



**REPUBLIC OF SIERRA LEONE  
MINISTRY OF FINANCE**

**Sierra Leone Economic Diversification  
Project (SLEDP)**

**ENHANCING VISITORS' EXPERIENCE AND  
EDUCATION AT TACUGAMA CHIMPANZEE  
SANCTUARY**

**ENVIRONMENTAL AND SOCIAL IMPACT  
ASSESSMENT (ESIA)**

**FINAL REPORT**

*Prepared by:*  
Seth Larmie, c/o SAL Consult Limited, P. O. Box GP20200, Accra,  
Ghana  
August 2022



## ESIA PROJECT TEAM

Name	Position	Qualification	Contribution to Report
Seth A. Larmie	Chief Consultant/CEO	MSc. (Applied Science), VUB Brussels	-Quality Assurance
Dr. James Adomako	Associate Consultant, Terrestrial Ecologist	Ph.D. (Ecology), University of Ghana, Legon	-Terrestrial Flora and Fauna Study
Wilson A. Asamoah	Consultant, Environmental Management Specialist	M.Phil. (Environmental Science), University of Ghana, Legon.	-Stakeholder Consultations -Socioeconomic and environmental baseline studies -Drafting of report
Emmanuel N. A. Addo	Consultant, Environmental Monitoring Scientist	MSc (Environmental Sustainability and management), Wisconsin International University College, Ghana.	-Air quality and Noise monitoring -Water quality testing
Anthony Toban Davies	Environmental Consultant	BSc Zoology, University of Benin, Nigeria	-Stakeholder Consultations and environmental baseline studies

Email: [info@salconsultgh.com](mailto:info@salconsultgh.com)

## TABLE OF CONTENT

<b>ESIA PROJECT TEAM.....</b>	<b>I</b>
<b>TABLE OF CONTENT .....</b>	<b>II</b>
<b>LIST OF FIGURES.....</b>	<b>IV</b>
<b>LIST OF TABLES .....</b>	<b>V</b>
<b>LIST OF PLATES.....</b>	<b>V</b>
<b>ACRONYMS AND ABBREVIATIONS .....</b>	<b>VI</b>
<b>NON-TECHNICAL EXECUTIVE SUMMARY .....</b>	<b>VII</b>
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 BACKGROUND OF THE PROJECT .....	1
1.2 OBJECTIVE OF THE PROJECT .....	1
1.3 SCOPE OF THE ESIA .....	1
1.4 METHODOLOGY FOR THE ASSESSMENT PROCESS .....	2
1.5 THE ESIA REPORT CONTENT AND STRUCTURE .....	3
<b>2.0 PROJECT DESCRIPTION .....</b>	<b>4</b>
2.1 PROJECT SCOPE .....	4
2.2 PROJECT DESIGN AND COMPONENTS .....	4
2.2.1 <i>Infrastructure and Landscaping</i> .....	5
2.2.2 <i>Conservation Education and Innovation Centre</i> .....	5
2.2.3 <i>Botanical Garden</i> .....	8
2.2.4 <i>Utilities</i> .....	8
2.2.5 <i>Waste Management</i> .....	8
2.2.6 <i>Signage System</i> .....	9
2.3 PROPOSED PROJECT ACTIVITIES .....	9
2.3.1 <i>Preparatory Phase Activities</i> .....	9
2.3.2 <i>Construction Phase Activities</i> .....	10
2.3.3 <i>Operation Phase Activity</i> .....	11
<b>3.0 ANALYSIS OF ALTERNATIVES .....</b>	<b>12</b>
3.1 OPTIONS FOR CONSIDERATION .....	12
<b>4.0 POLICY, LEGAL AND REGULATORY FRAMEWORK .....</b>	<b>15</b>
4.1 POLICIES AND PLANS.....	15
4.2 NATIONAL REGULATORY FRAMEWORK .....	17
4.3 TOURISM SECTOR LEGISLATION AND RELATED REQUIREMENTS.....	21
4.4 LOCAL GOVERNANCE AND PLANNING REQUIREMENTS.....	22
4.5 PUBLIC HEALTH, SAFETY, SECURITY AND SOCIAL PROTECTION.....	22

4.6	ENVIRONMENTAL ASSESSMENT IN SIERRA LEONE .....	24
4.7	INSTITUTIONAL CONTEXT .....	27
4.8	WORLD BANK ENVIRONMENTAL AND SOCIAL OPERATIONAL POLICIES OR SAFEGUARD POLICIES .....	29
<b>5.0</b>	<b>ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS .....</b>	<b>32</b>
5.1	PROJECT LOCATION .....	32
5.2	PHYSICAL ENVIRONMENT .....	33
5.2.1	<i>Topography and Relief</i> .....	33
5.2.2	<i>Geology and Soils</i> .....	34
5.2.3	<i>Drainage</i> .....	35
5.2.4	<i>Climate</i> .....	37
5.2.5	<i>Environmental Quality</i> .....	37
5.3	BIOLOGICAL ENVIRONMENT .....	38
5.3.1	<i>Vegetation</i> .....	38
5.3.2	<i>Fauna</i> .....	39
5.4	SOCIO-ECONOMIC ENVIRONMENT .....	40
5.4.1	<i>Governance Structure</i> .....	40
5.4.2	<i>Demography</i> .....	40
5.4.3	<i>Education and Literacy</i> .....	41
5.4.4	<i>Economic Activities</i> .....	42
5.4.5	<i>Access to Basic Services</i> .....	43
5.4.6	<i>Health</i> .....	44
5.4.7	<i>Gender</i> .....	44
5.4.8	<i>Land Ownership/Tenure</i> .....	45
<b>6.0</b>	<b>POTENTIAL ENVIRONMENTAL AND SOCIAL ISSUES AND IMPACTS .....</b>	<b>46</b>
6.1	PROJECT AREA OF INFLUENCE .....	46
6.2	GEOGRAPHICAL AREA OF INFLUENCE .....	46
6.3	ENVIRONMENTALLY SENSITIVE AREAS TO BE INFLUENCED .....	47
6.4	COMMUNITY INFLUENCE AND VULNERABLE GROUPS .....	47
6.5	PROJECT ACTIVITIES OF ENVIRONMENTAL AND SOCIAL CONCERN .....	47
6.5.1	<i>Preparatory Phase Activities</i> .....	47
6.5.2	<i>Construction Phase Activities</i> .....	48
6.5.3	<i>Operation Phase Activities</i> .....	48
6.5.4	<i>Decommissioning Phase Activities</i> .....	48
6.6	CRITERIA OF IMPACT EVALUATION .....	48
6.6.1	<i>Duration of the Impact</i> .....	48
6.6.2	<i>Extent of the Impact</i> .....	49
6.6.3	<i>Intensity of the Impact</i> .....	49
6.6.4	<i>Impact severity</i> .....	49
6.7	POTENTIAL POSITIVE IMPACTS .....	49
6.7.1	<i>Creation of employment opportunities</i> .....	50
6.7.2	<i>Increased commerce and other economic activities</i> .....	50
6.7.3	<i>Improvement in social services</i> .....	50
6.7.4	<i>Cultural empowerment and exchange</i> .....	50

6.7.5	<i>Enhanced conservation awareness in the local community</i>	50
6.7.6	<i>Avenue for research, teaching and learning</i>	51
6.8	POTENTIAL NEGATIVE IMPACTS	51
6.8.1	<i>Preparatory and Construction Phase Potential Adverse Impacts</i>	51
6.8.2	<i>Operation Phase Potential Adverse Impacts</i>	56
<b>7.0</b>	<b>PROPOSED MITIGATION AND MANAGEMENT MEASURES</b>	<b>60</b>
<b>8.0</b>	<b>ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN</b>	<b>66</b>
8.1	ESMP IMPLEMENTATION	80
8.1.1	<i>Institutional Arrangement and Responsibilities</i>	80
8.2	MONITORING AND REPORTING	81
<b>9.0</b>	<b>DECOMMISSIONING</b>	<b>86</b>
9.1	PRE-DECOMMISSIONING ASSESSMENT	86
9.2	DECOMMISSIONING PHASE ACTIVITIES	86
9.2.1	<i>Dismantling and Removal of Structures and Equipment</i>	86
9.2.2	<i>Solid Waste Management</i>	87
9.3	POST-DECOMMISSIONING ASSESSMENT	87
<b>10.0</b>	<b>CAPACITY BUILDING AND TRAINING</b>	<b>88</b>
10.1	MAJOR INSTITUTIONS	88
10.2	CAPACITY BUILDING REQUIREMENTS	88
10.3	PUBLIC ENGAGEMENT/SENSITIZATION	89
<b>11.0</b>	<b>PUBLIC CONSULTATIONS AND DISCLOSURE</b>	<b>90</b>
11.1	OBJECTIVES OF THE CONSULTATIONS	90
11.2	STAKEHOLDERS IDENTIFIED	90
11.3	OUTCOME OF CONSULTATIONS	91
11.4	GRIEVANCE REDRESS MECHANISM	98
<b>12.0</b>	<b>ESMP IMPLEMENTATION BUDGET</b>	<b>104</b>
<b>CONCLUSION</b>		<b>105</b>
<b>ANNEXES</b>		<b>106</b>

## LIST OF FIGURES

FIGURE 2- 1:	LOCATION OF PROPOSED PROJECT	6
FIGURE 2- 2:	SCHEMATIC DRAWING OF THE CONSERVATION EDUCATION AND INNOVATION CENTRE	7
FIGURE 5- 1:	MAP OF SIERRA LEONE SHOWING THE WESTERN AREA	32
FIGURE 5- 2:	MAP OF THE WESTERN AREA RURAL DISTRICT OF SIERRA LEONE SHOWING THE PROJECT LOCATION (MARKED)	33
FIGURE 5- 3:	MAP OF THE SOIL FORMATION TYPE IN FREETOWN (UNDP & FAO 1980)	35
FIGURE 5- 4:	DRAINAGE MAP OF THE WESTERN AREA CATCHMENT IN SIERRA LEONE	36
FIGURE 5- 5:	CLIMATE DATA FOR THE WESTERN AREA RURAL DISTRICT	37

FIGURE 11- 1: PROCEDURE FOR GRIEVANCE REDRESS.....	103
--	-----

## LIST OF TABLES

TABLE 3- 1: ANALYSIS OF ALTERNATIVE PROJECT OPTIONS .....	12
TABLE 4- 1: RELEVANT LEGAL FRAMEWORK AND KEY COMPLIANCE REQUIREMENTS.....	15
TABLE 4- 2: ENVIRONMENTAL ASSESSMENT PROCEDURES IN SIERRA LEONE .....	25
TABLE 4- 3: SUMMARY OF WORLD BANK OPS.....	30
TABLE 5- 1: DISTRICT POPULATION DATA .....	41
TABLE 5- 2: PERCENTAGE OF THE POPULATION 6 YEARS AND OLDER BY HIGHEST EDUCATIONAL LEVEL ATTAINED.....	41
TABLE 8- 1: ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN.....	67
TABLE 8- 2: ROLES AND RESPONSIBILITIES OF KEY ACTORS .....	80
TABLE 8- 3: ENVIRONMENTAL AND SOCIAL MONITORING PLAN.....	82
TABLE 11- 1: DETAILS OF STAKEHOLDER ENGAGEMENT.....	93
TABLE 11- 2: GRIEVANCE MANAGEMENT GUIDE.....	101
TABLE 12- 1: ESTIMATED BUDGET TO IMPLEMENT ESMP .....	104

## LIST OF PLATES

PLATE 5- 1: EVIDENCE OF LANDSLIDES IN THE WESTERN AREA RURAL DISTRICT .....	34
PLATE 5- 2: STATE OF THE VEGETATION AT TACUGAMA.....	39
PLATE 5- 3: SOME MAMMAL AND BIRD SPECIES IN THE PROJECT AREA.....	40
PLATE 5- 4: WATER SUPPLY SITUATION IN TACUGAMA.....	43
PLATE 11- 1: MEETINGS WITH PROJECT PROPONENTS .....	97
PLATE 11- 2: MEETINGS WITH REPRESENTATIVES OF GOVERNMENT INSTITUTIONS .....	97
PLATE 11- 3: COMMUNITY ENGAGEMENT .....	98

## ACRONYMS AND ABBREVIATIONS

CHC	Community Health Centers
CHP	Community Health Posts
DCP	Decommissioning and Site Closure Plan
DHMT	District Health Management Team
EIS	Environmental Impact Statements
EPA	Environmental Protection Agency
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GoSL	Government of Sierra Leone
GRC	Grievance Redress Committee
LEQ	Ambient Noise Levels
NTB	National Tourist Board
O&M	Operations and Maintenance
OPs	Operational Policies
PAPs	Project Affected Persons
PCU	Project Coordinating Unit
PM	Particulate Matter
PPP	Public Private Partnership
RO	Reverse Osmosis
SLBC	Sierra Leone Broadcasting Corporation
SLEDP	Sierra Leone Economic Diversification Project
SLS	Sierra Leone Standard
SMEDA	Small and Medium Scale Enterprises Development Agency
SMMEs	Small, Medium and Micro-enterprises
WAPNP	Western Area Peninsular National Park
WBG	World Bank Group
WHO	World Health Organization

## **NON-TECHNICAL EXECUTIVE SUMMARY**

### **Introduction**

The Government of Sierra Leone (GoSL) with assistance from the World Bank Group (WBG) is implementing the Sierra Leone Economic Diversification Project (SLEDP) to improve the tourism business environment, enhance market access and improve tourism products and services. The project aims to increase investment and entrepreneurship in non-mining productive sectors, including tourism. The proposed Enhancing Visitors' Experience and Education at Tacugama project aims at developing a "Conservation Education and Innovation Centre" and a botanical garden close to the existing Sanctuary, "to provide Sierra Leone with a world class educational tourist destination that attracts visitors from around the world". The Centre and botanical gardens would complement TCS, while each being separate tourist destination in their own right.

This project, which is one of six similar projects at different locations across Sierra Leone, is being developed as part of the SLEDP.

### **Objectives**

The primary objective of this Environmental and Social Impact Assessment report is to identify key environmental and social issues that can affect project viability, sustainability, and community safety/health and to provide appropriate mitigation and management interventions for identified adverse impacts.

### **Legal and Institutional Framework**

The relevant legal and institutional frameworks include:

- The Constitution of Sierra Leone, 1991
- National Tourism Policy, 2017
- The National Environmental Policy, 1994
- The National Lands Policy, 2015
- The National Water and Sanitation Policy, 2010
- National Biodiversity Strategic Action Plan 2017
- The National Action Plan on Gender Based Violence, 2012 – 2016
- The Sierra Leone National Action Plan 2016 – 2018
- Environment Protection Agency Act, 2008 and the EPA (Amendment) Act, 2010
- Environment Protection Agency (Environmental Impact Assessment License) Regulations 2010
- National Protected Area Authority and Conservation Trust Fund Act, 2012
- The Forestry Act, 1988
- Forestry Regulations, 1990
- Wildlife Conservation Amendment Act, 1990
- National Disaster Management Agency Act, 2020
- Sierra Leone Water Company Act, 2017
- The Road Transport Authority Act (1996) (Amended to the Roads Safety Authority Act, 2016)



- The Road Maintenance Fund Administration Act, 2010
- Employers and Employed Act, 1960
- Factories Act, 1974
- The Development of Tourism Act 1990
- Sierra Leone Local Content Agency Act, 2016
- Sierra Leone Small and Medium Enterprises Development Agency Act, 2016
- Public Private Partnership Act, 2014
- The Finance Act, 2016
- Local Government (Amendment) Act, 2017;
- The Local Government Act, 2004
- Public Health Amendment Act, 2014
- Sierra Leone Health Service Commission Act, 2011
- Persons with Disability Act, 2011
- National HIV and AIDS Commission Act, 2011
- National Security and Central Intelligence Act, 2002
- Sexual Offences Act, 2012
- The Domestic Violence Act, 2007

### Environmental and Social Baseline Conditions

The Western Area Rural District consists of hills and mountains in the highlands that rise steeply to heights of between 1,000 and 1,500 m above mean sea level with a tropical monsoon climate which is wetter than the more typical West African tropical wet and dry climate.

