajira zo muda fitazingatiwa. kwa wazawa ila kinachotakiwa wawe waaminifu maana inaptokeleza wananchi kupewa kazi na kuanza kudokoa na kuwa inaitokeza maneno mengi

MUHT NA 5: KUHNGA MIGUTANO

Mkutano huku wa kujifunza umefunguliwa na mwalimu mnamo saa 11.27 kwa kuwashukuru kwa michango yao na kuwatakia safari njema warudipo makwao Naomba kuwasilisha.

PASCHAL B. LEVONS
MWALIMU WA KIJIJI
PRIKALI YA KIJIJI
BUSUMO

ELIAS T. MYELIP
MTENDAJI KIJIJI
CHA BUSUMO
NGARA

MAHUDHURIO YA MKUTANO MKUU WA ADHARA KITI CHA RUSUMO

	JINA KAMILI	WADHIFA	SAHIHI
1	DEUS DAMIANI	M/kiti Rusumo Borde	
2.	ARUBUGASI MARARU	Balozi -	
3.	JUMA SEBATWA	Mjumbe	
4	FABIAN RUDOVICK	— " — — " — " —	
5.	JAMILA SALUMU	Mjumbe S/kyji	Juma
6	VESTINA DEUSI	— " — — " —	Jamila
7	MATUNGWA PAUL	— " — — " —	
8	FROLA PAPIUS	— " — — " —	
9.	GERVAISE BUTOTO	Balozi / Mjumbe	
10	STAFFORD MISAGO	— " — — " —	
11	ATHANAS BERNARDO	— " — — " —	
12	FURAHA ANTHONY	— " — — " —	
13	KORONERY GISHEGESHE	— " — — " —	
14	NURU MGUTHA	— " —	Coro
15	MEDY SHABANI	— " —	ME
16	LAZARO PIUS	— " — — " —	
17	ABUBAKHARY ISMAIL	— " — — " —	
18	KAKURU KABARONGO	— " — — " —	Lazar
19	ISSAYA KEREMENTI	Balozi — Mjumbe	Kakuru
20	DIDAS DAMIANI	— " — — " —	Isya
21	JOEL JOVINI	— " — — " —	Didas
22	GEORGE ALEXANDER	— Balozi — Mjumbe	
23	DORIS ARBUSASI	— " — — " —	
24	THADEO ADRIANI	— " — — " —	
25	RENA MEKADI	— " — — " —	
26	NATANA JOHNI	— " — — " —	
27	JESKA MADARAKA	— " — — " —	
28	MADARAKA ZINGIRAIN	— " — — " —	Metac
29	MATHA KETA	— " — — " —	Jesca
29	ESTER FRENCK	— " — — " —	
30	YUSUPH RASIONY	— " — — " —	

MTENDAJI KIJIJI CHA RUSUMO NGARA

Orodha ya mikutano mkuu kijiji cha Rusumo

	JINA KAMILI	KIADHIBA	SAHIHI
31	SEREMAN ABDUL	x — x —	SEREMAN
32	STONY JUVINARY	x — x —	Stone
33	FRED BIRAMA	MJUMBE	fred
34	HASHIMU PETER	x — x —	
35	ANDAE LAICHUMU	MJUMBE/BALOZI	
36	SETH GILASI	—M/KITI/VIJANA	
37	MEIUSER MTAGWA	— " — " —	Seti
38	JOHNI VYAMUNTU	— " — " —	
39	HABILI JOHNI	x — x —	
40	FLORENSI RUGINA	x — x —	
41	JAMESI BUKURU	x — x —	
42	ADRIAN SHUMBUSHO	x — x —	
43	RUCHUS TURBO	— x — x —	Turbo
44	MASHAKA MASOROGO	— x — x —	Mashaka
45	NOVATI SHUMBUSHO	— x — x —	NOVAT
46	EMANUEL KAMGISHA	— x — x —	KAMUGISHA
47	MAPAMBANO ZNGIRAN	— x —	
48	SEPERATUS RUTA	—	
49	FRANSISI SERESTINI NKIKO	— x — x —	
50	JOSEPH KARATUNGA	— x — x —	
51	JOSEPHAT JOSEPH	— x — x —	
52	JUMAINE HAMISI	— x — x —	
53	ISSAEK ERISHA	— x — x —	
54	KWIZERA ERISHA	— x — x —	Jaman
55	IDDI MOHAMMED	— x — x —	Iddi
56	ENOCK GWABUHAYA	— x — x —	
57	KAMGISHA PASCHAL	— x — x —	
58	JERARD SEBASTIAN	— x — x —	
59	ALBERT PERSIAN	— x — x —	Jered
60	ERIUS KAZOBWATO	— x — x —	
	DEVIDI KAZOBWATO	— x — x —	
	SHAURI THOMAS	— x — x —	
	RUS	— x — x —	

MTENDAJI KIJIJI CHA RUSUMO NGARA

Orodha ya Mikutano Mkuu wa Muaka kiji
cha Rusumo

	Jina la Mwiri	Wadhifa	Sahihi
61	Rosia A. Yonna	" — " —	
62	Bahati Williamu	— " — " —	
63	Shumba Nyuki	— " — " —	Sitomba
64	Musa Burinto	Mjumbe S/kijiji	
65	Baigamaki Laigarula	" — " —	
65	Pascal Pontanto	— " — " —	
66	Pascal Reopord	— " — " —	
67	Rukiza Reopord	— " — " —	
68	Bakozi George Lamachum	Bakozi.	
69	Ibrahimu Sulati	" — " —	
70	Erikana Simoni	— " — —	
71	Eriba Pius	— " — —	
72	Joseph Gabriel	— " — " —	
73	Mussa Kisese	— " — " —	
74	Hussimu Merekioly	— " — " —	Mussa
75	Dandi Mereklioly	— " — " —	
76	Barontio Njamburi	— " — " —	
77	Paul Amosi	— " — " —	
78	Elisi Rusura	— " — " —	Paul
79	Jimmi Patrikiti	— " — " —	
80	Kirspin Bareza	— " — " —	Jimmy
81	Sandan Mebadi	— " — " —	
82	Antibius T. Kirispini	— " — " —	
83	Niiba Birama	— " — " —	Antibi
84	Malia Willisoni	— " — " —	
85	Elisha Mtagwa	— " — " —	
86	Pascal Nestory	— " — " —	Christopher
87	Christopher Sebatwa	— " — " —	Pascal
88	Maliselina Segesa	— " — " —	Maliselina
89	James Bukuru	— " — " —	

Mtendaji Kijiji cha Rusumo Ngara

Appendix II: Consulted Stakeholders & Minutes of Ngara DC- Meeting

HALMASHAURI YA WILAYA

MUHTASARI WA KIKAO CHA KAMATI YA WATAALAM CMT KUJADILI TATHIMINI YA ATHARI ZA MAZINGIRA NA KIJAMII KWA MIRADI PENDEKEZWA AWAMU YA II CHINI YA LADP

WAJUMBE WALIOHUDHURIA

1. BW. SOLOMON. O. KIMILIKE	-	MKURUGENZI MTENDAJI
2. EGIDY TEULAS	-	MKUU WA IDARA YA UTAWALA/UTUMISHI
3. YONA CHARUGAMBA	-	MKUU WA IDARA YA FEDHA NA BIASHARA
4. CONSTANTINE F. MSEMWA	-	MKUU WA IDARA YA MIPANGO, TAKWIMUNAUFUATILIAJI.
5. NGERANGERA TRESPHORY	-	MKAGUZIWA NDANI (W)
6. PETRONILA L. KAGIMBO	-	KAIMU AFISA EIMU MSINGI (W)
7. DIDMUS BAMUHIGA	-	KAIMU MRATIBU WA LADP
8. ADELINA MAPUNDA	-	KAIMU AFISA BIASHARA
9. EMMANUEL M. VICTOR	-	KAIMU AFISA TEHAMA
10. ENOCK G. NTAKISIGAYE		AFISA ELIMU SEKONDARI (W)
11. ENOCK MPONZI	-	AFISA ARDHI (W)
12. ATHANASIO ANDREW	-	KAIMU AFISA MAZINGIRA (W)
13. JOSEPH J. MRIANGA	-	KAIMU AFISA MALIASILI (W)
14. EMMANUEL KULWA	-	MKUU WA IDARA YA MAENDELEO YA JAMII,
15. SIMON MTUKA	-	KAIMU MKUU WA IDARA YA UJENZI (W)
16. REMIGIUS E. KAWISHE	-	KAIMU MKUU WA IDARA YA KILIMO, MIFUGO/ USHIRIKA
17. JOSEPHATSANGATATI	-	MKUU WA IDARA YA MIFUGO NA UVUVI
18. SAKINA Y. CHAMITI	-	MRATIBU WA TASAF
19. GABRIEL GIBSON	-	LADP CONSULTAT
20. DR. DAVID S. MAPUNDA	-	KAIMU MGANGA MKUU (W)
21. PERPETUA O. RUTWAZA	-	KAIMU AFISA UGAVI (W)

SEKRETARIET

1. BI. VIVIAN MARUHE	-	MWANDISHIWAVIKAOVYA HALMASHAURI
2. BI. PERAGIA J. NABUDINDI	-	MWANDISHIWAVIKAO
3. JONAS P. NSEKAMBABAYE	-	MHUDUMU

AGENDA NA. 1/1/11/2021/2022: KUFUNGUA KIKAO

Mwenyekiti aliwasalimia wajumbe na kuwakaribisha katika kikao, pia alieleza kwamba lengo la kufanyika kwa kikao ni kujadili au kutoa maoni juu ya tathimini ya athari za mazingira na

1

Mjumbe aliuliza swali "Je kuna umuhimu gani kwa wao kutoa maoni wakati wananchi wa maeneo husika wameshatoa maoni kwa miradi yao waliyopendekeza?

Ufafanuzi ulitolewa kuwa katika kufanya tathimini ya athari za mazingira na kijamii kwa miradi inahusisha/kushirikisha wadau wa ngazi mbalimbali ili kuhakikisha miradi/mradi unakuwa na manufaa chanya kwa jamii na mazingira na hivyo kupunguza au kuzuia kabisa athari mbaya za mradi kwa jamii na mazingira, pia aliongezea kwa kusema kuwa wajumbe wa CMT ni moja ya wadau muhim sana katika miradi hii.

Mjumbe mwingine alisema kuwa endapo miradi pendekezwa itapatiwa fedha kwa ajili ya utekelezaji itakuwa na faida kubwa kwa wakazi wa maeneo husika na wilaya kwa ujumla kwa kuwa vijana wetu wenye ujuzi na wasio na ujuzi watapata ajira kipindi cha ujenzi wa miradi, hivyo alisisitiza wakandarasi watakapatiwa kazi wahakikishe wanajaza fomu ya makubaliano kuwa ahakikishe wazawa wanapewa kipaumbele katika utoaji wa ajira wakati wa ujenzi.

Kuna mjumbe alitoa ushauri kuwa miradi kama ya masoko na paking ya malori itasaidia kuongeza mapato kwa H/W na hivyo kuiongezea uwezo H/W kutoa huduma za kijamii kwa wanainchi vijijini kama vile kujenga zahanati, kupeleka miundombinu ya maji safi kwa wananchi katika halmashauri ya Ngara.

Mjumbe alisema kuwa katika utekelezaji wa miradi/mradi wa aina yoyote ule kuna wakati huwa inajitokeza changamoto ya vibarua kutolipwa stahiki zao na hivyo kupelekea vibarua kudhulumiwa na kuleta manung'uniko katika jamii, je kuna mikakati gani ya kuhakikisha jambo kama hili halijitokezi au likijitokeza ni hatua zipi zitakazo chukuliwa katika kupatiwa ufumbuzi?

Ufafanuzi ulitolewa kuwa ili kukabiliana na changamoto ya aina hii, mkandarasi sharti lazima awe na mikataba kwa wafanyakazi wake wote bila kujalisha ni mfanyazi mwenye ujuzi au asie na ujuzi, pia ufatiliaji na ukaguzi wa kila wiki unapaswa kufanywa na Halmashauri ili kuhakikisha kuwa wafanyakazi watapewa mkataba pindi tu anapoajirwa na mkandarasi.

Pia ilielezwa kuwa ni muhimu kuwa na mfumo wa namna ya jamii kwa ujumla kutoa malalamiko yao juu ya kero zinazoweka kujitokeza kutokana na utekelezaji wa mradi/miradi, mfumo huo wa wananchi kutoa malalamiko ni lazima uwe rahisi na Rafiki wa walalamikaji.

Mjumbe mmoja alitoa shukrani zake kwa miradi iliyotekelezwa kwa awamu ya kwanza na kusema imekuwa na faida kubwa wa wananchi na kusema mfano ni ujenzi wa miundombinu katika shule ya msingi makugwa ambapo awali walimu walikuwa hawana nyumba ya kuishi, wanafunzi walikuwa wanapeana zamu kutumia darasa kwa sababu ya upungufu wa vyumba vya madarasa, hivyo anaomba na miradi ya awamu ya pili ipatiwe fedha kwa ajili ya utekelezaji ili kupunguza changamoto katika jamii.

Wajumbe walisisitiza kuwa swala la utunzaji wa mazingira lipewe kipaumbele kwa miradi yote itakayopatiwa fedha na kutekelezwa hususani katika swala la upandaji miti ya vivuli na matunda ipandwe mapema ili mkarandi awe anaimwagilia mpaka kufika kumaliza ujenzi iwe imekwisha chipua.

pia kuna mjumbe alisema kuwa katika ujenzi wa jengo ofisi za halmashauri kutahusisha ubomoaji wa baadhi ya majengo yaliyochakaa na hivyo kupelekea uwepo wa vumbi, na je

3

hatuoni kama vumbi hilo litatuadhili sisi wafanyazi na hata kupelekea kuugua kikohozi na mafua?

Ufafanuzi ulitolewa kuwa katika andiko kutakuwa na mpango wa uthibiti wa athari ambapo mkandarasi atawajibika kuzuia vumbi hilo kwa kumwagilia maji na kuweka uzio ili kutenga eneo la kazi na maeneo mengine, wajumbe walichangia pia kwa kusema wanafanyakazi kwa kipindi hicho ni vyema pia kupewa vifaa vya kujikinga vumbi, pia ilishauriwa kuwa ubomojai wa majengo chakavu uwe unafanywa nyakati za jioni ambapo watumishi wa halmashauri wanakuwa wameshatoka mao fisini.

Kuna mjumbe alishauri kuwa miradi ya ujenzi wa masoko mkakati yakishakamilika, kipindi yanafanya kazi kutakuwa na uzalishaji wa taka wa kila siku, hivyo basi nivyema katika usanifu wa miradi hiyo ni muhimu kuwepo na miundombinu ya ukusanyaji taka kwa muda kabla ya kuondolewa na kulepekwa dampo na pia lazima halmashauri ionyeshe mpango namna itakavyokuwa inaondoa taka kutoka kwenye vizimba vya soko na kuzipeleka dampo ili kuepuka mrundikano wa taka kipindi soko linafanyakazi na hivyo kutokuwa kero kwa wafanyabiashara na wakazi wa maeneo ya karibu na soko.

AGENDA NA. 4/1/11/2021/2022: KUFUNGA KIKAO

Mwenyekiti aliwashukuru wajumbe kwa michango na maoni yaliyotolewa juu ya tahimini ya athari ya kimazingira na kijamii kwa miradi itakayotekelezwa katika mradi wa LADP II. Baada ya kutamka hayo kikao kilifungwa saa 9.10 alasiri.

UMETHIBITISHWA NA;

....

Katibu **Mwenyekiti**

Tarehe....10.../..11.... 2021.

MKURUGENZI MTENDAJI
HALMASHAURI YA WILAYA
NGARA

Appendix III: Title Deed

HATI NA. 2NGR/3302
IMESAJILIWA TAREHE 01.07.2019
MUDA 3:00 Asubuhi
AFISA ARDHI WA WILAYA

Namba ya Hati 2NGR/3302

Fomu ya Ardhi ya Vijiji Na. 21

JAMHURI YA MUUNGANO WA TANZANIA

SHERIA YA ARDHI YA VIJIJI
(Na. 5 ya 1999)

HATI YA HAKIMILIKI YA KIMILA

(CHINI YA FUNGU LA 25)

Leo tarehe 21 mwezi 05 mwaka 2019 Halmashauri ya Kijiji cha **RUSUMO** imetoa hati ya hakimiliki ya kimila kwa **HALMASHAURI YA WILAYA S.L.P 30 NGARA** kama mmiliki (humu ndani akirejewa kama 'Mmiliki') wa hati ya hakimiliki ya kimila (itaitwa'hakimiliki') juu ya Ardhi iliyofafanuliwa katika Jedwali (humu ndani itaitwa "Ardhi") kwa kipindi kisicho na kikomo kuanzia tarehe **1** mwezi **julai 2019,** kwa maudhui na tafsiri halisi ya Sheria ya Ardhi ya Vijiji na kwa kuzingatia vipengele vyake na kanuni zozote zinazotungwa chini ya sheria hiyo au sheria mbadala au marekebisho yake na kwa mujibu wa masharti yafuatayo:

i) Ardhi itatumika kwa ajili ya **Ujenzi wa Kituo cha Afya.**
ii) Mkazi atawajibika kuhifadhi mazingira
iii) Mkazi atahakikisha kwamba mipaka ya Ardhi inalindwa na kutunzwa na idumu kuwa bayana kwa kipindi chote cha hakimiliki.
iv) Endapo alama za mipaka zilizowekwa zitavurugwa,zitavunjwa au kung'olelewa mmiliki atawajibika kugharimia kazi ya kurudishia alama hizo kwa usahihi.

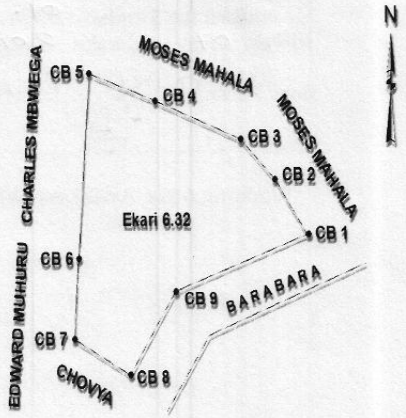
JEDWALI

(Maelezo kamili ya eneo na mipaka yake)