The project site is located within the Western Area Peninsula National Park, which is a protected forest with dense vegetation and home to species such as *Lophira alata*, *Heritiera utilis*, *Klainedoxa gabonensis*, *Uapaca guineensis*, *Erythrophleum ivorensis* and *Piptadeniastrum africanum*. Rock outcrops and secondary forests occur in this type. Species such as *Musanga cecropioides*, *Carapa procera*, *Macaranga barteri*, *Anthocleista nobilis*, *Bridelia micrantha*, *Myrianthus arboreus* and *Sterculia tragacantha*, commonly occur in the secondary forests. Logging activities over several years have largely led to the replacement of the primary closed forest to secondary forest in most places. At the project site, species recorded include *Sterculia tragacantha*, *Piptadeniastrum africanum*, *Celtis zenkeri* and *Harungana madagascariensis*. *Piptadeniastrum africanum* is the only characteristic species of the Moist Evergreen Forest zone that was recorded on the site. The climber tangle was composed of species such as *Scleria boivinii*, *Smilax kraussiana*, *Tetracera potatoria* and *Ipomoea mauritiana*. Common shrubs include *Chromolaena odorata*, *Melanthera scandens* and *Stachytarpheta cayennensis*. There is no species of conservation concern at the project site as majority of the species are of Least Concern (LC) or Not Yet Assessed on the IUCN Red List

The area provides important habitat for some 400 bird and 50 mammal species, including critically endangered species such as the Western Chimpanzee (*Pan troglodytes verus*), the endangered Jentink's Duiker (*Cephalophus jentinki*) also known as gidi-gidi in Krio and the vulnerable iconic African bird *Picathartes gymnocephalis*. Other animals in the area are monkeys, snakes, butterflies and tropical fish. Deforestation within the WAPNP and urbanization of the land surrounding it shrinks the habitat of these species, increases the potential for human-wildlife conflict, and makes it easier for

poachers to access the Park. In the northern sections of the Park, poachers frequently blanket the forest floor with snares, trapping and killing everything that falls into them.

The district is the second most literate in the country with only 29.2% of the population without any form of education. The main economic activities in the area are agriculture, fishing, trading, stone and sand mining. A few of the population have salaried work, as well as unskilled and skilled work such as dressmaking, carpentry, masonry etc.

### **Potential Impacts and Mitigation**

Some beneficial impacts identified are creation of avenues for research, employment opportunities for skilled, semi-skilled and unskilled labour at the construction stage and as tour guides, waiters, parking attendants etc. at the operation stage. There will be increased commerce and other economic activities directly and indirectly through the supply of goods and the necessary services for tourist activities resulting in increased revenue for SMMEs such as restaurants, supermarkets, hotels/guest houses, art markets, car rentals, hairdressing, sewing, mechanic shops. Tourism facilities are expected to stimulate improvement in social services such as electricity, and water supply as well as public services like healthcare and education. Cultural empowerment and exchange will result from tourists meeting locals and learning about their cultures while locals also enhance their language and social skills and cultural knowledge of other places. Also, the appreciation of nature by tourists will enhance conservation awareness in the local community.

The project will have some adverse impacts and they include:

#### Occupational health and safety risks

Exposure of workforce to workplace mechanical hazards e.g. crushing, impact, shearing, stabbing, trapping, entanglement, cutting/severing etc., non-mechanical hazards e.g., vibration, noise, radiations, dust, fumes, lighting, electricity, hazardous substances, extreme temperature, ergonomics, etc. and potential infection and spread of COVID-19, HIV/AIDS etc. Occupational health and safety risks are localised, small scale and short term. However, they are highly sensitive because they impact human lives and could lead to mortality and long-term indisposition of victims hence rated major in significance.

At the operations phase, workers employed to manage the facility could be exposed to fire hazards from electrical faults and negligence in handling fire, especially in the restaurant kitchen. Also, they could be exposed to minor work-related injuries such as falls, trips and slips, potential infection, spread of COVID-19 and other emergencies.

Occupational health and safety risks at this stage are localised, small scale, and less likely to occur compared to the construction stage. However, they are strong in intensity as they affect human lives and could lead to mortality and long-term indisposition of victims hence rated moderate in significance.

#### Poor labour working conditions

Absence of employment contracts, discrimination, lack of proper welfare facilities such as toilets, changing rooms, clean drinking water, and shaded areas for resting during breaks, restriction of rights such as freedom of association and speech, expression of grievances and other poor conditions of work are likely to be created. The impact is however, localised and short term and highly sensitive since subjecting employees to poor conditions of service or work are against the Sierra Leone Employers and Employed Act, 1960 and international best practice. Hence this impact is moderately significant.

#### Destruction of vegetation and displacement of fauna

Land preparation activities will lead to the destruction of some common vegetation, mostly shrubs and grasses, and a few trees. Habitats of common soil organisms such as earthworms will also be destroyed. However, the project site has existing facilities with sparse vegetation and a little fauna, especially in the dry season. The vegetation is that of secondary forest and forest regrowth and common species such as *Sterculia tragacantha*, *Piptadeniastrum africanum*, *Celtis zenkeri*, *Harungana madagascariensis*, *Scleria boivinii*, *Smilax kraussiana*, *Tetracera potatoria*, *Ipomoea mauritiana*, *Chromolaena odorata*, *Melanthera scandens* and *Stachytarpheta cayennensis* are not species of conservation concern as per the IUCN Red List.

Impact on vegetation is localized (site-specific), short term and small scale as only a few trees of no conservation concern will be affected. This impact therefore rated minor in significance or severity.

Clearing of vegetation will lead to loss of habitats for fauna including reptiles (snakes and lizards), ants, amphibians (frogs), earthworms etc. The impact is short-term, localized and minor in intensity as it will affect a very small population. The impact is therefore classified as moderate in significance.

#### Soil degradation

Clearing of project site vegetation as part of land preparation, and excavation for drains, lighting cables and foundation of structures would disturb the soil and lead to soil erosion. Considering the project area's undulating topography, transportation of the loose soil by runoff especially in the rainy season and will create gullies that are unsightly. Also, oil spillages and improperly disposed waste oils/lubricants from the maintenance of construction equipment and vehicles could contaminate soils. These could affect flora and destroy soil fauna such as earthworms and their habitats. The impact is localized, temporary and of average severity hence it is considered moderate.

#### Air Pollution

Clearing and preparation of land for construction of access roads and other project facilities and transport of materials such as sand, gravels, and excavated spoil on untarred roads will lead to emission of particulate matter i.e. dust. Exhaust fumes will also be emitted from operation of poorly maintained vehicles and equipment. These could adversely affect air quality, especially in the dry season. Particulate matter can be carried by winds over some distance into neighbouring communities and affect the quality of air as well as contribute to respiratory diseases in those areas. However, this impact is expected to be localized, temporary and of average intensity. The impact is considered moderate in significance.

#### Water Pollution

Sediment from land preparation, oil waste from equipment and vehicle maintenance, wastewater from washing of construction vehicles and domestic waste from construction workers and food vendors could be transported into the Congo and Takiyama rivers by runoff and reduce the quality of water. Sediments could increase turbidity of the water and make it unpleasant for domestic use. Oil wastes could poison aquatic organisms in the water as well as affect the health of locals who use it for drinking and cooking purposes. The impact is localised, temporary in duration, average in intensity hence considered moderate in significance.

#### Noise and Vibration Nuisance

Construction activities including operation of construction equipment, movement of haulage vehicles and tooting of horns are expected to produce vibrations and noise levels in the range of 80 - 95 dB (A). Vibrations and high noise levels could affect the personnel operating the machines as well as the residents within the project community. Workers operating vibrating equipment such as poker vibrators could be exposed to musculo-skeletal disorders. Exposure to high noise levels could also damage eardrums and lead to hearing impairment in workers. This impact is temporary and localized, affecting workers within the immediate environs of the noise and vibration generating activity. Also, it is average in intensity as it could cause discomfort and loss of hearing ability. It is therefore considered to be of moderate significance.

At the operations phase, sources of noise include vehicular engines, generators and other noise-generating equipment, music, PA systems, shouting and chatter by tourists. Noise levels could go high depending on the occasion and the number of revellers at a particular time. This impact is localised, intermittent, over just the construction period, and weak in intensity hence classified as minor in significance.

#### Waste generation and disposal

Land preparation activities like vegetation clearance, earthworks like digging of trenches for drains and civil works will generate vegetative waste, excavated spoil, construction debris, pieces of steel/metal, packaging materials, plastic pieces, domestic waste etc. Liquid wastes expected to be generated include wastes from washing of construction equipment and vehicles, worker washrooms and canteen. Also, hazardous wastes including waste lubricants/oils, leftover paints, thinners etc. will be generated. If not properly managed, wastes could be washed off into and clog drains, decomposing organic waste like leftover food could produce foul smell/odour, vermin, and facilitate the outbreak of sanitary related diseases e.g. cholera by creating breeding grounds for disease-causing vectors such as houseflies. Wastes entering aquatic environments e.g. lubricants and plastics could poison and smother fishes and other aquatic organisms. The impact is local, temporary and of a high intensity hence considered major in significance.

At the operations phase, solid waste including general waste i.e. plastic and paper packaging, cans, leftover food etc. will be generated. Also, liquid waste will be generated from washrooms, kitchens etc. However, considering that waste can be managed, the impact is moderate.

#### Community safety concerns

Community safety concerns will largely be traffic-related accidents involving trucks hauling materials through narrow, hilly and curvy community roads. Also, locals visiting the project site could be exposed

to hazards including trip and falls into trenches for drains and excavations, impact from falling objects and moving vehicles/equipment, cuts and bruises from sharp objects littering project site and fire outbreaks from electrical faults and negligence of workers, during activities such as welding. These concerns are localised and short term. However, due to its potential to cause fatalities or long-term injuries, the impact intensity is rated average and the impact considered moderately significant.

At the operations phase, increase in vehicular and human traffic on the roads in the project area, is likely to lead to cases of motor accidents and knockdowns. Such accidents can cause injuries, fatalities, loss of property and/or traffic disruptions along the routes. Also, tourists could stray into unauthorized areas and fall on the slopes of the mountain.

Community safety concerns are largely localised making management possible, intermittent, and strong in intensity as it can lead to loss of property and lives. It is therefore considered moderate in significance.

#### Attacks by wild animals

Different animals may inflict injury and even cause death to humans, both in the wild and in domestic environments as a result of blunt or sharp force trauma. The nature of the attack is dependent upon the animal involved, the environment, the type of interaction that was occurring before and at the time of the episode and the characteristics of the victim. Within the project site, tourists and even nearby community members, especially children could be victims of attacks from wild animals like chimpanzees and snakes. Chimpanzees at the sanctuary, who mostly have had troubled pasts i.e. injured, orphaned and abandoned, could hurl stones and other objects at tourist. They may also escape and maul or kill their victims as chimpanzees are territorial in nature. Tourists or victims in such a situation will be defenceless as chimpanzees are five (5) times stronger than humans and injuries sustained could be severe.

However, there is very little likelihood of a severe attack as only one of such has been recorded in the twenty-seven (27) years of the sanctuary's operation. Also, chimpanzees are housed in enclosures with electric fence making escape difficult. Besides the one attack and occasional stone-pelting, there is no record of any form of attack, be it from snakes or other animals, despite the sanctuary constantly receiving visitors with some being resident at the Eco lodge.

The impact is localised, permanent and average in intensity as it has the potential to cause serious injury or fatality. Nevertheless, the likelihood of wild animal attacks occurring is low hence the impact is considered minor in significance.

#### Gender based violence

Workers with relatively high incomes will be working on the various sites. The site workers can lure young boys and girls, hawkers, food vendors, other petty traders who supply them food and other services and defile or rape them. Workers may also abuse themselves and/or supervisors. They can also do same to their wives, partners, children, hawkers, petty traders and food vendors physically or verbally over misunderstanding over prices of goods and services and other issues.

On site, managers and supervisors may solicit for sexual favours in exchange for employment opportunities, during negotiations for pay increment and improved conditions of service or in the assignment of tasks on site. Women may also be denied employment opportunities and /or their services may be undervalued on the basis of cultural norms.

The incidence of rape, defilement and other forms of Gender Based Violence is expected to be temporary, localised i.e. affecting mostly persons within the project area, and average in intensity as it could lead to injury, disability, or in extreme cases, death. However, since there are national laws in place to protect survivors, punish perpetrators and deter persons from engaging in these illegal activities, this impact is rated moderate in significance.

At the operations phase, tourists will come from neighbouring communities, other parts of the country and even outside the country into the project area. Interactions between the community especially women and tourists may lead to potential safety issues. If not properly managed, the influx of tourists could have a negative impact in the project area, especially in the context of high prevalence and social acceptability of violence against women and girls.

Women are likely to face discrimination and found in lower-paid, unskilled jobs. As poverty and unemployment is pervasive, they are more likely to experience poor working conditions, inequality of opportunity and treatment, violence, exploitation, stress and sexual harassment. Tourists may even get away with sexual harassment of female workers like waitresses and cleaners as the customer is always considered right.

Tourists who are normally outside their sphere of social control put up inappropriate behaviour such as sexual harassment of women and girls and illicit sexual relations with minors from the local community. The influx of tourists may increase the demand for sex work, the risk for trafficking of women for the purposes of sex work. There is also the risk of teenage pregnancy and forced marriages.

Also, employment of females may also cause shifts in power dynamics within households and between community members. This could lead to male jealousy and spousal violence.

This impact is localised, long-term and strong in intensity, considering that responsible bodies such as the Police Family Support Unit is inadequately resourced and lacks the capacity to offer the required GBV issues. The impact is therefore considered moderate in significance.

#### Public health issues

Improper waste management may allow growth of vectors of diseases such as houseflies and mosquitoes and lead to outbreak of diseases e.g. cholera, dysentery and malaria within the project community. Dust emissions from earthworks, trenching and excavation and fumes from vehicles and equipment operation could cause respiratory infections and minor throat and eye irritations in locals. Also, the presence of workers, increase in disposable cash and worker-community interactions could favour transmission of STDs and COVID-19. This impact could be regional as migrant workers may carry diseases both into or out of the project area and increase the disease prevalence in the receiving community. It is temporal in duration yet average in intensity as it could lead to extended morbidity or even death. The impact is therefore rated moderate in significance.

At the operations phase, the density of tourist visits increases interactions and the likelihood of disease transmission from one person to another e.g. COVID-19. The presence of tourists will also drive an increase in sex work and the associated sexually transmitted infections like HIV/AIDS. The impact here is rated major in significance.

### Security concerns

Construction works can be associated with theft and pilfering of construction materials normally from site workers and the general public. Site workers can also steal from private properties within the immediate project area. There may also be confrontations arising out of sexual assault, accidents and destruction of property by workforce, equipment or vehicles. This impact is localized, average in intensity but temporary hence considered moderate.

Tourists could be attacked by unscrupulous persons and robbed of their money and valuables. Incidents of theft, burglary and even armed robbery are expected to increase. Unsuspecting females i.e. locals and tourists could be attacked and raped especially in the night, and along deserted paths or in deserted areas. Cases of fraud could increase as tourists could be tricked into paying for goods and services that may never be offered. Economic inequality could lead to resentment and intolerance by locals which may result in confrontations. Violent behaviour on the part of tourists and abuse could also result in fights or clashes with locals. This impact is long-term, localised and average in intensity hence classified as moderate in significance.

### Impact on social and cultural structures

Values associated with traditional life include songs, crafts, spiritual beliefs, oral history, traditional languages, innovations and practices of the project community. These values could be affected by the presence of migrant workers who may not understand and have no regard for them. This has the potential of eroding distinct values that form part of the identity of locals. This impact is temporary, localised, average in intensity as it could lead to social/cultural decadence. However, the project is expected to employ mostly local labour especially for unskilled jobs making the effect of cultural dilution minimal. The impact is therefore rated minor in significance.

At the operations phase, pre-tourist culture is likely to be affected by the project implementation. Traditional values and practices are likely to be altered as tourists may not understand and have no regard for them. Social problems like drug abuse, prostitution, and gambling are expected.

Also, demand for accommodation, entertainment, food and beverages, transportation services may increase the cost of living making rent, food etc. making it unaffordable for locals and driving them into deeper poverty. Increased traffic and tourist activities could hinder the daily life of locals. The impact is localised, long-term or permanent, and strong in intensity as it affects values which are the foundation on which societies are built. However, there is the opportunity for cultural exchange where tourists get to learn and experience local culture hence the impact is considered moderate in significance.

### Impact on cultural heritage resources

Cultural heritage resources such as shrines, cemeteries, sacred groves, rivers and artefacts form part of the spiritual and cultural fabric of most host communities and any damage to them is considered a desecration of its sacredness. Construction activities such as vegetation and land clearance and excavation pose the most significant risk to cultural heritage resources. However, there are no known cultural heritage resources within the project area. Also, in undertaking construction activities, cultural heritage resources or archaeological material could be encountered or chanced upon. In



chance find situations, a chance find procedure (**Annex 5**) will be followed. This impact is local, temporary and average in intensity hence it is rated minor in significance.

Adverse impacts of the proposed project on the environment will generally be moderate as the key project activities, upgrade and construction, will take place mostly within existing facilities. The table below provides a summary of mitigation measures for identified adverse impacts during both construction and operation phases of the project.

World Bank OP/BP	Potential Impact	Construction Phase Mitigation	Operation Phase Mitigation
<b>OP/BP 4.01 Environmental Assessment</b>	Occupational health and safety	<ul style="list-style-type: none"> <li>• Good housekeeping around work area must be ensured to prevent slips, trips &amp; falls.</li> <li>• Only trained and competent workers should be allowed to carry out work, and must be well briefed on safe working procedures.</li> <li>• Mandatory and basic PPE must be worn.</li> <li>• Have accident and incident reporting form available to record accidents and near-misses</li> <li>• Provide standard safety signage and lighting at suitable locations</li> <li>• Fence and/or barricade around trenches and excavations</li> <li>• Provide alternative safe routes for pedestrians in case their normal routes become unsafe due to ongoing work</li> <li>• Provide qualified first aiders and ensure availability of a well-stocked first aid box on construction site</li> <li>• Conduct regular toolbox meetings</li> <li>• Properly segregate pedestrians and machinery at construction sites</li> </ul>	<ul style="list-style-type: none"> <li>• Put in place fire prevention and emergency response measures</li> <li>• Ensure disease prevention and COVID-19 control measures are in place</li> <li>• Provide measures to ensure security of persons and property</li> <li>• Keep facility clean and free of obstructions at all times to prevent injury from falls, trip and slips.</li> <li>• Ensure workers have the required competence to execute assigned tasks.</li> </ul>
	Poor labour working conditions	<ul style="list-style-type: none"> <li>• Provide all workers with signed contracts that are consistent with national labour laws</li> <li>• Provide welfare facilities such as potable drinking water, shades, restrooms etc. for workers.</li> <li>• Establish labour grievance management mechanism</li> <li>• Ensure workers sign Code of Conduct (CoC)</li> </ul>	<ul style="list-style-type: none"> <li>• Provide all workers with signed contracts that are consistent with national labour laws</li> <li>• Provide welfare facilities such as potable drinking water, shades, restrooms etc. for workers.</li> <li>• Ensure that only competent workers are assigned tasks and provide training where necessary</li> <li>•</li> </ul>
	Destruction of vegetation and displacement of fauna	<ul style="list-style-type: none"> <li>• Clear only area required</li> <li>• Clear only area required for the project</li> <li>• Stray animals that are observed at or around project sites should be given safe passage to nearby bush and not killed.</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>



World Bank OP/BP	Potential Impact	Construction Phase Mitigation	Operation Phase Mitigation
		<ul style="list-style-type: none"> <li>Hunting and or killing of wildlife/animals in bushes around project site by construction/other workers should be prohibited and made punishable.</li> </ul>	
	Soil degradation	<ul style="list-style-type: none"> <li>Manage waste and sediments properly to prevent it from entering and polluting nearby waterbodies.</li> <li>Avoiding washing of vehicles, machinery, equipment near water bodies.</li> <li>Treatment of effluents and wastewater from construction site before discharging into water bodies</li> <li>Avoid seepage of oil and other hazardous waste which could contaminate ground water</li> <li>Training of workers on water pollution preventive measures</li> </ul>	<ul style="list-style-type: none"> <li>N/A</li> </ul>
	Air Pollution	<ul style="list-style-type: none"> <li>Dust control measures including regular dousing of ground/roads, provision of nose covers, speed limit restrictions e.g., 20km/hr etc.</li> <li>Discourage idling of engines to minimise emission of vehicular fumes</li> </ul>	<ul style="list-style-type: none"> <li>Discourage idling of engines to minimise emission of vehicular fumes</li> </ul>
	Water Pollution	<ul style="list-style-type: none"> <li>Manage waste and sediments properly to prevent it from entering and polluting nearby waterbodies.</li> <li>Avoiding washing of vehicles, machinery, equipment near water bodies.</li> <li>Treatment of effluents and wastewater from construction site before discharging into water bodies</li> <li>Avoid seepage of oil and other hazardous waste which could contaminate ground water</li> <li>Training of workers on water pollution preventive measures</li> </ul>	<ul style="list-style-type: none"> <li>Manage waste properly to prevent it from entering and polluting nearby waterbodies.</li> <li>Treat and reuse water to prevent over-abstraction</li> <li>Harvest rainwater and use e.g. for watering grass, flushing toilet etc.</li> </ul>
	Noise and Vibration Nuisance	<ul style="list-style-type: none"> <li>Unnecessary tooting of horn by drivers must be discouraged.</li> <li>Provide silencers on or properly house all noise generating equipment such as generators.</li> <li>Regularly service construction machinery, equipment, and vehicles to reduce noise generation</li> <li>Provide workers with ear muffs/plugs.</li> </ul>	<ul style="list-style-type: none"> <li>Discourage indiscriminate honking by drivers.</li> <li>Keep music and noise from PA systems low, especially in the evening.</li> <li>Provide silencers on or properly house all noise generating equipment such as generators.</li> </ul>
	Waste generation and disposal	<ul style="list-style-type: none"> <li>Waste bins must be provided and well labelled for waste segregation and disposal.</li> <li>Only licensed waste management companies must be engaged to collect</li> </ul>	<ul style="list-style-type: none"> <li>Waste bins must be provided and well labelled for waste segregation and disposal.</li> <li>Only licensed waste management companies must be engaged to</li> </ul>

World Bank OP/BP	Potential Impact	Construction Phase Mitigation	Operation Phase Mitigation
		<p>and dispose of waste collected at approved dumping sites.</p> <ul style="list-style-type: none"> <li>• Regular toolbox talk on waste management must be provided to operatives/workers at the facility.</li> <li>• Have SOPs for managing hazardous and non-hazardous waste.</li> </ul>	<p>collect and dispose of waste collected.</p> <ul style="list-style-type: none"> <li>• Liquid waste should be treated before discharged into the environment</li> <li>• Have SOPs for managing hazardous and non-hazardous waste.</li> </ul>
	Community safety concerns	<ul style="list-style-type: none"> <li>• Trained flagmen (to slow down traffic) or parking attendants must be used to ensure safety when vehicles are entering or leaving the construction site.</li> <li>• Appropriate warning signs should be put in place to warn the public especially motorists.</li> <li>• Have accident and incident reporting form to record accidents and near-misses.</li> <li>• Fence all excavations/trenches within communities to reduce risks of falling in trenches</li> </ul>	<ul style="list-style-type: none"> <li>• Trained flagmen (to slow down traffic) or parking attendants must be used to ensure safety when vehicles are entering or leaving the facility.</li> <li>• Appropriate warning signs should be put in place to warn the public especially motorists.</li> <li>• Have accident and incident reporting form to record accidents and near-misses.</li> <li>• Employ tourist guides, possibly from the local community, to conduct facility tours</li> <li>• Give tourists orientation on safe and restricted areas and post appropriate signs at such locations</li> </ul>
	Attacks by wild animals	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure the fences of enclosures or dens are intact</li> <li>• Establish an early warning system for animal escape</li> <li>• Discourage unaccompanied tours i.e. all tours should be led by a trained tour guide</li> <li>• Encourage tourists to keep kids and pets close</li> <li>• Advise tourists to stay on trails, stay alert and wear appropriate clothing and boots to prevent snakebites and other attacks</li> <li>• Have dedicated medical professionals onsite to provide first aid in the event of an attack</li> <li>• Have an ambulance on standby or arrange with nearest health facility to provide service</li> </ul>
	Public health issues	<ul style="list-style-type: none"> <li>• Organize trainings on COVID-19 and Sexually Transmitted Diseases (STDs) for the workers and the community to create awareness.</li> <li>• Provide female and male condoms in washrooms for workers and patrons.</li> </ul>	<ul style="list-style-type: none"> <li>• Sensitize community on COVID-19 and STDs.</li> <li>• Encourage health facilities to provide locals with condoms for STD prevention.</li> </ul>

World Bank OP/BP	Potential Impact	Construction Phase Mitigation	Operation Phase Mitigation
		<ul style="list-style-type: none"> <li>• Conduct daily temperature screening of workers and patrons.</li> <li>• Provide handwashing stations and sanitizers</li> <li>• Ensure workers and visitors adhere to all COVID-19 protocols including wearing of face mask and social distancing.</li> <li>• Encourage workers to get vaccinated.</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct daily temperature screening of employees and patrons.</li> <li>• Provide handwashing stations and sanitizers</li> <li>• Ensure workers and visitors adhere to all COVID-19 protocols including wearing of face mask and social distancing.</li> <li>• Encourage workers to get vaccinated.</li> </ul>
	Security concerns	<ul style="list-style-type: none"> <li>• Provide adequate security by liaising with Police to conduct regular patrols</li> <li>• Sensitize local community on cultural tolerance and grievance mechanisms to prevent confrontations</li> </ul>	<ul style="list-style-type: none"> <li>• Provide adequate lighting around the facility to prevent attacks in the dark</li> <li>• Provide adequate security by liaising with Police to conduct regular patrols</li> <li>• Employ local youth to provide security at car parks</li> <li>• Sensitize local community on cultural tolerance and grievance mechanisms to prevent confrontations</li> </ul>
	Gender based violence	<ul style="list-style-type: none"> <li>• Require all contractors to have a Code of Conduct for project workers that prohibits gender-based violence (including sexual exploitation and abuse and sexual harassment (SEA/SH) as well as child and forced labour); prohibits sexual contact with persons under 18; and contains clear sanctions in the event of breach</li> <li>• Require all contractors to regularly train employees on Codes of Conduct and how to report incidents;</li> <li>• Require all contractors to document other SEA/SH risk mitigation measures (including incident response procedures) in their c-ESMPs or other safeguards instruments</li> <li>• Ensure that the project's Grievance Mechanism has special procedures for confidentially responding to GBV/SEA/SH complaints with a survivor-centred approach;</li> <li>• Put in place a referral pathway to GBV service providers linked to the Grievance Mechanism;</li> </ul>	<ul style="list-style-type: none"> <li>• Facility must have and require all third-party contractors to have a Code of Conduct for workers that prohibits gender-based violence (including sexual exploitation and abuse and sexual harassment (SEA/SH) as well as child and forced labour); prohibits sexual contact with persons under 18; and contains clear sanctions in the event of breach</li> <li>• Facility must have and require all third-party contractors to regularly train employees on Codes of Conduct and how to report incidents;</li> <li>• Ensure that the facility's Grievance Mechanism has special procedures for confidentially responding to GBV/SEA/SH complaints with a survivor-centred approach;</li> <li>• Put in place a referral pathway to GBV service providers linked to the Grievance Mechanism;</li> <li>• Develop an incident response protocol to guide the IA's response</li> </ul>

World Bank OP/BP	Potential Impact	Construction Phase Mitigation	Operation Phase Mitigation
		<ul style="list-style-type: none"> <li>• Develop an incident response protocol to guide the IA's response to GBV/SEA/SH incidents (Accountability and Response Framework)</li> <li>• Sensitize communities on GBV/SEA/SH risks as well as reporting mechanisms and expectations;</li> <li>• Contact numbers of representative on the Grievance Redress Committee and GBV Service Providers should be pasted around the construction site</li> <li>• A minimum requirement of female employment should be indicated in the human resource policy of facility manager/operator</li> </ul>	<p>to GBV/SEA/SH incidents (Accountability and Response Framework)</p> <ul style="list-style-type: none"> <li>• Sensitize communities on GBV/SEA/SH risks as well as reporting mechanisms and expectations;</li> <li>• Contact numbers of representative on the Grievance Redress Committee and GBV Service Providers should be pasted around the construction site</li> <li>• A minimum requirement of female employment should be indicated in the human resource policy of facility manager/operator</li> </ul>
<b>OP/BP 4.11</b> <b>Physical Cultural Resources</b>	Impact on social and cultural structures	<ul style="list-style-type: none"> <li>• A code of conduct for employees and patrons that establishes rules for respect of local norms and traditions should be adopted.</li> <li>• Ensure that internal and external complaints are dealt with speedily.</li> <li>• Traditional authorities should be constantly engaged to ensure cordial relations between project and the local community.</li> </ul>	<ul style="list-style-type: none"> <li>• A code of conduct for employees and visitors that establishes rules for respect of local norms and traditions should be adopted.</li> <li>• Ensure that internal and external complaints are dealt with speedily.</li> <li>• Traditional authorities should be constantly engaged to ensure cordial relations between project and the local community.</li> <li>•</li> </ul>
	Impact on cultural heritage resources such as shrines or cemeteries	<ul style="list-style-type: none"> <li>• Avoid all cultural resources</li> <li>• Develop chance find procedures to guide handling of archaeological materials found by chance</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>OP/BP 4.12</b> <b>Involuntary Resettlement</b>	Impact on livelihoods	<ul style="list-style-type: none"> <li>• To the extent possible, provide employment and other opportunities to locals making a living out of the stone mining</li> <li>• Avoid impact on livelihoods and relocation (if any) to the extent possible</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>

### Stakeholder Engagement

The stakeholders engaged are in support of the project and are committed to ensuring smooth implementation of the project. Some of their major concerns however include:

- Stakeholder consultation and community entry – political and community leadership must be properly engaged for their buy-in is key to ensuring the sustainability of the project.
- Project ownership – the project should be owned by the Ministry of Tourism and Cultural Affairs and managed using a PPP arrangement. The local community can however benefit from employment and boost in commercial activities.
- Alternative livelihood – this is required to improve the local economic, environmental and security situation of the project area.
- Access to finance - requirements of financial institutions and interest rates should be reviewed to allow SMEs (souvenir sellers, taxi drivers, tour guides etc.) in and around the TCS that constitute about 60-70% of industry players access finance.
- Training - A capacity assessment and capacity building targeting locals should focus on areas such as Accounting, Marketing and Management. For implementing institutions, the focus should be on E&S issues. A skills development centre should be established to train locals especially women and children. They should also be provided some capital to start business.
- Project implementation and monitoring – An ecotourism plan should be developed to address issues of wildlife and forest protection, sand mining, stone breaking, natural disaster management, development of additional tourism attraction to mitigate environmental concerns. Respective MPs should be involved in monitoring of project implementation. Owners of properties close to the forest reserve should be compensated and relocated and a buffer zone established to prevent encroachment and associated threats to water catchment and forest resources.