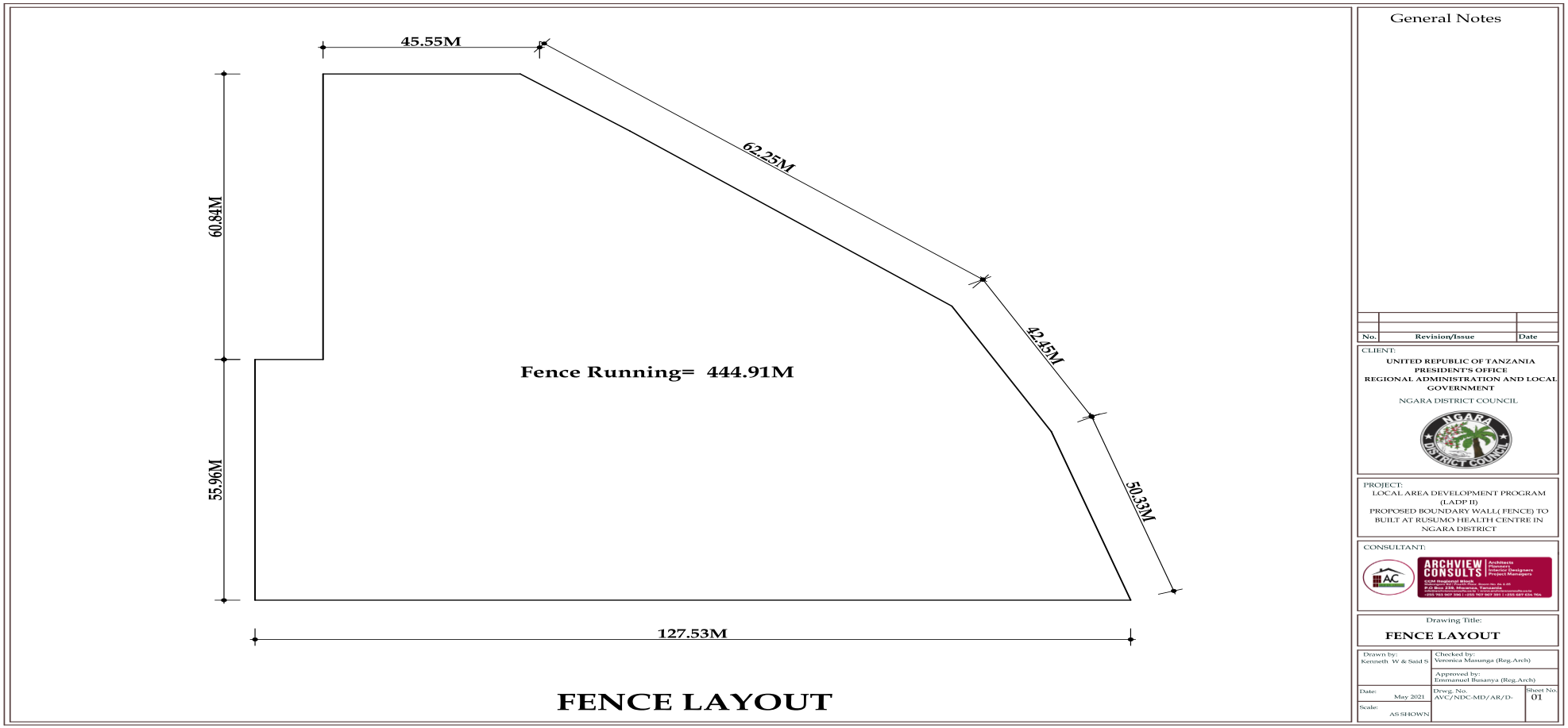
Ardhi hii yenye eneo lenye ukubwa wa ekari **6.32** iko katika Kitongoji cha **NYAKAHANGA UKA NA.2 NGR/RUS /NYK/07**

POINTI	MASH	KAS
CB 1	255412	9735262
CB 2	255381	9735302
CB 3	255350	9735331
CB 4	255272	9735359
CB 5	255212	9735379
CB 6	255203	9735244
CB 7	255199	9735185
CB 8	255250	9735159
CB 9	255291	9735220

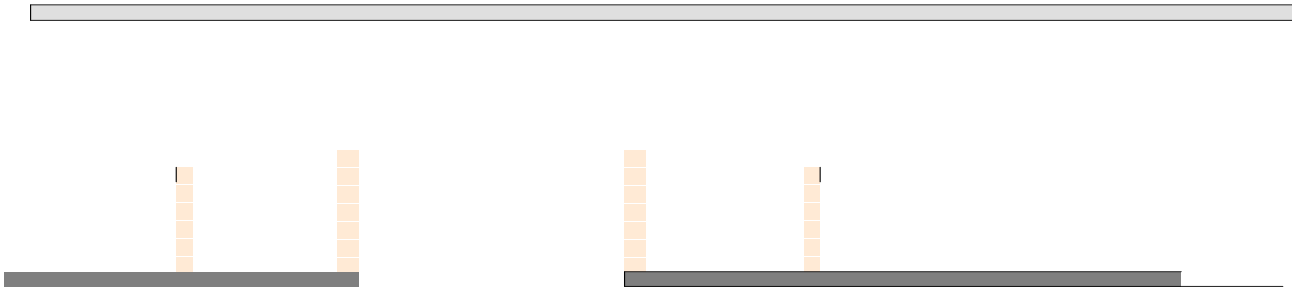
Jira hizi ni kama zinavyooneshwa katika Ramani Kulia.



Appendix IV: Site Layout Plan



Appendix V: Architectural Drawings



General Notes

No.	Revision/Issue	Date

CLIENT:

UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT

NGARA DISTRICT COUNCIL

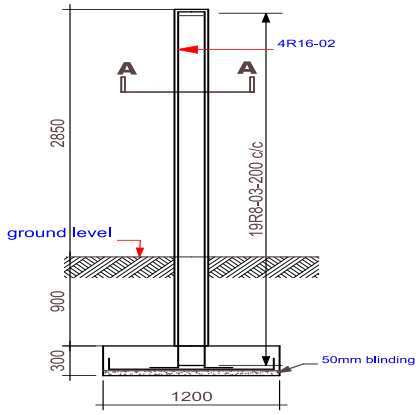
PROJECT:
LOCAL AREA DEVELOPMENT PROGRAM (LADP II)
PROPOSED BOUNDARY WALL(FENCE) TO BUILT AT RUSUMO HEALTH CENTRE IN NGARA DISTRICT

CONSULTANT:

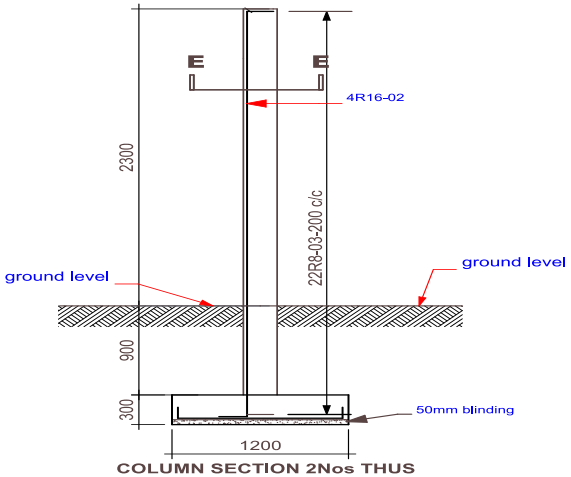
ARCHVIEW CONSULTS
Architects
Interior Designers
Project Managers
CCM Regional Block
Station Road, Off Main Post Room No. 04 & 05
P.O Box 238, Mwanza, Tanzania
Email: info@archviewconsults.com / info@archviewconsults.com
+255 765 907 396 / +255 767 907 391 / +255 687 034 904

Drawing Title:

Drawn by: Kenneth W & Said S	Checked by: Veronica Masunga (Reg.Arch)	
	Approved by: Emmanuel Busanya (Reg.Arch)	
Date: May 2021	Drwg. No. AVC/NDC-MD/AR/D-	Sheet No.
Scale: AS SHOWN		



COLUMN SECTION 178Nos THUS
Scale 1 : 25



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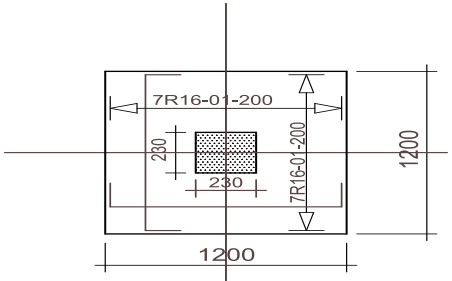
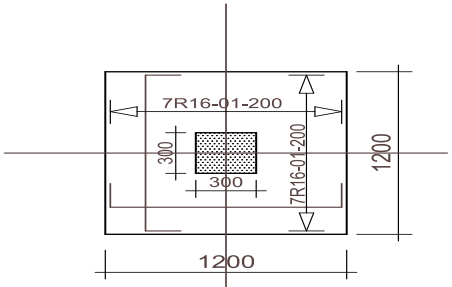


COLUMN BASE 42 Nos THUS
Scale 1 : 25



COLUMN BASE 3 Nos THUS
Scale 1 : 25

General Notes

No.	Revision/Issue	Date

CLIENT:
UNITED REPUBLIC OF TANZANIA
PRESIDENT'S OFFICE
REGIONAL ADMINISTRATION AND LOCAL GOVERNMENT
NGARA DISTRICT COUNCIL

PROJECT:
LOCAL AREA DEVELOPMENT PROGRAM (LADP II)
PROPOSED BOUNDARY WALL(FENCE) TO BUILT AT RUSUMO HEALTH CENTRE IN NGARA DISTRICT

CONSULTANT:
ARCHVIEW CONSULTS
Architects Planners Designers Project Managers
CGM Hospital Block
Kahama Road, Kaloleni Area, Block No 46 & 48
P.O Box 224, Musoma, Tanzania
Mobile Phone: +255 763 367 362 / +255 767 467 781 / +255 687 634 904

Drawing Title:
BLOCK PLAN

Drawn by: Kenneth W & Said S	Checked by: Veronica Masunga (Reg.Arch)	
	Approved by: Emmanuel Busanya (Reg.Arch)	
Date: May 2021	Drwg. No. AVC/NDC-MD/AR/D-	Sheet No. 03
Scale: AS SHOWN		

Appendix VI: GBV Code of Conduct

Contractor's Gender-based Violence and Child Protection Code of Conduct

The Contractor shall create and maintain an environment which prevents gender-based violence (GBV) and child abuse/exploitation (CAE) issues, and where the unacceptability of GBV and actions against children are clearly communicated to all those engaged on the project. The following core principles and minimum standards of behavior will apply to all employees of the Contractors without exception:

1. GBV or CAE constitutes acts of gross misconduct and are therefore grounds for sanctions, penalties and/or termination of employment. All forms of GBV and CAE including grooming are unacceptable be it on the work site, the work site surroundings, or at worker's camps. Prosecution of those who commit GBV or CAE will be pursued.

2. Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.

3. Do not use language or behaviour towards women, children and men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.

4. Sexual activity with children under 18—including through digital media—is prohibited. Mistaken belief regarding the age of a child and consent from the child is not a defence.

5. Sexual favours or other forms of humiliating, degrading or exploitative behaviour is prohibited.

6. Sexual interactions between contractor's and consultant's employees at any level and member of the communities surrounding the work place that are not agreed to with full consent by all parties involved in the sexual act are prohibited. This includes relationships involving the withholding/promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex – such sexual activity is considered "non-consensual" within the scope of this Code.

7. All staff, volunteers, consultants and sub-contractors are highly encouraged to report suspected or actual GBV and/or CAE by a fellow worker, whether in the same contracting firm or not. Reports must be made in accordance with Standard Reporting Procedures.

8. All employees are required to attend an induction training course prior to commencing work on site to ensure they are familiar with the GBV and CAE Code of Conduct.