The key institutions/stakeholders that will work together to ensure sound project implementation and environmental protection include Ministry of Tourism and Cultural Affairs, Ministry of Trade and Industry, Ministry of Lands, PCU, Environmental Protection Agency, District Council, Local Committees, and Traditional Authorities in the project community.

The project will obviously benefit the local community through creation of avenues for research, job creation, growth of businesses especially SMEs, better social services etc. The government will also benefit from increased revenue from taxes, foreign direct investment, reduced unemployment rate and a general improvement in the economy. Stakeholders are therefore urged to ensure that the outlined benefits accrue to the beneficiaries which includes the local community and government.

### **E&S Monitoring plan**

At the project implementation stage, monitoring will be done to confirm the effectiveness of impact management, including the degree of success in implementing mitigation measures. During construction works, checks, reviews and inspections will be carried out to assess compliance with permit conditions. Monitoring will be done by the relevant institutions, the PCU, District Councils, National Tourist Board. A summary of impacts, mitigation, management and monitoring measures to be implemented is captured in the Table below.

## Environmental and Social Monitoring Plan

No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
<b>CONSTRUCTION PHASE</b>						
	<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>Records of accidents, incidents and near misses.</li> <li>Records of PPE disbursed</li> <li>Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>Construction site</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	3,000
	<b>Poor labour working conditions</b>	<ul style="list-style-type: none"> <li>Availability of copies of signed contracts</li> <li>Human Resource Management Plan/Recruitment Policy</li> <li>Complaints lodged by workers</li> </ul>	<ul style="list-style-type: none"> <li>Construction site</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	2,000
	<b>Soil impacts and sediment transport</b>	<ul style="list-style-type: none"> <li>Observable change in turbidity of water in drains or water bodies</li> <li>Observable oil sheen in drain</li> <li>Observation of rills/gullies</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental Safeguards Specialist	1,000
	<b>Air and Noise Pollution</b>	<ul style="list-style-type: none"> <li>Dust (PM2.5, PM10 and TSP)</li> <li>Emissions (NOx, SOx, TSP)</li> <li>Noise (dB) levels</li> <li>Number of complaints by residents/workers</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental Safeguards Specialist	2,000
	<b>Waste generation and disposal</b>	<ul style="list-style-type: none"> <li>Number of mobile toilets and dustbins provided on site</li> <li>Number of times waste is lifted in a week</li> <li>Cleanliness of site/housekeeping</li> <li>Odour</li> <li>Complaints by workers/residents</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Weekly	Environmental Safeguards Specialist	-

No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
	<b>Community/Public safety concerns</b>	<ul style="list-style-type: none"> <li>Grievance records</li> <li>Traffic related incidents/accidents</li> <li>Records of accidents, incidents and near misses.</li> <li>No. of fenced excavations</li> <li>No. of installed safety signages</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	-
	<b>Public health issues</b>	<ul style="list-style-type: none"> <li>Number of sensitization campaigns</li> <li>Number of condoms distributed to Contractor's staff in a month</li> <li>Number of STD cases reported to local health facilities involving encounters with Contractor's staff</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	1,500
	<b>Security and GBV concerns</b>	<ul style="list-style-type: none"> <li>Number of conflicts/cases reported to the Grievance Redress Committee/Community Liaison Officer</li> <li>Number of conflicts/cases dealt with by the Grievance Redress Committee</li> <li>Number of crimes such as theft, defilement and rape reported, investigated, and concluded by the police</li> <li>Availability of worker Code of Conduct (CoC)</li> <li>Training records on CoC</li> <li>No. of sensitization programs organized</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	3,500
<b>OPERATIONAL PHASE</b>						

No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
	<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>Records of accidents, incidents and near misses.</li> <li>Records of PPE disbursed</li> <li>Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	Monthly	HSE Manager	2,000
	<b>Poor labour working conditions</b>	<ul style="list-style-type: none"> <li>Availability of copies of signed contracts</li> <li>Human Resource Management Plan/Recruitment Policy</li> <li>Complaints lodged by workers</li> </ul>	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	Monthly	HSE Manager and HR Manager	3,000
	<b>Soil impacts and sediment transport</b>	<ul style="list-style-type: none"> <li>Observable change in turbidity of water in drains or water bodies</li> <li>Observable oil sheen in drain</li> <li>Observation of rills/gullies</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager	-
	<b>Air and Noise Pollution</b>	<ul style="list-style-type: none"> <li>Dust (PM2.5, PM10 and TSP)</li> <li>Emissions (NOx, SOx, TSP)</li> <li>Noise (dB) levels</li> <li>Number of complaints by residents/workers</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Bi-annually	HSE Manager and Community Liaison Officer	5,000
	<b>Waste generation and disposal</b>	<ul style="list-style-type: none"> <li>Presence of toilets and number of dustbins provided on site</li> <li>Number of times waste is lifted in a week</li> <li>Cleanliness of site/housekeeping</li> <li>Odour</li> <li>Presence of human waste on site</li> <li>Complaints by workers/residents</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Weekly	HSE Manager and Community Liaison Officer	4,000



No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
	<b>Community/Public safety concerns</b>	<ul style="list-style-type: none"> <li>Grievance records</li> <li>Traffic related incidents/accidents</li> <li>Records of all accidents, incidents and near misses.</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager and Community Liaison Officer	3,000
	<b>Public health issues</b>	<ul style="list-style-type: none"> <li>Number of sensitization campaigns</li> <li>Number of condoms distributed to workers or placed in washrooms in a month</li> <li>Prevalence of STD cases reported to local health facilities</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager and Community Liaison Officer	1,500
	<b>Security and GBV concerns</b>	<ul style="list-style-type: none"> <li>Number of conflicts/cases reported to the Grievance Redress Committee/Community Liaison Officer</li> <li>Number of conflicts/cases dealt with by the Grievance Redress Committee</li> <li>Number of crimes such as theft, defilement and rape reported, investigated, and concluded by the police involving workers or patrons</li> <li>Availability of worker Code of Conduct (CoC)</li> <li>Training records on CoC</li> <li>No. of sensitization programs organized</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager and Community Liaison Officer	3,500

## Grievance Redress Mechanism

Grievances can be an indication of growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved. The management of grievances is therefore a vital component of stakeholder management and an important aspect of risk management for a project. Grievances and disputes that may arise during the course of implementation of the EDP will be related to the following issues among others:

- Siting of the project/subproject;
- Mistakes in inventorying or valuing properties;
- Disagreement on property boundaries, either between the affected person and the expropriation agency or between two neighbours;
- Disputed ownership of a given asset (two or more affected people claim that the affected asset is theirs);
- Disagreement on asset valuation methods and compensation amounts in cash or in-kind;
- Successions, divorces, and other family issues resulting in disputed ownership or disputed shares between inheritors or family members;
- Disagreement with the computation of the resettlement or livelihood assistance or transportation cost;
- Claims by people who relocated on their own after receiving notification about the project and the likelihood of impact on their activities; and
- Delays in resolving complaints of PAPs.

The general steps of the grievance process comprise the following which will include a feedback process for complainants to get responses within agreed time frames as shown in the table below:

- Registration/receipt of Complaints;
- Determining and Implementing the Redress Action;
- Verifying the Redress Action;
- Monitoring and Evaluation; and
- Dissatisfaction and Alternative Actions.

Steps	Process	Description	Timeline Maximum	Other information
1	Identification of grievance	Face to face; phone; letter, e-mail; recorded during public/community interaction; others	1 Day	Email address; hotline number
2	Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e. in a log book)	4-7 Days	Significance criteria Level 1 –one off event; Level 2 – complaint is widespread or repeated; Level 3- any complaint (one off or repeated) that

Steps	Process	Description	Timeline Maximum	Other information
				indicates breach of law or policy or this ESMF/RPF provisions
3	Grievance is acknowledged	Acknowledgement of grievance through appropriate medium	7 Days	
4	Development of response	Grievance assigned to appropriate party for resolution -Response development with input from management/ relevant stakeholders	4-7 Days 10-14 Days	
5	Response signed off	Redress action approved at appropriate levels	4-7 Days	Senior management staff of MoF should sign off
6	Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant	10-14 Days	
7	Complaints Response	Redress action recorded in grievance log book Confirm with complainant that grievance can be closed or determine what follow up is necessary	4-7 Days	
8	Close grievance	Record final sign off of grievance If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law	4-7 Days	Final sign off on by MoF

## **1.0 INTRODUCTION**

### **1.1 Background of the Project**

The Government of Sierra Leone (GoSL) with assistance from the World Bank Group (WBG) is implementing the Sierra Leone Economic Diversification Project (SLEDP) to improve the tourism business environment, enhance market access and improve tourism products and services. The project aims to increase investment and entrepreneurship in non-mining productive sectors, including tourism. The proposed Enhancing Visitors' Experience and Education at Tacugama subproject aims at developing a "Conservation Education and Innovation Centre" and a botanical garden close to the existing Sanctuary. The project involves upgrade of access road and parking, landscaping and slope stabilization, construction of the Conservation Education and Innovation Centre, establishment of a botanical garden and improvement in custom signage. This will provide Sierra Leone with a world class educational tourist destination that attracts visitors from around the world. The Centre and botanical gardens would complement TCS, while each being separate tourist destination in their own right. This project, which is one of six similar projects at different locations across Sierra Leone, is being developed as part of the SLEDP.

As required by the Environmental Protection Agency Act, 2008 and the EPA (Amendment) Act, 2010 and in line with the World Bank's requirement on environmental and social sustainability (in compliance with OP4.01 - Environmental Assessment), an Environmental and Social Impact Assessment (ESIA) must be conducted for an undertaking of this nature. This report has been prepared to satisfy that requirement.

### **1.2 Objective of the Project**

The objective of the project is to increase the overall socio-economic development of the project area through:

- Strengthening the business enabling environment;
- Building institutional capacity;
- Facilitation of strategic public investments;
- Increasing access to finance, and provision of business development services such as facilitating start-ups and expanding of SMEs; and
- Creation of jobs.

### **1.3 Scope of the ESIA**

The scope of work for the ESIA study is to among other things:

- Provide technical description of the proposed project and identify all activities of environmental/social concern;
- Establish the existing environmental and socio-economic baseline conditions of the project area of influence;

- Predict and examine all the significant environmental and social impacts on the surrounding communities and the general environment during implementation of the proposed project and advise on appropriate mitigation and abatement measures against potential adverse impacts;
- Provide a monitoring program for predicted impacts;
- Provide an Environmental and Social Management Plan (ESMP);
- Document the socio-economic and cultural advantages and disadvantages associated with the proposed project for stakeholders and interested groups to make an informed decision on the level of environmental compromise and permitting.
- Provide framework to guide the development of an emergency response plan for the project;
- Provide guidelines to be followed in the event of decommissioning; and
- Carry out public consultations and include the outcome in the ESIA report with arrangements to address stakeholder concerns.

#### 1.4 Methodology for the Assessment Process

This report has been prepared in accordance with applicable World Bank and Sierra Leone environmental assessment guidelines and involves the following activities:

- **Data gathering;** The Consultant assembled and evaluated relevant baseline data relating to the biophysical and socio-economic environment to be influenced by the project. The baseline data include climate, topography and relief, geology and soil, vegetation and fauna, demography, access to basic services and socio-economic conditions. In addition, this report has scoped out the issues and provided general assessment of the impacts.
- **Stakeholder identification and consultations;** Key stakeholders identified include Ministry of Finance, Ministry of Trade and Industry, Ministry of Tourism and Cultural Affairs, Ministry of Lands, Country Planning and the Environment, Environmental Protection Agency (EPA) of Sierra Leone, National Tourist Board (NTB), Small and Medium Scale Enterprises Development Agency (SMEDA) etc. The outcome of engagements with key stakeholders have been reviewed and incorporated in the study.
- **Data collation and analysis;** The report preparation involved review of project documents, related Environmental Impact Statements (EIS), as well as EPA, GoSL and World Bank reference documents as follows:
  - Project Documents (Project Appraisal Document);
  - District Profile for the Western Area Rural District;
  - Medium Term Development Plan;
  - Population and Housing Census Report, 2015;
  - Technical sheets for project development;
  - Sierra Leone EPA Guidelines
  - GoSL Reference Documents (Sierra Leone Demographic and Health Survey Report 2019, EPA Charter etc.)
  - World Bank Reference Documents (Environmental, Health and Safety Guidelines, and ESF Good Practice Notes on GBV in Major Civil Works)

- Sector policy documents and regulations; and
- Relevant international conventions.

### **1.5 The ESIA Report Content and Structure**

EPA-SL guidelines for preparation of ESIA and the World Bank Operational Policies (OPs) guided the preparation of this ESIA report. The outline of the report includes the following:

- A non-technical executive summary;
- An introduction describing the ESIA purpose, objectives, approach and methodology;
- A description of the project, with an emphasis on project scope;
- Analysis of alternatives;
- Policy, legal and administrative framework;
- Baseline environmental and social conditions of the Western Area Rural District of Sierra Leone;
- Stakeholder engagement;
- Potential environmental and social issues and impacts;
- Proposed mitigation measures;
- Environmental and social management plan requirements;
- Institutional arrangement for the implementation of the ESMP;
- Monitoring and reporting arrangements;
- Capacity building and training required to implement the ESMP;
- Public consultations and disclosure;
- ESMP implementation budget;
- Conclusion; and
- Annexes.

## **2.0 PROJECT DESCRIPTION**

### **2.1 Project Scope**

The proposed Tacugama project is expected to continually serve as a home for wildlife conservation with a universal appeal for all segments of local and/or international visitors. Visitors, especially school children, will have the opportunity to enjoy and learn about the native forests, to study local botany, engage in bird watching and generally enjoy being in nature so close and accessible to the city.

Covering a land area of 6ha and located on an easily visible and accessible site in Tacugama (Figure 2-1), the proposed project will include a Conservation, Education and Innovation Centre (TIC), a botanical garden, a new parking along the access road and signage to enhance the visitor experience.

### **2.2 Project Design and Components**

The main infrastructural components would be as follows.

- Improving the access road from the main road network to the entrance including moving the access (to improve safety), soil stabilization, improvement of the unpaved road and drainage (1,600 m approximately). The access road will be largely within the right-of-way of the existing Congo Dam Access Road that goes through the Tacugama Sanctuary except the first 300m approach which is outside the sanctuary (yet along the Youyi Highway, Figure 2-1).
- Construction of the Conservation Education and Innovation Centre of 1,000 sqm of gross floor area, located at the rocky peak on the road to TCS. The Centre will include an exhibition hall, a multimedia learning space, a screening room, a library, a boardroom, a rooftop café and viewing platform, and a shop.
- Hard and soft landscaping of approximately 500 m of new pedestrian paths connecting the TCS with the new Centre and the new parking (cleaning and paving, soil stabilization and gravel), ensuring safe circulation of visitors (railings, steps, anti-slip, no overhanging foliage on pathways, etc.) and access for people with disabilities (width of paths > 120 cm, max slope <8%).
- Landscaping of a botanical garden along the new pathway (250 m) connecting the Centre with the TCS (2,500 sqm).
- Landscaping of a “green parking” area for the new Conservation Education and Innovation Centre (interlocking paving with grass and new trees, local species, min. 3 m high): 40 parking bays and 4 buses (1,500 sqm), including parking for people with disabilities.
- Landscaping of a “green parking” area at the TCS entrance (interlocking paving with grass and new trees, local species, min. 3 m high): 12 parking bays (150 sqm), including parking for people with disabilities.
- Improvement of custom signage system including interpretation panels, path signs, roadside directional signs, etc.

### **2.2.1      *Infrastructure and Landscaping***

Infrastructural activities will include improvement of the access road from the main road network to the entrance and construction of drainage of approximately 1,800m. To avoid accidents and ensure safety generally the access, which is currently in a sharp curve, will be relocated.

There will be landscaping of 3 “green parking” areas (interlocking paving with grass): a new parking for visitors at the northern entrance of the botanical garden and TIC (40 parking bays and 4 buses, including parking for people with disabilities); a new parking for visitors close to the TCS entrance and to the southern entrance of the botanical garden and TIC (12 parking bays); and a staff/service parking close to the TIC (4 parking bays).

Also, the custom signage system will be improved to include interpretation panels, path signs, roadside directional signs, etc. The signage system will cover access, main road, botanical garden trails, until the entrance to the Tacugama Sanctuary.

### **2.2.2      *Conservation Education and Innovation Centre***

The new TIC of 1,800 sqm of gross floor area, will be located on a rocky area on the road to TCS, equidistant between the visitors’ parking and the Sanctuary.

- Access will be from the pedestrian path connecting the two visitor parking lots, through the botanical garden to the Sanctuary. A secondary staff/service access will be from the nearby access road.
- The building will have a rectangular shape of 20 × 36 m.
- The ground base of the building will be provided by a system of metal reverse tetrapods that will minimise the ground contact and raise the first floor by a variable height, separating it from the ground.
- The structure will be mixed in wood and steel, with wooden floors.
- The external envelope of the building will be characterised by open galleries protected by wooden sunscreens which also will play the role of circulation spaces connected vertically by ramps and stair.
- On the ground floor will be the reception and cloakroom, the exhibition area, the handicraft shop and the research and multimedia studio, as well as the office, the staff facilities, the visitors’ facilities and storage.
- On the first floor will be the cinema, the boardroom/space for workshops and the library as well as the visitors’ facilities and storage spaces.
- The second floor, partially open, will be occupied by a cafeteria and a panoramic terrace, partially shaded by horizontal textile blinds.
- Access for people with disabilities is ensured by the ramps connecting the three levels.



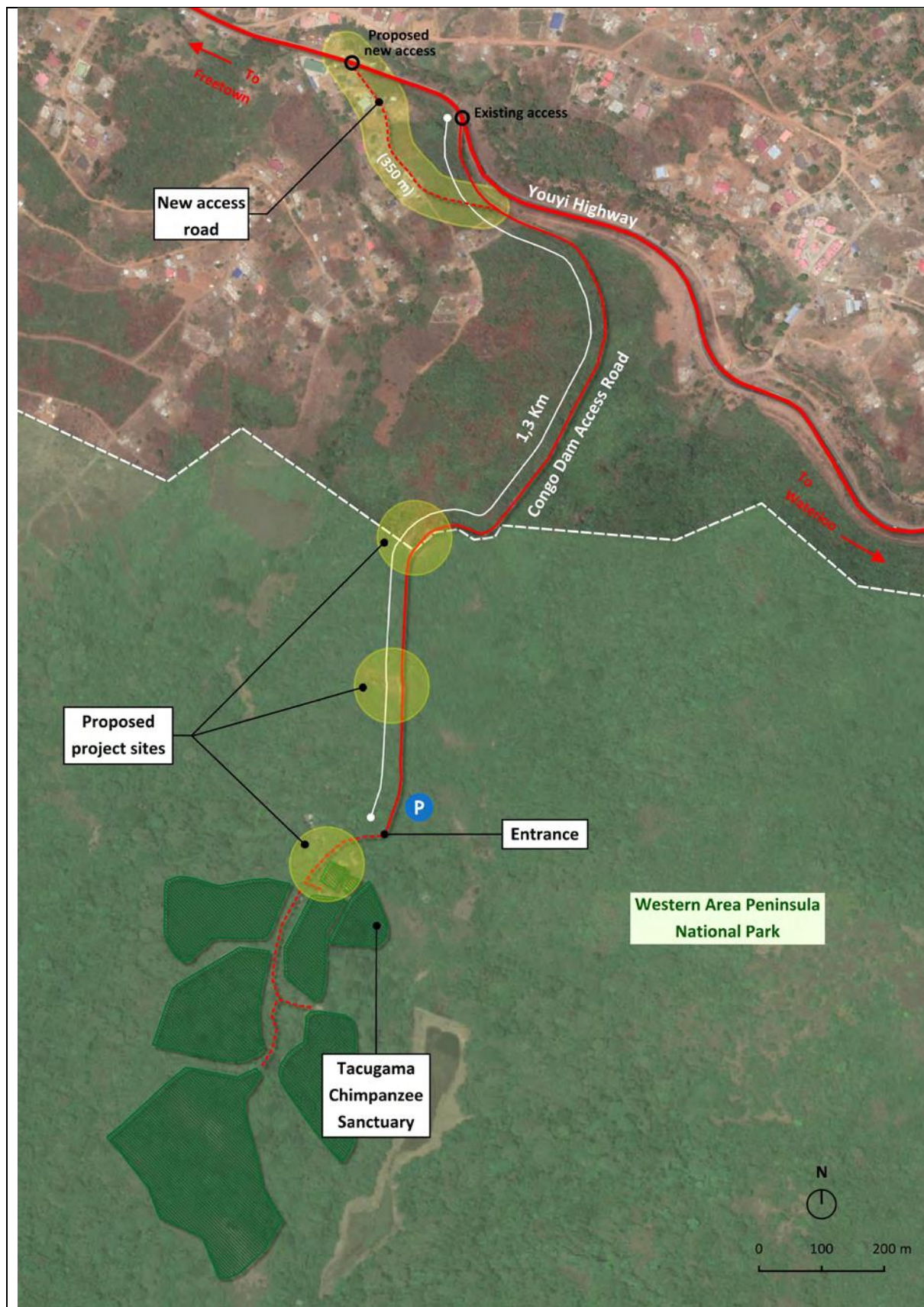


Figure 2- 1: Location of proposed project





**Figure 2- 2: Schematic drawing of the Conservation Education and Innovation Centre**

### **2.2.3 Botanical Garden**

The botanical garden will extend on approximately 5 ha from the visitors parking to the access of the Sanctuary.

- Landscaping of a botanical garden along the new pathway connecting the Centre with the TCS (10,650 sqm).
- Hard and soft landscaping of approximately 1,500 m of new pedestrian paths connecting the TCS with the new TIC and the new parking (cleaning and paving, soil stabilization and gravel), ensuring safe circulation of visitors (railings, steps, anti-slip, no overhanging foliage on pathways, etc.) and access for people with disabilities (width of paths > 120 cm, max slope <8%).

### **2.2.4 Utilities**

Utilities will include energy supply, water supply and waste water treatment for the new TIC.

- Water supply could be provided from the nearby dam at a distance of approximately 500 m.
- Wastewater treatment for the new Conservation, Education and Innovation Centre will be provided by a small-scale wastewater treatment unit.
- Electrical power will be ensured by a solar power supply system (solar power micro-grid system with diesel backup generator, location to be determined). Alternatively, a hydropower-based solution could be developed based on the water pressure provided by the dam.

### **2.2.5 Waste Management**

Municipal waste generated will be collected and segregated using bins placed at suitable points. A well separated space/area will be designated to temporarily collect/sort/recycle solid waste before it is taken to the municipal dump site.

Sewage generated on site will be managed using a small-scale wastewater treatment facility, the biorock system. The Biorock system is a compact non-electric residential waste water treatment plant that includes a primary tank which clarifies the raw sewage by dividing fats, oils, greases and organic solids. The water then goes through an effluent filter and then enters a bioreactor. In the bioreactor, wastewater is additionally purified with a biological process. Finally, the effluent is discharged by gravity or by a pump in accordance with the ground type.

The wastewater enters a primary tank for the separation and breakdown of organic solids (primary treatment), then it gets to the effluent filter before getting to the secondary treatment that includes an aerobic digestion process. In addition, both the primary tank and the bioreactor are aerated naturally. When gravity discharge is not possible, a pumping well is added to the system. The effluent water can be used for groundwater recharging or irrigation, due to its high quality. The system has low carbon footprint and minimum annual maintenance efforts. Biorock also offers a multiple system for larger number of users. In this case, after the primary tanks a flow control chamber is positioned in order to distribute water evenly. A splitter box then splits water in multiple biorock units.

### **2.2.6 Signage System**

Appropriate custom signage system including interpretive panels, path signs, roadside directional signs, and so forth will be installed at the site.

The signage system proposed is based on the study of existing contemporary signage systems of similar contexts and inspired to the specific identity of Sierra Leone, related to its “green and blue” heritage and its culture of hospitality.

The design concept is based on clarity and usability: everybody must see and interpret the signs easily. The size of the font and the use of pictograms and pictures is designed in order to facilitate understanding.

The system is designed to be easily produced and replaced by local communities, by using local woods and craft skills.

The types of signs included in the system are the following.

- Welcome signs. They welcome the tourists and visitors arriving at the destination and are located at the entrance of the sites.
- Orientation maps. They are essential for orientation, must be placed at carefully planned locations, based on customised maps with international symbols, enhanced readability, easy interpretation, including any defined trail with departure and arrival point, key attractions, facilities and safety instructions.
- Path signs. They provide guidance on the pathway that visitors should follow to easily move around the target area. Density of signs should be adequate to the environment but in principle they must be sufficient to ensure safe and easy circulation. If on pedestrian trails, it is advisable to ensure that at least one sign is always visible (1/50m minimum). The system includes pedestrian path signs, along walking trails; the directional pole, visible to both pedestrians and vehicles; and roadside directional signs along the main and secondary streets.
- Interpretation signs. They deliver information on the site to the visitor and add value to his/her experience.
- Services and facilities. Signs giving directions for tourist facilities and amenities such as toilets, food and beverage, information centres, etc. are included in the path signs systems.
- Regulations and “no littering” signs. They provide regulations to be followed by visitors on beaches and natural areas.

## **2.3 Proposed Project Activities**

### **2.3.1 Preparatory Phase Activities**

Pre-construction phase activities include among others:

- Survey and site selection;



- Project feasibility studies and Geotechnical assessments;
- Preparation of Environmental and Social Impact Assessment (ESIA) report;
- Material sourcing arrangements/contracts; and
- Mobilisation of construction staff.

#### Survey and site selection

The project site will be surveyed to ascertain the suitability of the site for the proposed project and to appreciate any challenges that may hinder implementation. Approval for survey drawing will be obtained from the relevant authorities before project implementation.

#### Project feasibility studies and Geotechnical assessments

Project feasibility studies will be conducted to confirm the viability of the project. Also, geotechnical assessments will be carried out to determine the suitability of the soil for the project and required improvements, if any.

#### Preparation of Environmental and Social Impact Assessment (ESIA) report

An ESIA as required by law and international best practice, will be prepared to obtain environmental approval for the execution of the project. The ESIA will be in compliance with World Bank OP 4.01 – Environmental Assessment.

#### Material sourcing arrangements/contracts

Materials and equipment for construction would be sourced locally, legally and documented. Sourcing will be from permitted producers or suppliers and copies of permits will be obtained before procurement, especially raw materials like sand and gravels. Materials and equipment not available locally would be sourced abroad.

#### Mobilisation of construction staff

Majority of construction workers both skilled and unskilled are expected to be employed from the surrounding communities. However, for unavailable skills, persons outside the local communities will be engaged.

Worker welfare facilities will be provided and shall be appropriate for its location and be clean, safe and, at a minimum, meet the basic needs of workers. It will meet national legislation and international good practice in relation, but not restricted, to the following; the provision of minimum amounts of space for each worker; provision of sanitary, facilities and potable water; any health, fire safety or other hazards or disturbances and local facilities; the provision of first aid and medical facilities.

### **2.3.2 Construction Phase Activities**

Construction phase activities, as described in Section 2.2 above, include among others:

- Mobilisation and transportation of equipment to project site;
- Land preparation, involving site clearing;

- Construction of access road and installation of appropriate signage;
- Construction of parking bays;
- Construction of Conservation Education and Innovation Centre;
- Landscaping of botanical garden; and
- Construction of waste treatment system.

### **2.3.3      *Operation Phase Activity***

Operation phase activities will be mainly maintenance and management of project facilities. Upon completion of construction of the project, operation and maintenance will be the responsibility of the facility manager that will be selected through Public Private Partnership (PPP) arrangement or other suitable arrangement. There will be routine and emergency maintenance of the facilities as per the facility manager's Operations and Maintenance (O&M) procedures.

### 3.0 ANALYSIS OF ALTERNATIVES

#### 3.1 Options for Consideration

The proposed project considered some feasible options in respect of their potential environmental and social impacts. These are analysed in **Table 3-1** and include:

- Electricity supply;
- Waste management; and
- No option.

**Table 3- 1: Analysis of Alternative Project Options**

Option/ Method of Deployment	Potential Environmental, Social, Technological and Economic Implications		Preferred Option
Electricity supply options			
1. National Grid	<b>Advantages</b>  1. Consumers can still be supplied from others around the country if one power station needs maintenance.  2. More energy generation facilities increase efficient power flow and provide peace of mind to consumers.	<b>Disadvantages</b>  1. Power is wasted heating the power lines.  2. In some areas, overhead power cables and their supporting towers are an eyesore.	<b>Option 3, Hybrid Photovoltaic Micro-grid System is the preferred option for the project as the advantages make it the overwhelming choice.</b>
2. Generator (diesel)	<b>Advantages</b>  1. Diesel generators require less maintenance  2. They consume less fuel than gas generators  3. They are durable  4. Has a safe fuel storage  5. They have an enhanced life span  6. Has a continuous power supply  7. They are capable of handling larger power loads and run for longer duration than other types of generators available.	<b>Disadvantages</b>  1. They are very noisy in their operation  2. They are expensive  3. Fuel may not be accessible during a blackout  4. They produce carbon dioxide, nitrogen oxide, and other harmful gases that are released into the atmosphere.  5. Its heavy components can make repairs expensive.	
3. Hybrid Photovoltaic Microgrid system	1. Continuous Power Supply  2. They utilize renewable sources in the best way  3. Maintenance cost of the hybrid solar energy systems is low as compared to the traditional generators which use diesel as fuel.	1. They controlling process may be complicated.  2. High installation cost  3. Less battery life due to exposure to natural elements like heat, and rain.	