9. All employees must attend a mandatory training course once a month for the duration of the contract starting from the first induction training prior to commencement of work to reinforce the understanding of the institutional GBV and CAE Code of Conduct.

10. All employees will be required to sign an individual Code of Conduct confirming their agreement to support GBV and CAE activities.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and CAE. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

For the Company
Signed by _____
Title: _____
Date: _____

Individual Gender Based Violence and Child Protection Code of Conduct

I, _____, acknowledge that preventing gender-based violence (GBV) and child abuse/exploitation (CAE) are important. GBV or CAE activities constitute acts of gross misconduct and are therefore grounds for sanctions, penalties or termination of employment. All forms of GBV or CAE are unacceptable be it on the work site, the work site surroundings, or at worker's camps. Prosecution of those who commit GBV or CAE will be pursued as appropriate.

I agree that while working on the Project I will:

- Consent to police background check.
- Treat women, children (persons under the age of 18), and men with respect regardless of race, colour, language, religion, political or other opinion, national, ethnic or social origin, property, disability, birth or other status.
- Not use language or behaviour towards women, children or men that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate.
- Not participate in sexual activity with children—including grooming or through digital media. Mistaken belief regarding the age of a child and consent from the child is not a defence.
- Not engage in sexual favour or other forms of humiliating, degrading or exploitative behaviour.
- Not have sexual interactions with members of the communities surrounding the work place and worker's camps that are not agreed to with full consent by all parties involved in the sexual act. This includes relationships involving the withholding or promise of actual provision of benefit (monetary or non-monetary) to community members in exchange for sex—such sexual activity is considered "non-consensual" within the scope of this Code.
- Attend and actively partake in training courses related to HIV/AIDS, GBV and CAE as requested by my employer.
- Report through the GRM or to my manager suspected or actual GBV and/or CAE by a fellow worker, whether in my company or not, or any breaches of this code of conduct.
- Wherever possible, ensure that another adult is present when working in the proximity of children.
- Not invite unaccompanied children into my home, unless they are at immediate risk of injury or in physical danger.
- Not sleep close to unsupervised children unless absolutely necessary, in which case I must obtain my supervisor's permission, and ensure that another adult is present if possible.
- Use any computers, mobile phones, or video and digital cameras appropriately, and never to exploit or harass children or to access child pornography through any medium.
- Refrain from physical punishment or discipline of children.
- Refrain from hiring children for domestic or other labour which is inappropriate given their age or developmental stage, which interferes with their time available for education and recreational activities, or which places them at significant risk of injury.
- Comply with all relevant local legislation, including labour laws in relation to child labour.

Use of children's images for work related purposes

When photographing or filming a child for work related purposes, I must:

- Before photographing or filming a child, assess and endeavour to comply with local traditions or restrictions for reproducing personal images.

- Before photographing or filming a child, obtain informed consent from the child and a parent or guardian of the child. As part of this I must explain how the photograph or film will be used.
- Ensure photographs, films, videos and DVDs present children in a dignified and respectful manner and not in a vulnerable or submissive manner. Children should be adequately clothed and not in poses that could be seen as sexually suggestive.
- Ensure images are honest representations of the context and the facts.
- Ensure file labels do not reveal identifying information about a child when sending images electronically.

I understand that it is my responsibility to use common sense and avoid actions or behaviours that could be construed as GBV or CAE or breach this code of conduct. I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and CAE. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action and may affect my ongoing employment.

Signed by _____

Title: _____

Date: _____

Manager's Gender Based Violence and Child Protection Code of Conduct

Managers at all levels have particular responsibilities to create and maintain an environment that prevents GBV and CAE. They need to support and promote the implementation of the Contractor's Codes of Conduct. To that end, they must adhere to the Manager's Codes of Conduct and also sign the Individual Codes of Conduct. This commits them to support and develop systems that facilitate the implementation of this action plan and maintain a GBV free and child-safe work environment. These responsibilities include but are not limited to:

Mobilization

1. Establish a GBV and CAE Compliance Team (GCCT) from the contractor's and consultant's staff to write an Action Plan that will implement the GBV and CAE Codes of Conduct.
2. The Action Plan shall, as a minimum, include:
   i. Standard Reporting Procedure to report GBV and CAE issues through the project Grievance Response Mechanism (GRM);
   ii. Accountability Measures to protect confidentiality of all involved; and,
   iii. Response Protocol applicable to GBV survivors/survivors and perpetrators.
3. Update the Action Plan to reflect feedback and ensure the Action Plan is carried out in its entirety.
4. Provide appropriate resources and training opportunities for capacity building so members of the GCCT feel confident in performing their duties. Participation in the GCCT will be recognized in employee's scope of work and performance evaluations.
5. Ensure that contractor, consultant and client staff are familiar with the GRM and that they can use it to anonymously report concerns over GBV and CAE.
6. Hold quarterly update meetings with the GCCT to discuss ways to strengthen resources and GBV and CAE support for employees and community members.
7. In compliance with applicable laws and to the best of your abilities, prevent perpetrators of sexual exploitation and abuse from being hired, re-hired or deployed.
8. Ensure that when engaging in partnership, sub-grant or sub-recipient agreements, these agreements a) incorporate this Code of Conduct as an attachment; b) include the appropriate language requiring such contracting entities and individuals, and their employees and volunteers to comply with this Code of Conduct; and c) expressly state that the failure of those entities or individuals, as appropriate, to take preventive measures against GBV and CAE, to investigate allegations thereof, or to take corrective actions when GBV and/or CAE has occurred, shall constitute grounds for sanctions and penalties.

Training

1. All managers are required to attend an induction manager training course prior to commencing work on site to ensure that they are familiar with their roles and responsibilities in upholding the GBV and CAE Codes of Conduct. This training will be separate from the induction training course required of all employees and will provide managers with the necessary understanding and technical support needed to begin to develop the Action Plan for addressing GBV and CAE issues.
2. Provide time during work hours to ensure that direct reports attend the mandatory Project's facilitated induction GBV and CAE training required of all employees prior to commencing work on site.
3. Ensure that direct reports attend the monthly mandatory refresher training course required of all employees to combat increased risk of GBV and CAE during civil works.

4. Managers are required to attend and assist with the Project's facilitated monthly training courses for all employees. Managers will be required to introduce the trainings and announce the self-evaluations.
5. Collect satisfaction surveys to evaluate training experiences and provide advice on improving the effectiveness of training.

Prevention

1. All managers and employees shall receive a clear written statement of the company's requirements with regards to preventing GBV and CAE in addition to the training.
2. Managers must verbally and in writing explain the company and individual codes of conduct to all direct reports.
3. All managers and employees must sign the individual 'Code of Conduct for GBV and CAE', including acknowledgment that they have read and agree with the code of conduct.
4. To ensure maximum effectiveness of the Codes of Conduct, managers are required to prominently display the Company and Individual Codes of Conduct in clear view in public areas of the work space. Examples of areas include waiting, rest and lobby areas of sites, canteen areas, health clinics.
5. All posted and distributed copies of the Company and Individual Codes of Conduct should be translated into the appropriate language of use in the work site areas (ex. Kiwahili, English).
6. Managers will explain the GRM process to all employees and encourage them to report suspected or actual GBV and/or CAE.
7. Mangers should also promote internal sensitization initiatives (e.g. workshops, campaigns, on-site demonstrations etc.) throughout the entire duration of their appointment in collaboration with the GCCT and in accordance to the Action Plan.
8. Managers must provide support and resources to the GCCT to create and disseminate the internal sensitization initiatives through the Awareness-raising strategy under the Action Plan.

Response

1. Managers will be required to provide input, final decisions and sign off on the Standard Reporting Procedures and Response Protocol developed by the GCCT as part of the Action Plan.
2. Once signed off, managers will uphold the Accountability Measures set forth in the Action Plan to maintain the confidentiality of all employees who report or (allegedly) perpetrate incidences of GBV and CAE (unless a breach of confidentiality is required to protect persons or property from serious harm or where required by law).
3. If a manager develops concerns or suspicions regarding any form of GBV or CAE by one of his/her direct reports, or by an employee working for another contractor on the same work site, s/he is highly encouraged to report the case using the identified reporting mechanism.
4. Once a sanction has been determined, the relevant manager(s) is/are expected to be personally responsible for ensuring that the measure is effectively enforced, within a maximum timeframe of 14 days from the date on which the decision was made.
5. Managers failing to comply with such provision can be in turn subject to disciplinary measures, to be determined and enacted by the company's Chief Executive Officer (CEO), Managing Director or equivalent highest-ranking manager. Those measures may include:
    i. Informal warning
    ii. Formal warning
    iii. Additional Training
    iv. Loss of up to one week's salary.

2

v. Suspension of employment (without payment of salary), for a minimum period of 1 month up to a maximum of 6 months.

vi. Termination of employment.

6. Ultimately, failure to effectively respond to GBV and CAE cases on the work site by the contractor's managers or CEO may provide grounds for legal actions by authorities.

I do hereby acknowledge that I have read the foregoing Code of Conduct, do agree to comply with the standards contained therein and understand my roles and responsibilities to prevent and respond to GBV and CAE. I understand that any action inconsistent with this Code of Conduct or failure to take action mandated by this Code of Conduct may result in disciplinary action.

For the Employer

Signed by _____

Title: _____

Date: _____

Appendix VII: COVID -19 Contingency Plan

UNITED REPUBLIC OF TANZANIA

PRESIDENT'S OFFICE - REGIONAL

ADMINISTRATION AND LOCAL GOVERNMENT

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NGARA DISTRICT COUNCIL

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Health Department
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NGARA
KAGERA.