Option/ Method of Deployment	Potential Environmental, Social, Technological and Economic Implications		Preferred Option
	<div>4. Works more efficiently than a traditional generator</div> <div>5. They manage load accordingly.</div>	<div>4. The number of devices connectable to a hybrid solar energy system is limited and vary from system to system.</div>	
4. Solar Panel system	<div>1. Renewable energy source</div> <div>2. Reduces electricity bills</div> <div>3. Solar energy can be used for diverse purposes including electricity and heat</div> <div>4. Low maintenance costs</div>	<div>1. Has a high initial cost</div> <div>2. Solar panels are dependent on sunlight to effectively collect solar energy.</div> <div>3. Solar energy storage is expensive</div> <div>4. Solar PV panels require a lot of space</div> <div>5. Transportation and installation of solar systems have been associated with the emission of greenhouse gases.</div>	
Waste Management Option			
1. Composting plant	<div>Advantages</div> <div>1. Improvements in soil quality.</div> <div>2. Enhances the structure of the soil.</div> <div>3. Eco-friendly.</div> <div>4. Fully organic fertilizer.</div> <div>5. Higher yields.</div>	<div>Disadvantages</div> <div>1. Requires initial investment.</div> <div>2. Efficiency depends on the amount of organic waste</div> <div>3. May attract rats, snakes, and bugs.</div> <div>4. Requires space</div> <div>5. Unpleasant smell</div>	Municipal Waste Dump/ landfill sites (Option 2) is the preferred option as it is cost effective and less localized
2. Municipal Waste Dump/ landfill sites	<div>Advantages</div> <div>1. Straightforward concept to deal with waste.</div> <div>2. Filled land can be reused for other community purposes.</div> <div>3. Landfills can prevent environmental dumping.</div> <div>4. Good for waste that is non-recyclable.</div>	<div>Disadvantages</div> <div>1. Completed landfill areas can settle and requires maintenance.</div> <div>2. Requires proper planning, design, and operation.</div> <div>3. Can contribute to groundwater pollution.</div> <div>4. Landfills can be a breeding ground for bacteria.</div>	
No Option			
	<div>Advantages</div> <div>1. Funds for the project implementation could be used for solving other development problems, albeit less dire</div>	<div>Disadvantages</div> <div>1. Non implementation of the project will continue to deprive project communities of access to economic opportunities associated with tourism. Also, locals who would have been offered employment will</div>	This option is not preferable



Option/ Method of Deployment	Potential Environmental, Social, Technological and Economic Implications		Preferred Option
		<p>continue livelihood activities such as stone quarrying, charcoal burning etc. which degrade the environment.</p> <p>2. Government will lose revenue and the opportunity to enhance the country's image as a tourist destination for economic growth.</p>	

#### 4.0 POLICY, LEGAL AND REGULATORY FRAMEWORK

National and sector legislation and policies relevant to the tourism sector have been reviewed in this section. Also, institutional requirements for assessment and management of environmental and social issues have been considered. These have been summarized in **Table 4-1** under the following themes:

- Policies and Plans
- National legal framework;
- Tourism sector legislation and related requirements;
- Local governance, planning and other institutional requirements;
- Public Health, Safety, Security and Social Protection
- Environmental legislation in Sierra Leone; and
- World Bank safeguard policies.

##### 4.1 Policies and Plans

The policies and plans reviewed and applied in the assessment include:

- National Tourism Policy, 2017
- The National Environmental Policy, 1994
- The National Lands Policy, 2015
- The National Water and Sanitation Policy, 2010
- National Biodiversity Strategic Action Plan 2017
- The National Action Plan on Gender Based Violence, 2012 – 2016
- The Sierra Leone National Action Plan 2016 – 2018

**Table 4- 1: Relevant Legal Framework and Key Compliance Requirements**

No.	Policies and Plans	Applicability to Proposed Project
1.	<p><b><u>National Tourism Policy, 2017</u></b></p> <p>The recently validated National Tourism Policy (2017), affirms that the goal of tourism in Sierra Leone is to generate foreign exchange, encourage even development, promote tourism- based rural enterprises, generate employment, accelerate rural urban integration and foster socio-cultural unity among the various regions of the country, through the promotion of domestic and international tourism.</p> <p>One of the principal objectives of establishing the tourism policy is to guarantee and safeguard the effective standardization of processes and practices within the industry. This standardization fosters uniformity and consensus regarding practices which can result in increased sustainability and an overall improvement in the quality of the tourism product. Furthermore, an appropriate use of environmental and human resources should take place as a result of the implementation of the tourism policy.</p> <p>The sustainable tourism policy will facilitate government's heightened involvement in the activities of the tourism sector. If policies are</p>	<p>The policy is relevant to the project as it offers guidance to stakeholders and reaffirms the commitment of the government to ensuring the sustainable growth of the tourism sector</p>

No.	Policies and Plans	Applicability to Proposed Project
	implemented, leading to formulation of effective legislation, the result should be an increased effectiveness and efficiency of tourism activities.	
2.	<p><b><u>The National Environmental Policy, 1994</u></b></p> <p>The National Environmental Policy seeks to achieve sustainable development in Sierra Leone through the implementation of sound environmental management systems which will encourage productivity and harmony between man and his environment. Thus, the key objective of the policy is to secure for all Sierra Leoneans a quality environment that can adequately provide for their health and well-being. The policy indicates inter-sectoral synergies in major areas for policy formulation. It takes into consideration major sector goals and policies for enhancing sustainability in environmental management systems.</p>	This policy requires implementation of sound environmental management systems and the project ESMPs satisfy this requirement
3.	<p><b><u>The National Lands Policy, 2015</u></b></p> <p>The National Land Policy promotes the objectives of equal opportunity and sustainable social and economic development. The principles guiding the Land Policy include: (1) protecting the common national or communal property held in trust for the people; (2) preserving existing rights of private ownership; and (3) recognizing the private sector as the engine of growth and development, subject to national land-use guidelines and rights of landowners and their descendants.</p>	The proposed project sites has been confirmed as state land and relevant authorities have been duly consulted.
4.	<p><b><u>The National Water and Sanitation Policy, 2010</u></b></p> <p>The National Water and Sanitation Policy aims to: improve the financing, management, and delivery of sustainable water services; and enable communities to adopt safe hygiene and sanitation practices and consume safe water. The Policy has five key themes that include: (i) Water Resources Management including equal access and use of water resources, effective water resource use; promotion of water management and quality and sustainable procedures and plans for the resource development; (ii) Urban Water Supply and Sewerage that aims to improve urban water supply coverage to 74% by 2015, improve sanitation coverage, prevent wasteful water use, improve participation, capacity and accountability (iii) Rural Water Supply – to improve health and alleviate poverty of the rural population through improved access safe water, community participation, investment and other activities (iv) Hygiene and Sanitation – to improve the health of communities and ensure that the majority of the population (66%) has access to sanitation services by 2015 (v) Institutional, Legal and Regulatory Framework to ensure sustainable water resources management.</p>	The project ESMP provides for the prevention of pollution and management of waste onsite
5.	<p><b><u>National Biodiversity Strategic Action Plan 2017</u></b></p> <p>The Sierra Leone Biodiversity Strategic Action Plan comprises a series of measures and mechanisms intended to conserve and promote the sustainable use of the different components of the country's biodiversity. The actions proposed to cover several key thematic areas under terrestrial biodiversity, inland water ecosystems, forest biodiversity, marine and coastal biodiversity, and agricultural biodiversity.</p> <p>This Action Plan is intended to provide a framework for setting priority policies and actions for the conservation and sustainable use of biological diversity in Sierra Leone; facilitate information sharing and coordinated action among the various stakeholders at the national level and foster</p>	The project will as much as possible avoid or minimise adverse biodiversity impacts e.g. trees will be planted to offset the effect of vegetation clearance.

No.	Policies and Plans	Applicability to Proposed Project
	scientific and technical cooperation with other countries and international organization.	
6.	<p><b><u>The National Action Plan on Gender Based Violence, 2012 – 2016</u></b></p> <p>The Ministry of Social Welfare, Gender and Children's Affairs published the Sierra Leone National Action Plan on Gender Based Violence, a 5-year strategic planning document covering the period 2012 – 2016.</p> <p>The NAP served as an overarching framework for the prevention, response and prosecution of acts of GBV and served as a guide to service providers and implementing bodies, including government ministries and NGOs, on how to provide coordinated, effective and sustainable protection and services to victims/survivors of GBV.</p>	Tourism projects increase the risk of GBV issues in communities especially areas with high GBV issues like the project area. These issues have been addressed by the mitigation measures proposed in this report.
7.	<p><b><u>The Sierra Leone National Action Plan 2016 – 2018</u></b></p> <p>The Sierra Leone National Action Plan on UN Resolution 1320 and 1825 aims to protect, empower women and girls vulnerable to sexual violence, preventing sexual violence through the enactment and implementation of laws and above all ensure the active participation and representation of women in leadership positions. The SIL NAP also promotes coordination of the implementation of the document itself.</p>	Tourism projects increase the risk of GBV issues in communities especially areas with high GBV issues like the project area. These issues have been addressed by the mitigation measures proposed in this report.

## 4.2 National Regulatory Framework

The regulatory areas reviewed and applied in the assessment in compliance with national requirements include:

- The Constitution of Sierra Leone, 1991
- Environmental Protection Agency Act, 2008 and the EPA (Amendment) Act, 2010
- Environment Protection Agency (Environmental Impact Assessment License) Regulations 2010
- National Protected Area Authority and Conservation Trust Fund Act, 2012
- The Forestry Act, 1988
- Forestry Regulations, 1990
- Wildlife Conservation Amendment Act, 1990
- National Disaster Management Agency Act, 2020
- Sierra Leone Water Company Act, 2017
- The Road Transport Authority Act (1996) (Amended to the Roads Safety Authority Act, 2016)
- The Road Maintenance Fund Administration Act, 2010
- Employers and Employed Act, 1960
- Factories Act, 1974

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
8.	<p><b><u>The Constitution of Sierra Leone, 1991</u></b></p> <p>Section 15 of the Constitution states that: "... every person in Sierra Leone is entitled to the fundamental human rights and freedoms of the individual." This includes protection from deprivation of property without compensation. Section 21(1) further stipulates that no property of any</p>	Makes provision for the compensation of persons whose property or livelihood will be affected

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
	description shall be compulsorily taken possession of, and no interest in or right over property of any description shall be compulsorily acquired, except where land is required by the GoSL in the public interest.	
9.	<p><b><u>Environment Protection Agency Act, 2008 and the EPA (Amendment) Act, 2010</u></b></p> <p>This Act establishes the Environment Protection Agency— Sierra Leone (EPA-SL), defines its functions and powers, provides for its organization and administration, and provides rules for various matters regarding the environment in Sierra Leone. The Agency is established as a corporate body managed by the Board of Directors and an Executive Chairperson to provide for the effective protection of the environment and other related matters. It mandates the EPA among others to:</p> <ul style="list-style-type: none"> <li>• Advise the Minister of Environment on the formulation of policies on all aspects of the environment;</li> <li>• Issue environmental permits and pollution abatement notices for controlling the volume, types, constituents and effects of waste discharges,</li> <li>• emissions, deposits or other sources of pollutants of substances which are hazardous and dangerous to the quality of the environment;</li> <li>• Prescribe standards and guidelines relating to ambient air, water and soil quality, air pollution, water, land and other forms of environmental pollution including the discharge of waste and the control of toxic substances;</li> <li>• Ensure compliance with any environmental impact assessment procedures laid down in the planning and execution of development projects; and</li> <li>• Impose and collect environmental protection levies.</li> </ul> <p>Part IV of the Act exclusively deals with the activities requiring Environmental and Social Impact Assessment and describes the permitting processes leading to the acquisition of an environmental license.</p>	Provides guidance on registration, screening and assessment of the project impacts. This ESIA report is guided by same.
10.	<p><b><u>Environment Protection Agency (Environmental Impact Assessment License) Regulations 2010</u></b></p> <p>The Environmental Protection Agency Regulations 2010 augmented the Environmental Protection Agency Act 2008, detailing how the application for a license is undertaken and the requirements to mitigate, monitor and manage the impacts identified in the assessment. In addition, the stipulate the structure and contents of the ESIA report.</p>	Provides guidance on registration, screening and assessment of the project impacts. This ESIA report is guided by same.
11.	<p><b><u>National Protected Area Authority and Conservation Trust Fund Act, 2012</u></b></p> <p>This Act provides for the establishment of the National Protected Area Authority (NPAA) and Conservation Trust Fund. The purpose of the Act is to promote biodiversity conservation, wildlife management, research and to provide for the sale of ecosystems services in national protected areas. Part III of the Act states the role of the NPAA, which is to exercise oversight and authority over National Parks and Protected Areas designated for conservation purposes and to promote sustainable land-use practices and sustainable environmental management. Furthermore, section III (f) states that another function of the NPAA is to collaborate with other stakeholders in developing a national REDD+ Strategy and to promote REDD+ projects in Sierra Leone as a sustainable source of financing for protected</p>	No forests or protected areas will be impacted but biodiversity impacts from clearance of some vegetation as part of site preparation are addressed by the ESMP

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
	area management. Section III (xi) promotes co-management of natural resources for the NPAA within and outside national protected areas with local forest edge communities.	
12.	<p><b><u>The Forestry Act, 1988</u></b></p> <p>This Act is identified as pertinent to the Sustainable Tourism Development Project activities because the activities would impact the forest and the Act preserves the forest environment, promoting the practice of forestry in all use of forestland, to ensure sustainability of forest products, and the protection of the soil and water resources that constitute the environment. Removal of a national or community forest by whatever means, without legal permission, is prohibited by the Act.</p>	No forests or protected areas will be impacted but biodiversity impacts from clearance of some vegetation as part of site preparation are addressed by the ESMP
13.	<p><b><u>Forestry Regulations, 1990</u></b></p> <p>This Act is targeted because the proposed tourism activities may adversely affect portions of the protected forest of the Western Area Peninsula and the regulations state that no protected forest should be tampered with in any way without written permission of authorisation from the Forestry Division to clear land in a classified forest.</p>	No forests or protected areas will be impacted but biodiversity impacts from clearance of some vegetation as part of site preparation are addressed by the ESMP
14.	<p><b><u>Wildlife Conservation Amendment Act, 1990</u></b></p> <p>The Wildlife Conservation Act provides for the protection of wildlife and conservation management and includes the establishment and operation of National Parks. Relevant requirements to this project are included below:</p> <ul style="list-style-type: none"> <li>Activities within the National Protected Areas that would disturb or injure the flora and fauna or cause destruction or damage to the habitat is forbidden;</li> <li>Section 20, concerning the prohibition of cutting trees applies to the period between publishing the intention to create a NP and its creation. Article 7 (c), (l) &amp; (m) particularly apply though and are prohibited, unless authorised.</li> </ul>	No known wildlife will be impacted but biodiversity impacts from clearance of some vegetation as part of site preparation are addressed by the ESMP
15.	<p><b><u>National Disaster Management Agency Act, 2020</u></b></p> <p>This Act provides for the National Disaster Management Agency to; manage disasters and similar emergencies throughout Sierra Leone,</p> <ul style="list-style-type: none"> <li>establish offices of the Agency throughout Sierra Leone,</li> <li>establish national, regional, district and chiefdom disaster management committees,</li> <li>establish a National Disaster Management Fund to provide finances for the prevention and management of disasters and similar emergencies throughout Sierra Leone and to provide for other related matters.</li> </ul>	The project involves soil stabilization and geotechnical studies. The relevant agencies will be engaged for support.
16.	<p><b><u>National Water Resources Management Agency Act 2017</u></b></p> <p>This Act provides for the equitable, beneficial, efficient, and sustainable use and management of the country's water resources; to establish a National Water Resources Management Agency; to provide a Water Basin Management Board and Water Catchment Area Management Committees for the management of the water resources and other related matters. The Act makes provisions for how the Project is required to abstract water from the water resource points. Specifically, Part II, Section 2 prohibits the unlicensed use of raw water, while Part VII, Sections 28 and 29 outlines the procedure for a water use permit acquisition.</p>	Project construction activities could impact water bodies through sediment transport. This is addressed by the EMP
17.	<p><b><u>Sierra Leone Water Company Act, 2017</u></b></p>	The project will be connected to utility services including water. At

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
	The Act establishes the Sierra Leone Water Company to; develop and operate satisfactory water supply services at reasonable costs and on self-supporting basis in every specified area; and facilitate the provision of safe water and related sanitation services in rural communities	the operational phase water will be required for daily operations
18.	<p><b><u>The Road Transport Authority Act (1996) (Amended to the Roads Safety Authority Act, 2016)</u></b></p> <p>This is an Act to provide for the establishment of an authority for the regulation and development of the road transport industry, including the registration and licensing of vehicles, the licensing of drivers, the prescription of routes for passenger and goods transportation and for other related matters.</p> <p>The objectives for which the Authority is established is regulate, coordinate and promote efficiency in all activities within the road transport sector, with a view to enhancing or improving the contribution of the sector to the economic development of Sierra Leone:</p> <p>Responsibilities of the Authority include the following:</p> <ul style="list-style-type: none"> <li>• to design and regulate rules and regulations regarding: <ul style="list-style-type: none"> <li>– registration and licensing of vehicles</li> <li>– testing vehicle and driver fitness</li> <li>– licensing of drivers</li> <li>– the routing and monitoring of passenger and goods transportation</li> </ul> </li> <li>• to promote road safety through: <ul style="list-style-type: none"> <li>– the establishment and dissemination of a code of conduct, to be known as a Highway Code for drivers and other users of roads and highways</li> <li>– to establish and maintain a data bank of relevant information on vehicles and the transportation industry as a whole</li> </ul> </li> </ul> <p>The Authority has the power to impose and levy fines including vehicle licensing and registration fees with the approval of parliament.</p>	The project implementation will come with some traffic impacts and the relevant road safety institutions must be engaged to ensure the safety of persons and property
19.	<p><b><u>The Road Maintenance Fund Administration Act, 2010</u></b></p> <p>This is an Act to establish a Road Maintenance Fund and an administration for financing the maintenance of the core road network and to provide for other related matters.</p> <p>The object for which the Administration was established is the proper, efficient, economic and sustainable management and administration of the Fund.</p> <p>The functions of the Administration include:</p> <ul style="list-style-type: none"> <li>• management and administration of the Fund;</li> <li>• subject to this Act, approval of the amount of funding to be made available to the Authority from the Fund for the performance of the Authority's functions;</li> <li>• effective monitoring of the use of monies allocated from the Fund;</li> <li>• approval of any application from any local council or body for funding from the Fund, of any road-related activity;</li> </ul>	District and local council and other relevant institutions will have to access the fund to maintain the upgraded road especially at the operation phase
20.	<p><b><u>Employers and Employed Act, 1960</u></b></p> <p>The Act regulates relations between employers and employed, and safeguards the health of the employed. Sets forth provisions relating to the formation and interpretation of contracts of service, the recruitment of native labour for foreign services, restrictions on the engagement of industrial workers, employment of women, adolescents, and children</p>	Development of the project's human resource and recruitment policies and plans will be guided by this national employment legislation

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
	apprenticeship contracts. Also regulates the death, insolvency, and change of residence of the employer; breaches of contract and disputes between the employer and employed, provisions as to agents; advances by employers.	
21.	<b><u>Factories Act 1974</u></b> This Act deals with health and safety measures as they concern the factory worker. It protects the worker through demands for all aspects of cleanliness, reports of all injuries, accidents, diseases, and death. It makes provision for inspection of facilities, prescribes the powers of an inspector, and sets penalties for defaulting parties.	Occupational health and safety issues will arise especially during construction and plans and policies will be guided by this Act

### 4.3 Tourism Sector Legislation and Related Requirements

The tourism sector legislation reviewed include:

- The Development of Tourism Act 1990
- Sierra Leone Local Content Agency Act, 2016
- Sierra Leone Small and Medium Enterprises Development Agency Act, 2016
- Public Private Partnership Act, 2014
- The Finance Act, 2016

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
22.	<b><u>The Development of Tourism Act 1990</u></b> The Development of Tourism Act 1990 provides for the promotion and development of Tourism in Sierra Leone; and to provide for the establishment of a National Tourist Board for the implementation of the Ministry's strategies and policies. This Act establishes a National Tourism Authority – the National Tourist Board of Sierra Leone, defined its roles, responsibilities and provides very attractive statutory development aids and incentives for investors in the Hotel and Tourism sector.	The National Tourist Board will be responsible for classifying the facilities upon completion before operation.
23.	<b><u>Sierra Leone Local Content Agency Act, 2016</u></b> Establishes the Sierra Leone Local Content Agency to provide for the development of Sierra Leone local content in a range of sectors of the economy such as industrial, manufacturing, mining, petroleum, marine resources, agriculture, transportation, maritime, aviation, hotel and tourism, procurement of goods and services; public works, construction and energy sectors; to promote the ownership and control of productive sectors in the economy by citizens of Sierra Leone; and to provide for other related matters.	Implementation of the SLEDP will create jobs for locals and boost the local economy through growth of SMMEs
24.	<b><u>Sierra Leone Small and Medium Enterprises Development Agency Act, 2016</u></b> Being an Act to provide for the establishment of the Small and Medium Enterprises Development Agency, to create a conducive environment within which Small and Medium Enterprises can thrive and operate, to provide for Sierra Leone's fiscal, monetary and banking policy, trade and industry, technology, marketing, infrastructural and institutional development, and for other related matters.	The objective of the project is to ensure economic development. SMEDA will be instrumental in providing access to affordable finance for SMEs in the tourism industry



No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
25.	<p><b><u>Public Private Partnership Act, 2014</u></b></p> <p>Being an Act to promote, facilitate and streamline conclusion and implementation of public private partnership (PPP) agreements by a contracting authority; to establish a Public Private Partnership Unit; to establish private partner selection procedures in PPP Agreements; and to provide for matters incidental thereto.</p> <p>Amends the National Public Procurement Act, 2004.</p>	At the operations phase, facilities will be managed using a PPP arrangement
26.	<p><b><u>The Finance Act, 2016</u></b></p> <p>Provides for the imposition and alteration of taxes, to give effect to the financial proposals of the Government and to provide for other related matters for the financial year</p>	Operations of facilities will comply with state requirements including tax payment as required by the Finance Act

#### 4.4 Local Governance and Planning Requirements

The relevant legislation reviewed include:

- Local Government (Amendment) Act, 2017;
- The Local Government Act, 2004

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
27.	<p><b><u>The Local Government Act, 2004 (Amendment) Act, 2017</u></b></p> <p>This Act deals with the establishment and operation of local councils around the country to enable meaningful decentralization and devolution of Government functions. It stipulates that a local council shall be the highest political authority in the locality and shall have legislative and executive powers to be exercised in accordance with this Act or any other enactment. It shall be responsible, generally for promoting the development of the locality and the welfare of the people in the locality with the resources at its disposal and with such resources and capacity as it can mobilize from the central government and its agencies, national and international organizations, and the private sector. The local council should initiate and maintain programs for the development of basic infrastructure and provide works and services in the locality. A local council shall cause to be prepared a development plan which shall guide the development of the locality.</p> <p>Many projects are bound to operate within areas controlled by one local council or another. There is also a relationship between the local council and the Chiefdom within which a project operates. Therefore, every project is required to involve local councils in their development work. The schedules to the Local Government Act outline the activities of various MDAs that have been devolved to local councils.</p>	Local governance structures will be useful in project implementation activities such as planning, grievance redress, provision of security etc.

#### 4.5 Public Health, Safety, Security and Social Protection

The reviewed legislation on public health, safety security and social protection includes:

- Public Health Amendment Act, 2014

- Sierra Leone Health Service Commission Act, 2011
- Persons with Disability Act, 2011
- National HIV and AIDS Commission Act, 2011
- National Security and Central Intelligence Act, 2002
- Sexual Offences Act, 2012
- The Domestic Violence Act, 2007

No.	Legal Framework and Key Compliance Requirements	Applicability to Proposed Project
28.	<b><u>Public Health Amendment Act, 2014</u></b> This Act provides with respect to matters of public health in Sierra Leone, including, among other things, water supply, drainage, water pollution, sanitation, hygiene and wholesomeness of food, the control of animals, and nuisances. The Act prohibits the sale of food intended for, but unfit, for human consumption and provides with respect to food inspection.	Project construction activities could have impacts on public health. This is addressed in the ESMP
29.	<b><u>Sierra Leone Health Service Commission Act, 2011</u></b> This is an Act to provide for the establishment of the Sierra Leone Health Service Commission to assist the Ministry responsible for health in the delivery of affordable, accessible and improved healthcare services to the people of Sierra Leone	The project will rely on available health facilities to access healthcare services when necessary
30.	<b><u>Persons with Disability Act, 2011</u></b> Being an Act to establish the National Commission for persons with disability, to prohibit discrimination against persons with disability, achieve equalization of opportunities for persons with disability and to provide for other related matters.	Project human resource and recruitment policies will make provisions for persons with disability
31.	<b><u>National HIV and AIDS Commission Act, 2011</u></b> Being an Act to establish the National HIV and AIDS Commission to be making policies for the prevention, management and control of HIV and AIDS, to provide for the treatment, counselling, support and care of persons infected with, affected by or at risk of HIV and AIDS and for other related matters.	Presence of some migrant workers and tourists (at the operation phase) has implications for the spread of diseases including HIV/AIDS
32.	<b><u>National Security and Central Intelligence Act, 2002</u></b> The Act, provides for the internal and external security of Sierra Leone, and for other related matters.	Will guide security arrangement during project implementation to prevent crime and conflict
33.	<b><u>Sexual Offences Act, 2012</u></b> The Act, inter alia, increases the minimum jail sentence for sexual violations from two years to between five and fifteen years. It defines consent as an agreement by choice with the person having both the freedom and the capacity to make that choice. Persons under the age of 18 years are not capable of giving consent under the Act. Marriage can also not be used as a defence against violations of the Act, effectively prohibiting forced sex in marital relationships. The Act protects children, especially girls, from being abused by teachers, as well as traditional and religious leaders.	Workers will be given contracts that have Codes of Conduct that prohibits sexual harassment and other GBV.
34.	<b><u>The Domestic Violence Act, 2007</u></b> The act criminalizes domestic violence, addressing issues of sexual, physical, emotional, psychological and economic violence perpetrated against an individual in a domestic setting. The issues covered under the act are commonly committed against women and children, which were lawful if reasonable before the enactment of the law.	Locals, workers and tourists will be sensitized on domestic violence and the associated punitive measures.

#### 4.6 Environmental Assessment in Sierra Leone

The EPA Act enjoins any proponent or person to register an undertaking with the Agency and obtain an Environmental Permit prior to the commencement of the project. A license is required for the projects whose activities involve or include the following:

- (a) substantial changes in renewable resource use (e.g. conversion of land to agricultural production, forestry or to pasture land, rural development, timber production);
- (b) substantial changes in farming and fisheries practices (e.g. introduction of new crops, large scale mechanization or use of chemicals in agriculture);
- (c) exploitation of hydraulic resources (e.g. dams, drainage and irrigation projects, water basin development, water supply);
- (d) infrastructure (e.g. roads, bridges, airports, harbors, transmission lines, pipelines, railways);
- (e) industrial activities (e.g. metallurgical plants, wood processing plants, chemical plants, power plants, cement plants, refinery and petro-chemical plants, agro-industries).
- (f) extractive industries (e.g. mining, quarrying, extraction of sand, gravel, salt, peat, oil and gas);
- (g) waste management and disposal (e.g. sewerage systems and treatment plants, landfills, treatment plants for household and hazardous waste);
- (h) housing construction and development schemes;
- (i) establishment of places of entertainment, motor repair garages and welding shops;
- (j) importation of second-hand vehicles.

Factors for determining whether a project requires an Environmental Impact Assessment include:

- (a) the environmental impact on the community;
- (b) the location of the project;
- (c) whether the project transforms the locality;
- (d) whether the project has or is likely to have substantial impact on the ecosystem of the locality;
- (e) whether the project results in the diminution of the aesthetic, recreational, scientific, historical, cultural or other environmental quality of the locality;
- (f) whether the project will endanger any species of flora or fauna or the habitat of the flora or fauna;
- (g) the scale of the project;
- (h) the extent of the degradation of the quality of the environment
- (i) whether the project will result in an increase in demand for natural resources in the locality;
- (j) the cumulative impact of the project together with other activities or projects, on the environment.

The processes and procedures involved in the Environmental Assessment are outlined in **Table 4-2** below.

**Table 4- 2: Environmental Assessment Procedures in Sierra Leone**

<i>Service</i>	<i>Requirements</i>	<i>Service charge</i>	<i>Timeline</i>
<b>Application &amp; Screening</b>	Submit completed forms, project proposals and perimeter coordinates of concession area to Agency.	Proponent is required to submit to the Agency the signed credit advice from the bank as proof of payment	1-7 days
<b>Review of Scoping report</b>	Submission of scoping report by proponent (Mandatory for all project categories)	No service charge	Class A category: 1-2 weeks Class B category 1-7 days Class C category 1-3 days
<b>Public disclosure</b>	Submission of Environmental and Social Impact Assessment report (ESHIA) to include <ul style="list-style-type: none"> <li>• Notices in 2 widely read newspapers and</li> <li>• Publish in 2 issues of the Gazette</li> <li>• Display reports at Environment Protection Agency, National Library and other points</li> </ul>	No service charge – but EPA participation cost to be borne by proponent.  All ESHIA studies must be submitted to the Agency within 3 months upon completion of the scoping stage.	Mandatory for class A and B projects. 1 week to 1 month 7-day interval between publications  Class C: 1 week
<b>Environmental and Social Impact Assessment report review and approval</b>	<ul style="list-style-type: none"> <li>• Submission of public disclosure report (hard &amp; soft copies)</li> <li>• Board reviews ESHIA report</li> <li>• Notification letter to proponent on Board's</li> <li>• Decision</li> </ul>	No service charge	Class A & B category – within 12 weeks. Class C category - within 6 weeks

<b>Issuance of Environmental Impact Assessment License with Terms and Conditions</b>	<ul style="list-style-type: none"> <li>• Fee computation with Proponent or representative</li> <li>• Invoice provided for License fees and monitoring fees and payment done within 2 weeks</li> <li>• Proponent must submit signed credit advice to Agency prior to issuance of license</li> </ul>	<u>Project Category</u> Class A, B & C: Fee applicable.	<ul style="list-style-type: none"> <li>• Computation of fees - 1 day</li> <li>• Submission of signed credit advice – within 2 weeks</li> </ul>
<b>Monitoring and Inspection</b>	<ul style="list-style-type: none"> <li>• All projects required to acquire an EIS License.</li> <li>• Agency shall conduct quarterly monitoring to all EIA License projects.</li> <li>• Agency shall conduct annual Environmental audit on proponent's operations</li> <li>• Quarterly reports and audit reports to be submitted by proponent to Agency.</li> <li>• Review of reports: Quarterly and Annual.</li> </ul>	Cost included in EIA Fees	Quarterly and spot checks <ul style="list-style-type: none"> <li>• Proponent to submit quarterly report 1 week prior to end of quarter.</li> <li>• Audit (annual) reports must be submitted to Agency not later than 2 weeks prior to expiration of EIC License.</li> <li>• Review of audit reports to be done within 1 week upon receipt by the Agency.</li> <li>• Review of quarterly reports to be done within 3 days upon receipt by the Agency</li> </ul>
<b>Renewal of License</b>	Application for renewal, timely submission of quarterly and annual reports	Based on environmental footprints and compliance with terms and conditions, management plans.	EIA license renewal process must commence 3 months prior to expiration

## 4.7 Institutional Context

### The Ministry of Finance

Sierra Leone Ministry of Finance is a ministerial department of the Government of Sierra Leone and is in charge of managing the revenue and finances of the Sierra Leone government. The ministry implements the Sierra Leone government economic policies and public financial management and will be the lead agency in the implementation of this project

### Ministry of Trade and Industry

The Ministry has the sole mandate of developing policies and programs to stimulate local and export trade as well as to enhance private sector investment, industrial and economic growth.