NGARA PUBLIC HEALTH EMERGENCIES CONTINGENCY PLAN
MARCH, 2020/2021

Aidan J. Bahama
DISTRICT EXECUTIVE DIRECTOR
NGARA

Executive Summary

Corona viruses are large family of viruses. There are several known human coronaviruses that usually only cause mild respiratory disease, such as the common cold. However, at least twice previously, coronaviruses have emerged to infect people and cause severe disease. The severe respiratory syndrome (SARS) of unknown etiology among people was first reported on 31st December 2019 in Wuhan City (population of 19 million), capital of Hubei Province (population of 58 million), southeast of China; of which 7 were reported as severe cases. This COVID19 is the different from SARS-Corona Virus of 2003 and MERS- Corona Virus of 2013. 94 countries were reported of COVID19 the entire world like China, Japan, South Korea e.tc. The incubation period is about 1 – 14 days. The sign and symptoms are fever, cough, sore throat, nasal congestion, malaise, headache, and muscle pain or malaise. There is no current evidence from RCTs to recommend any specific anti-COVID19 treatment for patients with suspected or confirmed, but can treat the sign and symptoms. The transmission can be occur either by directly contact of respiratory secretions and droplets. Standard precautions include hand hygiene; use of PPE to avoid direct contact with patients' blood, body fluids, secretions (including respiratory secretions) and Use a medical mask if working within 1-2 meter of the patient.

Acknowledgments

The Ngara District Council wishes to express its gratitude to all experts who participated in developing this Contingency Plan for Public Health Emergency of COVID19. Special gratitude goes the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) for Public Health Emergency Preparedness and Response for the strategic guidance in the development of this Plan and provided Infection Prevention and Control (IPC) and Clinical Management of Novel Corona Virus (nCoV) Pneumonia. Specifically, valuable contributions from Districts Executive Director are also appreciated.

I would also like to acknowledge the team of technical experts from different Health Departments specifically from Curative Services team, Preventive Services team, Health Quality Assurance, Emergency Preparedness and Response and Disease Control, Environmental Health and Sanitation, Health Promotion, who worked tirelessly and contributed to the successful completion of this plan.

Finally but not the least, I would like to extend sincere appreciation to the World Health Organization through Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) with Regional, for facilitating assessment on District operational readiness for COVID19response.

Abbreviations

DMO	District Medical Officer
COVID19	Corona Virus 2019
HIDTU	Highly Infectious Disease Treatment Unit
IDSR	Integrated Disease Surveillance and Response
WHO	World Health Organization
IEC	Information, Education and Communication
IHR	International Health Regulations
IMS	Incident Management System
IPC	Infection Prevention Control
LGA	Local Government Authorities
MOHCDGEC	Ministry of Health Community Development Gender Elderly and Children
NGO	Non-Government Organization
POE	Point of entry
PPE	Personal Protective Equipment
RMO	Regional Medical Officer
RRT	Rapid Response Team
SOP	Standard Operating Procedure
TOT	Training of Trainers
WHO	World Health Organization
DHO	District Health Officer
DED	District Executive Director
DC	District Commissioner

Key Concepts

The following glossary is from the Tanzania Disaster Management Act (2015) and United Nations International Strategy for Disaster Reduction terminology on disaster risk reduction (2009 version).

Disaster

An occurrence or series of occurrences, whether natural or man-made, man-made calamity that causes or poses a significant disruption or threat to the functioning of a community, causing widespread human, natural, economic or environmental losses which exceed the capacity of that community to cope with the disaster using its own resources.

Disaster response

Any measure taken immediately prior to or following a disaster impact that is directed towards saving life, protecting property and the environment or dealing with the immediate damage and other effects caused by the disaster.

Emergency management

It is also used, sometimes interchangeably, with the term disaster management, particularly in the context of biological and technological hazards and for health emergencies. While there is a large degree of overlap, an emergency can also relate to hazardous events that do not result in the serious disruption of the functioning of a community or society.

Hazard

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihood and service, social and economic disruption or environmental damage.

Preparedness

The knowledge and capacities developed by governments, response and recovery organizations, communities and individuals to effectively anticipate, respond to and recover from the impacts of likely, imminent or current disasters.

Response

Actions taken directly before, during or immediately after a disaster to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

Introduction

Ngara district is among of eight district of Kagera region, 4 Division, 22 Wards and 75 Villages with 34 streets of Mainer Township.

Ngara District is exposed to a number of natural and man-made hazards that impact livelihoods, destroy infrastructure, disrupt the provision of essential services and claim lives. Primary risks are linked to hazards such as road accidents and health epidemics.

For many years now, Ngara is threatened by a number of public health risks which causes a number of deaths, morbidity to affected people and economical disruption. These include; Malaria, road accidents, Ebola, Corona Virus.

The ultimate objective of this Public Health Risk Emergency Response Plan is to consolidate capacity to support response by ensuring that all those charged with tackling the disease (i) know their role; (ii) are competent to carry out the tasks assigned to them; (iii) have access to available resources and facilities; and (iv) work together as a partnership. Therefore, the Plan aims to bring order to the response operations. Additionally, it is concerned with providing a framework for management, coordination and control within which a team of responders can go about their work at times of a major emergency

Background Information

1.1. Geophysical features

Ngara (334,939 people in 2012) is located in northwestern Tanzania near the borders of Rwanda and Burundi. Its elevation is approximately 6,000 feet (1,800 m) and is considered to be in the highlands of Tanzania.

Ngara has four seasons: two dry seasons from June to September and January to February with two rainy seasons from October to December and from March to May. During dry seasons there are sometimes strong winds/hazy air and temperatures vary between 18 and 30 °C (64 and 86 °F), depending on the time of day or night. During the rainy seasons, sudden and heavy downpours may occur daily, lasting from a few minutes to several hours. The rain is sometimes associated with strong winds, floods, mud, fog and temperatures may range between 12 and 26 °C (54 and 79 °F).

Socio-economic issues

The primary occupation is subsistence farming and livestock rearing. Local crops include bananas, passion fruit, papaya, groundnuts, beans, coffee, maize, cassava and a variety of vegetables.

Language

The local language in Ngara is Kishubi and Kihangaza, which are very similar to Rundi and Kinyarwanda, the languages of Rwanda and Burundi. Although Tanzania's national and official languages are Swahili and English, usage in Ngara District is, however, rather limited to official functions, offices, institutions of higher learning and a few other places. Generally, English is understood on a limited scale in the market, and Swahili much more so.

District Public Health Risk management

The overall coordination of the epidemic control activities shall be undertaken within the existing framework of the Emergency Preparedness and Response for outbreak management. The Task force is responsible for designing/adapting strategies, planning, implementation, monitoring and evaluation of all epidemic control activities. The Task force within the district will be getting technical guidance from the National Task Force in terms of policy and strategic orientations, guidelines, etc.
The District Task force will be chaired by the District Medical Officer (DMO) will chair the Task Force at the district level.

The Task Force performs its activities through Technical Committees. Technical Committees are composed of experts in that arm of intervention. The committees are therefore responsible for the technical aspects of the control measures such as developing and designing strategies, planning, implementation, monitoring and supervision of activities.

The key pillars of technical committees include:

1. Coordination
2. Epidemiology/ surveillance
3. Case management and infection prevention and control
4. Laboratory
5. Community Mobilization and Health Promotion
6. Social mobilization/ Psycho-social support
7. Logistics

During preparedness shall hold meetings double within the month and during response shall hold daily, preferably at 2pm to review progress made in implementation of the planned activities and provide guidance. Proceedings of the Task force will be summarized by the end of each day to constitute a press report that will be shared by the media.

The District level subcommittee and Task Force will meet one day before the Rapid Response Team Meeting. The District Task Force will as well convene meeting one day before the Regional Task Force Meeting. This allows the flow of information from the subcommittee to the Regional Task Force.

The above intervention areas or pillars have also five respective objectives as follows:

a. Ensure all efforts are coordinated and implemented in an efficient and timely manner
b. Ensure implementation of highly sensitive, timely and coordinated surveillance systems
c. Ensure effective response to manage cases of (re) emerging communicable diseases
d. Enhance awareness and support especially for at-risk communities
e. Ensure timely and effective logistical support for surveillance and response teams

Scope of the Public Health Response Plan

This Response Plan is a multi-disciplinary and multi-agency plan, and is intended combine responses from key government agencies, private organizations and partners within the Districts.

Response Plan cannot be 'fully comprehensive tool' that cannot be implemented for lack of resources. Despite its limitations, this Response Plan is expected to constitute a recognized emergency response framework for: (i) awareness-raising throughout the multi-disciplinary task force; (ii) developing training throughout the responders; and (iii) building partnership for a combined response.

Outbreak Response

In an outbreak, it is vital to know who is going to do what. The clearer the responsibilities and the decision-making processes are key elements for effective response. A brief description of the command structure to response to outbreak operations in Ngara District, with relevant responsibilities and authority is presented below.

Concept of operations

- ✓ In an event of a major outbreak overwhelming the District, the District Commissioner (Strategic level command) should declare the level and magnitude of the outbreak, while working with the Regional Task Force (Tactical Command) and District levels (Operational Command)

- ✓ This Response Plan is based on the concept that the emergency functions assigned to the various government departments and agencies and volunteer organizations will parallel their normal day-to-day functions as closely as possible.

- ✓ Those day-to-day functions that do not contribute directly to emergency operations may be suspended during the outbreak response. The efforts that would normally be required for those functions will be redirected to the accomplishment of outbreak response tasks.

- ✓ At every level of command, the chain of communication should be maintained and recognized. Final decisions should always be made and recognized at the coordination level, while always observing technical advice from the Subcommittee level.

- ✓ At any time of response to Health emergencies, the Rapid Response Team (RRT) will be responsible for assessment and verification of a case before dispatching an ambulance to take the patient to the HIDTU. The RRT will be composed of a Clinician, Nurse, Surveillance Officer and a Laboratory staff.

Ngara District Council is high (refer figure 1 below).

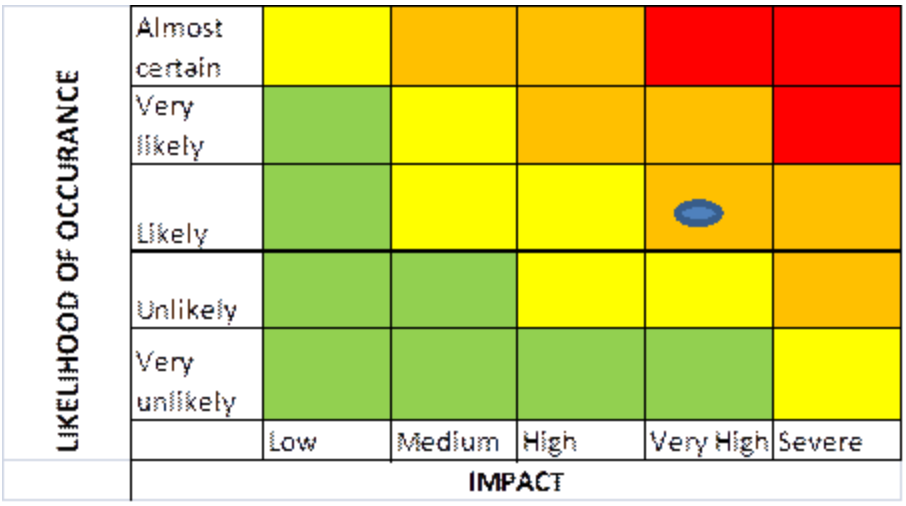


Figure 1: Risk Matrix.

Health System Structure and Services Provision

The District health system operates in decentralized organization of governance where by public and private health service delivery is primarily at Village level and specialized services are managed by Local government level.

The health system ensures public health risk management to outbreaks through mechanisms for indicator or routine based and community-based surveillance, care and treatment, Port health and social welfare services that are all linked to the above levels. There are three provisions Isolation Centre for COVID19 located in Kabanga, Murusagamba and Rusumo with bed capacity of 2. Out of 3 official point of entries, have mechanism and capacity to implement screening however Murusagamba has one official staff of Port health officer, and two non- official staff of Port health officer and no office.

Recent emergencies and disasters in Ngara District Council

Ngara District Council has been facing manmade emergencies. Recent Ngara District Council experienced fire explore at Rusumo Port of Entry during August 18th 2018 that affected a total of 7 cars and tractor 1 with 1 driver death.

COVID19 Response Coordination Mechanism

Coordination of COVID19 Response at different levels will follow the Incident Management System and will be guided by the concept of operations outlined in the All Hazard Emergency Response Plan (2020). During COVID19 response the District Medical Officer will appoint the District Incident Manager to coordinate District level response.

Triggers for action and activation levels

One suspected or probable case of COVID19 constitutes a public health emergency and therefore it will trigger the activation of the response to level II. Where by a confirmed case of COVID19 in the District will trigger activation to level III. The District PHEOCs, National PHEOC will function based on the level of activation to facilitate coordination of response as outlined in the All Hazard Emergency Response Plan.

The Overall command of the District emergency and disaster is under the District Disaster Management committee which is chaired by the District Commissioner

District Health Incident command

Committee	Members	Description of tasks
1.Coordination	**Chair: District Commissioner** **Members:** 1. District Executive Director 2. District Medical Officer 3. Chairman of District Council 4. District Administrative Secretary 5. All Head Department 6. All member of District Security and Defends Committee	1. Coordinates all operational aspects preparedness and response 2. Convenes meetings and keep all the minutes safely 3. Mobilizes and allocates resources for outbreak preparedness and response a. Prepares the Preparedness and response plan with participation of all the technical committees b. Monitors continuously the implementation of the plan c. Identifies and communicates resource gaps in timely manner d. Facilitates motivations e. Establish emergency operations centre and rapid response teams 4. Produces reports and communicates to higher authority and partners
2. Case management and Infection Control and Laboratory	**Chair :** District Medical Officer **Members;** 1. Medical Officer In charge of District Hospital 2. District Nursing Officer 3. Matron/Patron District Hospital 4. Pharmacist of District Hospital 5. District Hospital Emergency Coordinator 6. District hospital Laboratory manager **7.** Emergency Nurse In charges District Hospitals **8.** Medical Officer in charge of	1. Ensure Quality 2. Train health workers on management including general infection prevention and control 3. Implements barrier nursing procedures and universal precautions 4. Provides care to patients 5. Initiates activities for safe reintegration of discharged patients in collaboration with psychosocial support team 6. Provides data from treatment facility to the surveillance committee 7. Performs any other duties assigned by the coordination committee. 8. Coordinate sample collection, packaging, processing, transportation and laboratory testing of specimens from

	Lukole Health Centre **9.** Matron/Patron of Lukole Health Centre	suspected cases 9. Follows and receives laboratory results 10. Report laboratory results and sensitivity tests to case management committee 11. Reagent management (Ordering, supply and monitoring
3. Epidemiology/ Surveillance	**Chair: District Health Officer** **Members;** 1. District Surveillance Officer 2. District Hospital Health Officers 3. District Vector Control Officers 4. All Environmental Health Officer 5. Data Officer 6. District Laboratory Technician 7. Epidemiologist 8. IDSR Fco 9. In charges of Port Health Officer 10. District Veterinary Officer 11. Chair of District Driver	1. Trains health personnel on surveillance 2. Establishes transmission chains 1. Manages outbreak data: analyses data regularly for trends and 2. Disinfects homes and environment 3. Provides data from treatment facility to the surveillance committee 4. Performs any other duties assigned by the coordination committee.
4. Social mobilization/ psycho social support	**Chair: District Community Based Health Care** **Members;** 1. District Social Welfare 2. District Communication Officer 3. Education Officer 4. District Community Development officer 5. Head of Religions 6. Director Manager of Radio Kwizera FM 7. Health Promotion and Education Officer 8. Traditional Healers Fco	1. Reviews and/or develops materials for social mobilization 2. Organizes sensitization of the community 3. Serves as focal point for preparing and verifying information to be released to the press by the Task Force 4. Liaises with the different sub-committees, local leadership and NGOs involved in activities on mobilizing communities 5. Provides psychological and social support to suspected/ probable/confirmed cases; affected families and communities 6. Provides psychological support to the response team 7. Prepares communities for reintegration of convalescent cases/ patients who have recovered 8. Performs any other duties assigned by the coordination committee

6. Logistics	**Chair: District Human Resource Officer** 1. **Members:** District Procurement Officer 2. Transport Officer 3. Treasurer Officer 4. District Pharmacist 5. Accountant of Health Department 6. Manager of RUWASA	1. Maps available resources for response and maintains updated inventory 2. Conducts projection of the logistics needs for response 3. Coordinates transport of the different field response teams 4. Provides supplies for the treatment centers and supports stock management

Reporting System

The District gets report from Community, boarders and Health Facility. The Community Health Worker using Rumors book which collects within the community then submitted to the IDSR Fco. The Port Health Officer report to the RRT (DMO) if occur any suspect at port of entry. Also in charge of Hospital, Health Centre or Dispensary report to the RRT (DMO) if get any suspect from their facilities. The DMO after confirmed suspect is associated with Highly Infectious Disease like Corona Virus Disease report to the RMO.

Scenario

The development of this Contingency Plan is based on the Likely Case Scenario that calls for rapid containment of the case. The scenario assumes a case of COVID19 being imported and detected by the surveillance system in all Point of Entry and Health Facilities of Ngara District Council.

Planning Assumptions

a) An Suspect case was detected in one of a local health facility
b) Contact tracing teams well trained and equipped to conduct the task
c) All contacts have been identified and monitored
d) Patients who meet the case definition have been isolated and treated in the designated HIDTU, even though was still not meet the case definition.
e) Infection prevention and control measures are applied at health facilities and community level

Strategy

5.1 Mitigation Strategy

As described in the risk assessment, mitigation measures are important so as to ensure the health risk of COVID19 importation is addressed in order to avoid importation as well as spread of the infection in the District in case of COVID19 is imported. The risks which have been identified for mitigation includes; COVID19 case importation in the District, spread of COVID19 infection in the District and community fear. Table 1 outlines the health risks and planned mitigation measures per each technical area.

Identified health risks	Mitigation measures
EPIDEMIOLOGICAL SURVEILLANCE (POE):	
Importation of COVID19 case(POE)	To ensure the PoE specific contingency plan and SoPs for high risk ground crossing are followed
	To ensure the SoPs for identification, notification, management and referral of COVID19 suspects are followed
	With the help of PoE, Engagement of different media and transport agency to convey messages on COVID19 to travellers for affected Countries
COORDINATION:	**Mitigation measures**
COVID19 cases importation	Secure resources for COVID19 preparedness and response
	Monthly cross sectoral syndication and coordination meetings
	Updated EVD/Marburg/COVID19 contingency plan
RISK COMMUNICATION AND SOCIAL MOBILISATION	**Mitigation measures**
Community panic towards importation of COVID19	Advocacy and sensitization messages distributed to the community by using ITC.
	Address personal behaviors and soci-cultural factors that influence transmission
Spread of COVID19 infection	Mobilise community mobilisers for community sensitization and awareness
	Conduct community awareness campaign to increase awareness and encourage adoption of preventive behaviors and actions
	Desribution material for social and behavior change communication
	To ensure message and materials dissemination trough media mix
	Train Health Promotion Coordinators and other mobilizers at District and community levels

Identified health risks	Mitigation measures
	Community awareness for IPC at household level
CASE MANAGEMENT & IPC	**Mitigation measures**
Spread of COVID19 infection	Strengthen Infection Prevention and Control Practices through additional measures for COVID19
	Ensure availability of equiped COVID19 isolation and treatment facilities in high risk Area
LABORATORY	**Mitigation measures**
Spread of COVID19 infection	Training of laboratory personnel on universal precautions and additional IPC measures for COVID19 and on specimen management to laboratory personnel and other HCW
	Map / identify and sensitize local couriers capable of transporting specimen immediately
	Disseminate SOP for COVID19 sample management
	Develop list of supplies for specimen management

5.3 Preparedness and Response Strategy

As described in the risk assessment, preparedness measures are important so as to ensure readness to deal with COVID19 in the District. Preparedness measures that have been suggested are geared at improving capacity to respond to COVID19 with altimate reduction of its impact in case an COVID19 case is imported. The preparedness measures varies with the identified health risks that determines response needs to be addressed by the District. The health risks that have been identified include: COVID19 imported cases, High transmossion and spread of COVID19 infection as well as psychological trauma and fear,other risks include public panic and deaths due to EVD. The response needs for each health risks have been outlined as well as preparedness measures that are suggested for the respective response needs as shown in table 2

COORDINATION:		
Health Risk	**Response need**	**Preparedness measure**
COVID19 imported cases	Coordinate and monitor response activities	Conduct working session to finalize and disseminate ERP
		Conduct working session to review r PHEOC SOPs
		Conduct donor mapping
		Advocacy and sensitization to influential people at all levels.
		Conduct functional simulation exercise for PHEOC
Health Risk	**Response need**	**Preparedness measure**
		Conduct orientations of revised operational documents to high risk in District (ERP & its contingency plans, PHEOC SOPs including Sensitization & orientation of District Authorities about PHEOC)
	COVID19 Outbreak response plan	Update COVID19 contingency plan and disseminate at all levels
		Identify burial ground
		Develop ToRs & SOPs for RRT in response to potential COVID19 cases

	Supportive supervision for response activities	Develop ToR and checklist for supervision at District level
RAPID RESPONSE TEAMS		
Imported COVID19 Cases	Deployment of COVID19 RRT	Train RRT TOT at District level on COVID19 response
		Conduct training of RRT at District level with priority to high risk Area
	Rapid Risk/need Assessment conducted by RRT	Conduct a simulation exercise for RRT within 60 days if no COVID19 case
		Train multi-disciplinary RRT teams and update inventory, ToR at District level
	Provide COVID19 RRT GO kit	Develop list of iterms in GO kit for RRT
		Print Rapid Risk Assessment Manual
BUDGET		
	Operational & Staff welfare support	Develop operational budget
		Advocate for revisit of Workers Compensation Fund in relation to high risk assignments
	Provide risk allowance for COVID19 responders conducting high risk assignments	Advocate for risk allowance for COVID19 responders conducting high risk assignments
	Adequate resources for response	Advocate for increase in the emergency contingency fund and timely emergency fund release procedures
	Provide basic walfare needs for ETC	Develop resource mobilization package/strategy
PSYCHOSOCIAL SUPPORT:		
Health Risk	**Response need**	**Preparedness measure**
Psychosocial trauma and fear among survivors, individual families and	PSS services to responders and affected i families, community and during burial	Dissemination PSS guideline,
		Identify and train a team of PSS service providers and volunteers at District level and high risk Area

community		Map peer support groups, volunteers, and stakeholders that can support families during response in the community at high risk Area
		Assessment of community needs
		Prepare list of items for package with material support (food and non food items) for COVID19 survivals and families that lost relatives
		Establish communication linkage btn PSS team and other responders contact detels (ETC, EOC, Community Mobilizers, nutrition)
EPIDEMIOLOGICAL SURVEILLANCE:		
High transmission of COVID19 cases	Early detection and reporting of COVID19 cases	Operationalization of hotline or emergency number to manage alerts
		Train technical experts at District level on alert processes and requests for information related to COVID19.
		Orient HCWs and IDSR FP at District on use of VHF database, use of COVID19 case definitions and completing case investigation forms in high risk Area
		Orient CHW volunteers, NGOs, traditional healers and community leaders on event based surveillance in high risk Area.
	Contact tracing	Identify contact **tracing teams** at Community levels (volunteers, NGOs, traditional healers and community leaders) and conduct refresher training on contact tracing and identify a local source of contact tracers for all areas
		Disseminate contact tracing SOPs, reporting SOPs and simplified case definitions for community use to all Areas
POE		
COVID19 imported case (POE)	Early detection, management and referral	Train emergency committees at PoE on IPC, detection, assessment, management and referral of any potential COVID19 cases
		Orient POE stakeholders (POE users, tax drivers, service providers, cleaners) on SOP for identification and notification
		Test PoE specific emergency contingency plan (simulation) for ground crossing at high risk Area

Health Risk	Response need	Preparedness measure
	Proper collection, managment and timely reporting of traveller information	Equipped observation/isolation areas at PoE high risk Area
		Develop list of items, PPE, cleaning and disinfecting products and sanitisers at PoE.
		Develop service and maintanance plan for monitoring and data management equipment at PoE
		Disseminate a communication SoP between PoE and Distric's surveillance system for followup of travellers from affected country
		Conduct supportive supervision in collaboration with relevant stakeholders of PoE
RISK COMMUNICATION AND SOCIAL MOBILIZATION:		
Increased panic due to importation of COVID19 Case	Community awareness creation on COVID19 prevention	Train Mobilizers for sensitization and awareness rising
		Develop message tailored to targetted audience and disseminate them through media mix
		Conduct media orientation
		Conduct orientation to Health promotion coordinators and other social mobilisation stakeholders at high risk Area
Spread of COVID19 infection in the community.		To conduct assessment for socio-cultural factors (Myth, attitudes, misconception, beliefs, behaviors, practices etc) that influence COVID19 transmission.
		Implement communication plan that identify channel, responsible and message timing.
		Identify existing community social structures that can effectively support community engagement and awareness campaign.
CASE MANAGEMENT		

COVID19 case/s in the country	Isolation of COVID19 patients	Identification and equiping COVID19 isolation facilities and prepare items for surge capacity
	Povide care and treatment of patients	Dissemination and distribution of COVID19 guideline and SOPS/job aids for case management
		Formulation, training and equiping teams for case management and ambulance in District for designated ETC
		Develop plan and implement onjob orientation of all health workers at health facilities in high risk Area on COVID19 by using District TOTs
		Conduct a simulation exercise in case management (drill) at Lukole Isolation facilities in District
		Conduct operational readness verification visit at the high risk Area (isolation facilities at District levels, IPC materials including PPE)
	Transportation of COVID19 patients	Identification of dedicated transportation facilities (vehicle) and SOPs for transportation
	Ensure 24/7 communication between the HIDTU, EOC and other teams	Develop and mantain contact details with manes, phone contacts of other responding teams
	Ensure provision of commodities, supplies and equipment for COVID case management and IPC	Develop list of minimmum required essential COVID19 commodities and supplies and stockpile at the identified Isolation facility
	Mantain records of staff and other teams daily rosters for HIDTU, ambulance, decontamination, burial)	Develop templates of duty rosters of workers at the HIDTU and templates for reports
	Conduct supportive supervision and mentorship to health workers at the HIDTUs	Develop list/inventory of Districtl technical experts on COVID19 case management , TOR and checklists.
Health Risk	**Response need**	**Preparedness measure**
Spread of COVID19	Practice additional IPC measures for COVID19 in health facilities and HIDTU	Dissemination and distribution of HIDTU – IPC guideline and SOPs
		Prepare list of waste management facilities in designated HIDTU to be procured for designated health facilities

	Conduct decontamination of households and surroundings where patients or death due to COVID19s has occured	Formulation, training and equiping the deconatmination teams for isolation facilities, vehicles and households
		Develop list of Items for decontamination of house holds to be procured for all high risk Area
		Identify/arrange transport that will be used by household decontamination teams to be linked with surveillance
	Ensure security at the HIDTU	Fencing of the HIDTU or designated health facility
		Arrangement for security services for the HIDTU
Deaths due to COVID19	Provide safe and dignified burial services	Dissemination SOP for Safe and dignified burials
		Identification and training of burial teams at the risk areas
		Identify and designate transport for burial services of COVID19 corpses
	Provide Equipments and supplies for SDB	Develop list of minimmum required equipment and supplies for burial services and stockpile at the identified high risk areas
LABORATORY		
Stread of COVID19	Early confirmation of COVID19 case	Identify and Train personnel in Specimen management to be deployed to affected district during response
		Print and disseminate SOP for COVID19 sample management
		Relocate more laboratory staff to testing laboratory
	Transportation of specimen to testing laboratories	Re orrientation of curriers at all levels
		Prepare list of required materials for packaging and transportation specimens to be procured and supplied to high risk Areas
Health Risk	**Response need**	**Preparedness measure**
	Protection of Laboratory workers against COVID19 infection	Develop list of items for protection of laboratory personnel (PPE etc)

	Sharing of Results	Develop Service and maintanance plan of laboratory quipment
		To prepare and disseminate laboratory linelist forms for COVID19 and report templates

Activation

Alerting

The Rapid Response Team When there is any information or rumor is alerted pending rumor verification.

Stand-by

When there is a confirmed case in any other District/Region/Country that makes Ngara to be in a high risk of being infected, the Rapid Response Team consisting of half of the full team will be mobilized in a standby mode at Lukole HIDTU. The standby rooster will operate 24/7 hours.

Activation (Full Mobilization)

When there is a suspect case that meets Standard Case Definition the Case management Team will be activated to Lukole HIDTU.

COVID19 Emergency Response Plan Activity Implementation

Pillar	Response needs	Action	Responsible
Social Mobilization	Ensure availability of printed awareness materials	Printing of IEC materials	Head of social Mobilization subcommittee Transport Officer
		Distribution and dissemination of IEC materials	
		Conduct media orientation	
	Strengthen community sensitization (Use of mobile vans, media, Pas)	Intensify Community sensitization using sound facility twice in monthly	Head Social Mob and DHS and TO
		Conduct Sensitize schools, colleges (meetings, school health programme and working areas)	Head of social Mobilization subcommittee
	Strengthen engagement of community stakeholders	Conduct meeting with influential people (Private sectors, religious leaders, local community leaders	Head of social Mobilization subcommittee/DED/DMO
Coordination	Strengthen involvement of stakeholders (mapping and engagement in a response activities)	Conduct stakeholders mapping and develop list of stakeholders with their capacities	DMO/DED
		Conduct meeting with all potential stakeholders for their participation/support in their response (refreshment)	DED/DMO

	Strengthen implementation and monitoring of COVID19 response activities	Conduct regular meetings using the existing response forums	DMO
	Ensure availability of resources to implement response activities (human, financial, transport & logistics support)	Share the coasted plan with stakeholders	DMO
		Consider reallocation of existing resources	DED/DMO
		Recruit Staff who provide services at Lukole H/C and refreshment	DED
Case Management	Strengthen management of patients presenting with symptoms suggestive of COVID19	Print and Distribution of case management Guideline.	Head of District Case Management & Clinical Services Coordinator
		Orientation of healthcare workers on standard case definition and management	Head of District Case Management & Clinical Services Coordinator
		Procure Medical supplier like Glove, Masks, Aprons, googols, sprayer pump, sanitizer, Electronic Dispenser etc	Head of District Case Management & Clinical Services Coordinator
Surveillance & Laboratory	Strengthen use of surveillance data to guide response interventions	Orientation of surveillance officers for consolidation of surveillance data	Head of Surveillance (ie District Surveillance Officer)
	Strengthen adherence to laboratory protocols and testing guidelines for COVID19	Distribution of COVID19 testing guideline	District Laboratory Coordinator

Logistics	Ensure availability of essential commodities for COVID19 control	To ensure are all resource available at Lukole H/C	Chairman of Logistics Team
		To ensure availability all infrastructure which are needed at Lukole H/C	Chairman of Logistics Team
		To ensure availability of fuel for transport, follow up and monitoring of suspect and contacts cases	Chairman of Logistics Team

Appendix VIII: Grievance Redress Mechanisms

GRIEVANCE REDRESS MECHANISMS.

Introduction.

Ngara District Council established a grievance mechanism in accordance with the Word Bank Standards to receive and address specific concerns raised by affected communities, employees and other affected stakeholders as a result of the project activities. Methods for documenting and responding to complaints in a reasonable timeframe, explaining response and compensation procedures, and also including monthly reports back to the community on the system and complaint resolution. To ensure its effectiveness, this GRM has been prepared in Consultation with the local Community and timely resolution of complaints through an effective and transparent complaint mechanism will be enhanced for the satisfaction of the employees and the timely completion of the projects.

The Grievance committees will be formulated to include each stakeholder that will be affected by the project from the project levels to the local government level and district level:

The procedures for Grievance Redress Mechanism

In a situation where an affected community, employee, or any other stakeholder wishes to make a complaint about a project, the following process should be followed;

1. COMMUNITY LEVELS;

- Affected people / employees / communities must fill out a complaint form which shall be available at the local government offices and then compliant shall be registered by the village government officials.
- The Village Executive Officer shall convene a meeting of the Village Grievance Redress Mechanism committee to perform appropriate investigation If deemed necessary, the investigation can include a risk assessment. The investigation shall include follow-up meetings between stakeholders and the contractors, where an impartial party is present without impeding access to any judicial or administrative remedies that may be available at the Ward Executive Officer and Ward Councils. Minutes are recorded and added to the grievance database then further be reported to the Contractor's Community Representative.
- The meeting shall be held by the Grievance Redress committees from each stakeholder i.e. the Village Committee and the Contractor Representatives to resolve the grievance.
- Once the reported grievance has not been resolved at that stage, it will be reported to the Ward level for further resolution processes and again if not resolved it will be transferred to the District Level Grievance Management Committee.
- Likewise, the District Executive Director (DED) shall convene the meetings consisting of the relevant District experts for further resolution process.
- For any resolved grievance, signed agreement to any resolution to a grievance shall be maintained in the archives. Appeals to any grievance shall be allowed in such context the signed agreement shall be revisited to establish the relevance of the appeals. If the grievance is unresolved the records shall remain unresolved and legal actions will be encouraged.

***2*. AT THE CONTRACTORS LEVELS.**

Like in any countries, in Tanzania the labour laws recognise the workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor will comply with national law.

CONTRACTOR'S Grievance Mechanism will work as follows:

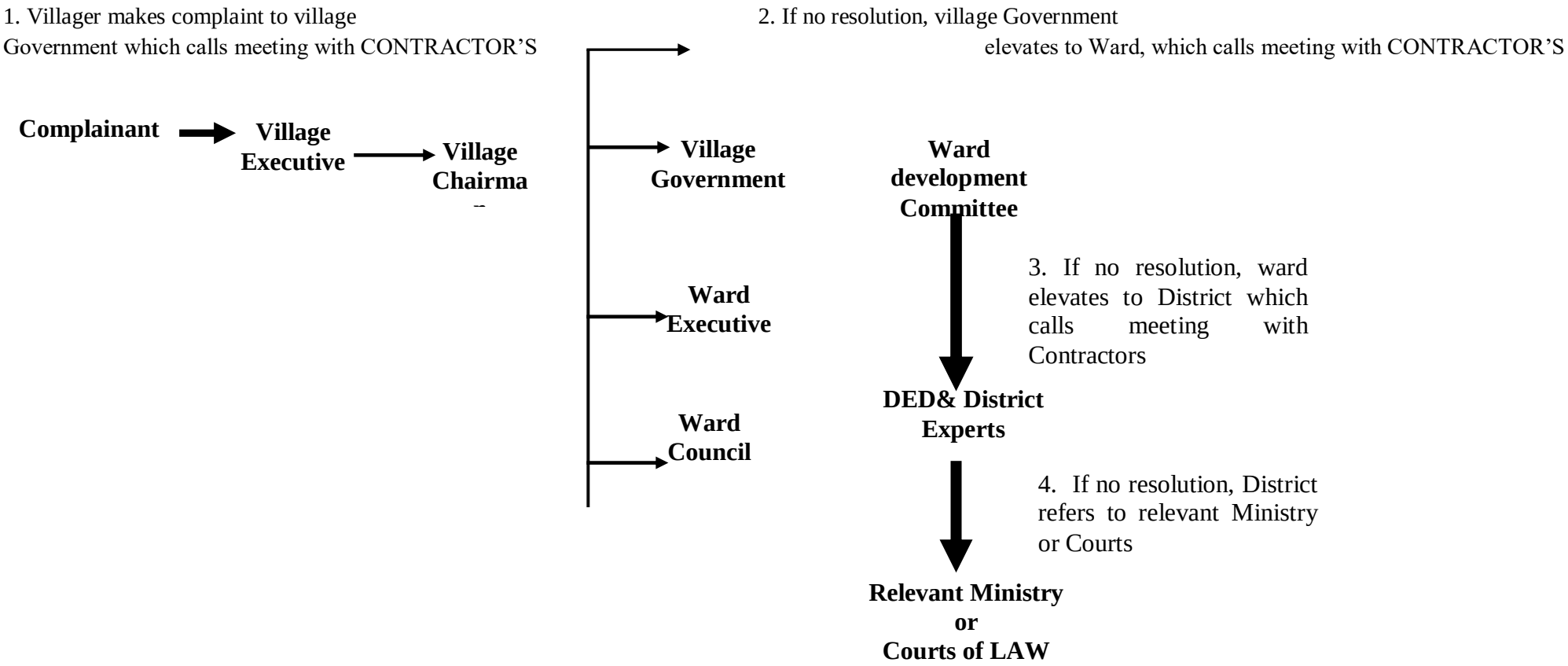
1. Contractor's complaint & suggestion boxes will be stationed at the contractor's site and other strategic sites.
2. All complaints submitted in boxes will be investigated and resolved by the contractor's sociologist and human resource manager within 48 hours. In the event that the settlement does not follow the predetermined criteria, the case must be presented to management for review**.** And if unresolved, problem is shared with senior management
    a) In the event of a serious complaint, the worker's complaints will be referred to the Confederation of Workers (TAMICO and project supervisory engineers).
    b) The resolution process ends with a written agreement signed by the employee and contractor's management. If not resolved, it will be submitted to the company's environmental, social and health and safety committee. If it remains unresolved, legal action may be taken by an employee.
    c) Throughout the process, the most important thing is that the documents (resolution agreements, appeals and investigation reports) will be kept in the Contractor's database.

3. Serious complaints will be resolved through the standing procedures described above in the "existing government complaints system"
    a) "Serious" is defined as including actual or imminent injury (which Contractor will also report to the police), damage to property or crops, water or chemical contamination.
    b) Complaints will receive an update on its resolution at least every two weeks until the issue is resolved.
    c) Contractor will meet with the aggrieved individual confidentially to determine the best procedure under which the resolution agreement can be obtained if the complaint is serious and genuine and the group or individual who has posted the complaint chooses not to seek resolution through the standing government grievance system.

4. Resolution Reporting

a) All complaints and related resolutions will be reported Monthly to the World Bank and NELSAP and Ngara DC

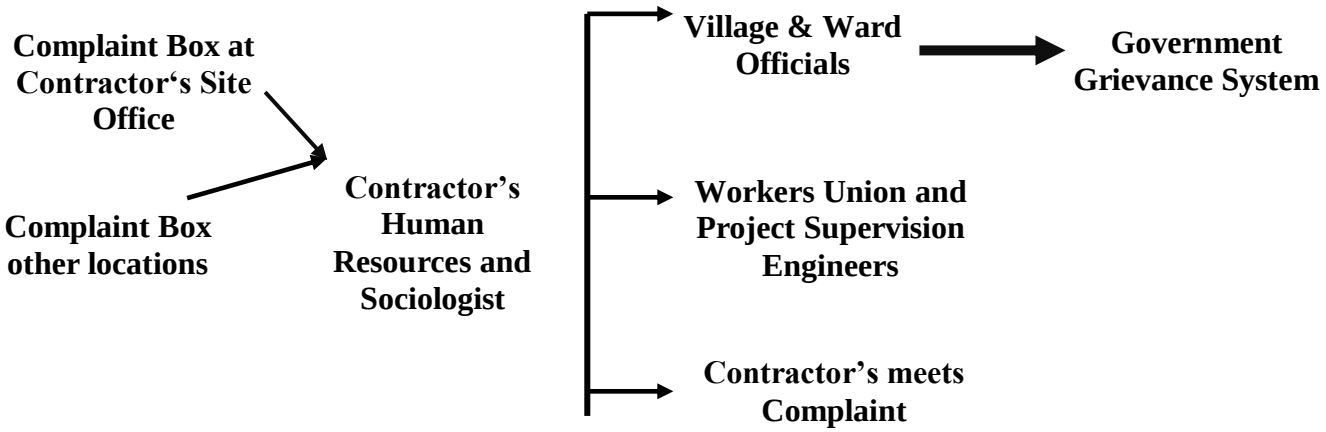
Existing Government Grievance System



CONTRACTOR'S Employees Grievance Mechanism

1. Contractor's Sociologist/Human Resource Officer reviewers box complaints within 48 hours

2. Serious complaints referred to government grievance system; labour issues to union; & confidential complaints met privately with appropriate CONTRACTOR'S Staff



Reporting

- *Complaints distributed to village & ward authorities biweekly*
- *Resolution reported at quarterly at World Banks, NELSAP and Ngara DC*