Its core functions include:

- Coordinating and spearheading the implementation of the National Trade Policy
- Provide policy guidance and supervision to its agencies/departments for efficient and effective service delivery to the citizens of the Sierra Leone
- Coordinate the development of Trade Support Program that reflects the policy objectives of the Government
- Coordinate the formulation of Annual Implementation Plans for the Trade Support Program, reflecting appropriate sequencing of implementation of Programs and ensuring that Trade Policy remains an integral component of national development plans.
- Liaise with other Ministries, Departments and Agencies of Government to provide an enabling environment for the Private Sector to thrive.

This is the supervising ministry for SMEs and therefore at the forefront of ensuring sound policies to engender their growth and prosperity. Their role in the SLEDP as an implementing ministry will include responsibility for specific project activities such as facilitating the operations of the SMEs and promoting entrepreneurship initiatives.

### Ministry of Tourism and Cultural Affairs

The Ministry of Tourism and Cultural Affairs (MoTCA) was established in 1972. It is responsible for the sustainable development of tourism and culture in the country. The Ministry has three (3) divisions, namely; Administrative Division, Tourism Division and Cultural Division.

The Administrative Division, apart from its day-to-day administrative functions, has been given technical support to the Tourism Division to execute its divisional mandate, as well as exercising oversight responsibility over the National Tourist Boards (NTB).

The Tourism Division, described as the 'hub' of the Ministry is responsible for the formulation of strategic tourism policies, with oversight responsibility for the national Tourist Board.

The Cultural Division has the responsibility of formulating strategic cultural policies, plans and programs, as well as over-seeing the activities of five (5) implementing agencies whose activities relate to cultural issues; Monuments and Relics Commission, Sierra Leone National Museum, Sierra Leone Railway Museum, The National Dance Troupe, and Bunce Island: The Island.

This ministry is responsible for tourism promotion in the country and has the mandate to guarantee the growth of the sector. The ministry's input is vital to ensure consistency with national aspirations.

For this project, the MCTA is an implementing ministry with responsibility to directly supervise the design and upgrade of tourist sites.

#### Ministry of Fisheries and Marine Resources (MFMR)

The Ministry has as its primary mandate the provision of cheap source of protein for the majority of Sierra Leoneans, thus contributing towards the improvement of national nutrition and food security. The coordination and management of the rich and diverse aquatic resource (marine, freshwater) are the responsibility of the MFMR which is at the moment also responsible for the Monitoring Control and Surveillance of our territorial waters.

The fishery of Sierra Leone can from a management perspective be divided into two sections: Artisanal and Industrial. Embedded in the policy and strategy is the conservation and enhancement of environmental quality and sustainable management of rich biodiversity of wetlands, lakes, rivers, beaches, estuaries, bays, lagoons and inlands. The FAO code of Conduct for responsible fishing has also been adopted.

#### Ministry of Agriculture, Forestry and Food Security (MOAFFS)

The Ministry is charged with the overall responsibility for the management of the natural terrestrial ecosystem resources and food production. The three Technical Divisions of the MOAFFS are Agriculture - responsible for crop husbandry and protection programmes, Livestock - responsible for animal health and animal production and Forestry – responsible management of forestry resources including reserved resources such as the Western Area National Park in the project area.

#### Ministry of Lands, Country Planning and Environment

The Ministry is responsible for addressing land acquisition and transfers, land ownership and use, national development in a planning capacity and to provide advisory services to the public on land matters and is also responsible for physical planning and management of the forestry resources.

The Ministry of Land is empowered to carry out all land management and two important functions it performs are administration of all state and public lands and the acquisition of property and the payment of compensation. Any land acquisition or related activities will require the assistance of this Ministry.

#### National Tourist Board

The National Tourist Board (NTB) is the main implementing agency of the Ministry of Tourism and Cultural Affairs. It was established by the development of the Tourism Act 1990 and became operational in November, 1991. The NTB functions are described primarily as follows:

- Marketing tourism internationally, including participation in fairs and exhibitions,

- Marketing of the tourism potentials to attract foreign investors,
- Conducting research on tourism trends and market segments,
- Issuing of Licenses to Tourist Establishments,
- Promoting collaboration between the public and private sectors, and
- Providing technical and operational advice to boost tourism investment.

The NTB will be at the forefront of the selection of project sites and the design and upgrade of tourist sites.

#### Environment Protection Agency

The broad mandate of the Agency is to effectively protect and manage the environment; monitor and regulate companies with EIA Licenses and illegal operations that have an impact on the environment and advise the Minister of Environment on all environmental matters. Among others, the Agency has responsibilities to ensure compliance and enforcement of environmental impact assessment procedures and pursue environmental education for the creation of public awareness raising of the environment and its importance to the economic and social life of Sierra Leone.

#### Small and Medium Scale Enterprises Development Agency (SMEDA)

The Agency was recently established by an Act of Parliament in 2016 and became functional in 2017 as the government agency responsible for coordinating SME activities. Its core mandate is to promote a conducive business environment including an efficient and effective service delivery network in order to empower and develop small and medium scale enterprises for growth, productivity and competitiveness.

The Agency will provide inputs for the identification and selection of SMEs to benefit from the project.

### **4.8 World Bank Environmental and Social Operational Policies or Safeguard Policies**

The World Bank (WB) has published Environmental and Social Operational Policies (OPs) to guide the safe development of projects it is funding. The triggered policies are described in the **Table 4-2** below. The WB requirements are not inconsistent with the national requirements and therefore no implementation conflicts are foreseen.



**Table 4- 3: Summary of World Bank OPs**

OP/BP	Safeguard	Summary of core requirements	Relevance	Remarks or recommendation for proposed project
4.01	<b>Environmental Assessment</b>	Help ensure the environmental and social soundness and sustainability of investment projects.  Support integration of environmental and social aspects of projects in the decision-making process.	Triggered	The proposed project is classified as <b>Category B</b> because its potential adverse environmental impacts on the biophysical and socio-cultural environment is minimal, site-specific, mostly reversible with designed mitigation measures.
4.04	<b>Natural Habitats</b>	Promote environmentally sustainable development by supporting the protection, conservation, maintenance, and rehabilitation of natural habitats and their functions.	Triggered	Project implementation will involve clearing of a few trees within a protected forest.
4.09	<b>Pest Management</b>	Minimize and manage the environmental and health risks associated with pesticide use and promote and support safe, effective, and environmentally sound pest management.	Not triggered	The project implementation will not include pesticide application.
4.10	<b>Indigenous Peoples</b>	Design and implement projects in a way that fosters full respect for indigenous peoples' dignity, human rights, and cultural uniqueness and so that they (1) receive culturally compatible social and economic benefits, and (2) do not suffer adverse effects during the development process.	Not triggered	There are no indigenous people on the project site or within the project communities of influence
4.11	<b>Physical Cultural Resources (PCR)</b>	Assist in preserving PCR and in avoiding their destruction or damage. PCR includes resources of archaeological, paleontological, historical, architectural, religious (including graveyards and burial sites), aesthetic, or other cultural significance.	Triggered	There is no cultural site of historical, archaeological, religious, or other cultural significance in the project's physical area of influence. However, there could be chance find of archaeological material.

OP/BP	Safeguard	Summary of core requirements	Relevance	Remarks or recommendation for proposed project
4.12	<b>Involuntary Resettlement</b>	Avoid or minimize involuntary resettlement and, where this is not feasible, assist displaced persons in improving or at least restoring their livelihoods and standards of living in real terms relative to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.	Not triggered	There is no land acquisition as project is on a state land i.e. protected forest.
4.36	<b>Forests</b>	Realize the potential of forests to reduce poverty in a sustainable manner, integrate forests effectively into sustainable economic development, and protect the vital local and global environmental services and values of forests.	Triggered	Project implementation will involve clearing of a few trees within a protected forest.
7.50	<b>Projects on International Waterways</b>	Ensure that the international aspects of a project on an international waterway are dealt with at the earliest possible opportunity and that riparians are notified of the proposed project and its details.	Not triggered	The project is not on any international waterway.
7.60	<b>Projects in Disputed Areas</b>	Ensure that other claimants to the disputed area have no objection to the project, or that the special circumstances of the case warrant the Bank's support of the project notwithstanding any objection or lack of approval by the other claimants.	Not triggered	The project area is not disputed.

The World Bank Group General Environmental Health and Safety Guidelines are also good international industry practice, applicable to this subproject.

## 5.0 ENVIRONMENTAL AND SOCIAL BASELINE CONDITIONS

Baseline conditions give the existing status of the environment in the area before the commencement of the proposed project. The information serves the purpose of a base reference against which the changes due to the implementation of the project are measured. The baseline conditions of the proposed project area are discussed in this chapter.

### 5.1 Project Location

The proposed project is located in the Western Area Rural District of the Western Area which is one of five principal divisions of Sierra Leone. The Western Area comprises the oldest city and national capital Freetown and located around the peninsula between latitude 8°18'41.39 N and longitude - 13°2'8.5 W (8.3115° N, 13.0357° W). It is bordered to the northeast by the North-Western Province, to the southeast by the Southern Province and to the south by the Atlantic Ocean (**Figure 5-1**).



Source: <https://www.mappr.co/counties/sierra-leone-provinces/>

**Figure 5- 1: Map of Sierra Leone showing the Western Area**

The Western Area Rural District is one of the sixteen districts of Sierra Leone and located mostly around the peninsula in the Western Area of Sierra Leone. The district capital and largest city is Waterloo. Other major towns in the district include Newton, Benguema, Leicester, Tombo and Regent. It lies between latitude 8° 18' 26.8"N and longitude 13° 5' 15.8"W. The district is bordered by the country's capital Freetown to the east and west; Port Loko District to the north; and the Atlantic Ocean to the south and east (**Figure 5-2**).



Source: Western Area Rural District Profile, 2015

**Figure 5- 2: Map of the Western Area Rural District of Sierra Leone showing the project location (marked)**

## 5.2 Physical Environment

### 5.2.1 Topography and Relief

The area consists of three roughly parallel ranges of highlands that are narrow, but extend about 30 km south of Freetown. The hills and mountains in the highlands rise steeply to heights of between 1,000 and 1,500 m above mean sea level and continue southwards as a once-protected forest highland and are now threatened by encroachment of uncontrolled urban developments. These developments have caused significant increase in storm water runoff and erosion resulting in pronounced changes

in natural channels. Furthermore, the cutting down of forests, and the reduction in tree species (**Annex 1**) on the hillsides is causing soil erosion and increased landslides and flooding (**Plate 5-1**).

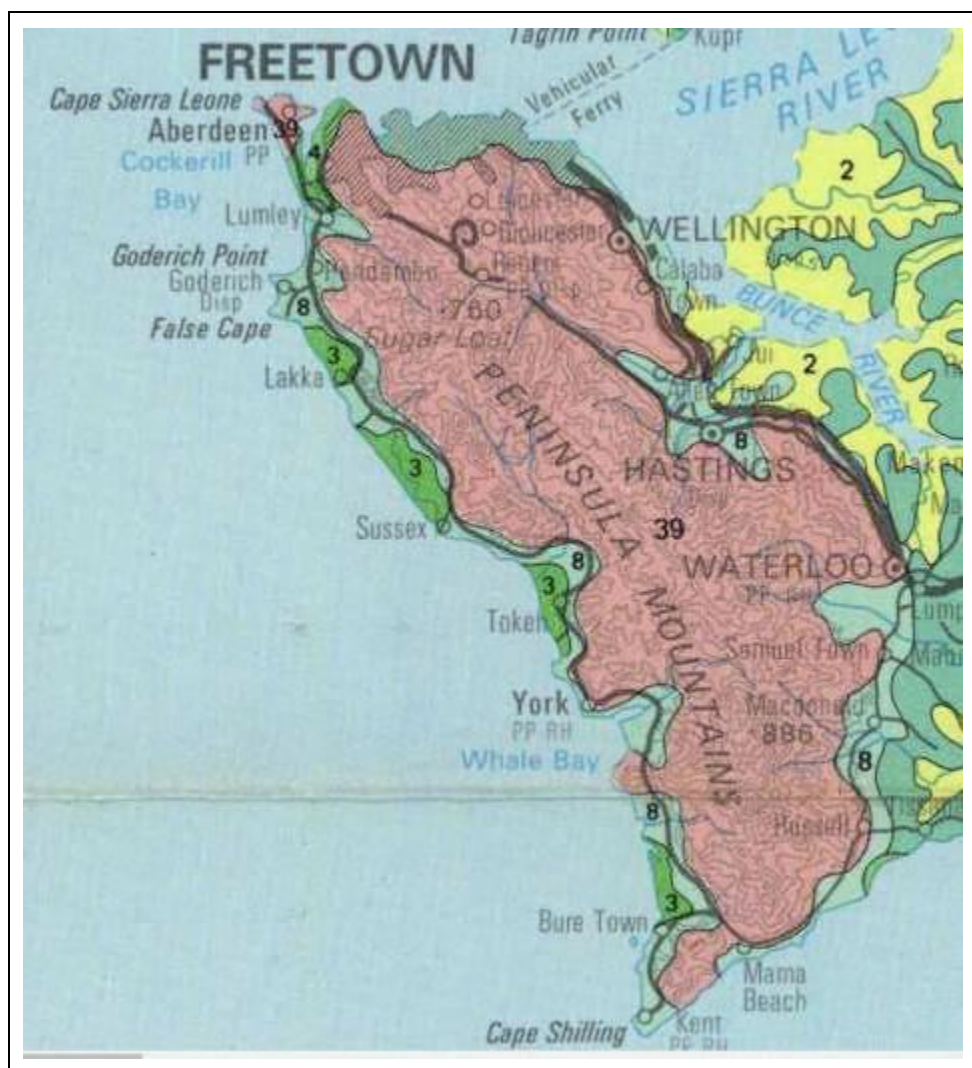


**Plate 5- 1: Evidence of landslides in the Western Area Rural District**

### **5.2.2 Geology and Soils**

The Freetown peninsula has coastal plain formation near west periphery and mountainous formation in the southeast portion. Coastal plain area is formed with yellow-brown sandy soil. Uplifted coastal terraces are formed with shallow soils over laterite sheet. Mountainous portion has dissected hills formed on early Mesozoic gabbro. Shallow soil layer is formed over it with pockets of deeper loams to clays. **Figure 5-3** shows distribution of soil formation in coastal plain (code 3, 4 and 8) and mountainous regions (code 39). (UNDP & FAO 1980).





**Figure 5- 3: Map of the Soil formation type in Freetown (UNDP & FAO 1980).**

### 5.2.3 Drainage

The western area catchment comprises both Western Area rural and urban and hosts more than fifty water catchments. Most of the water sources are springs flowing from the mountains within the forests through weathered Gabbroic rocks and valleys to the low-lying areas spanning an area of about 22km from Kaningo to Thunder Hill in the west and east respectively.

However, about half of the waterbodies in the catchment area have been impacted or destroyed by huge forms of encroachment. This situation is aggravated by climate-related shocks and risks such as; prolonged dry spells, flooding and flash floods which are increasing in both intensity and frequency. The Guma Valley Water Company, which is the main water supply company, is therefore usually challenged with a low level of water in their dams.

Some of the water bodies include Bluewater, Congo River/dam, Guma reservoir/dam, River No. 2, Big Water, Orogu River, Deep Eye Water etc. Within Tacugama, there are two (2) rivers namely Congo and Takiyama.



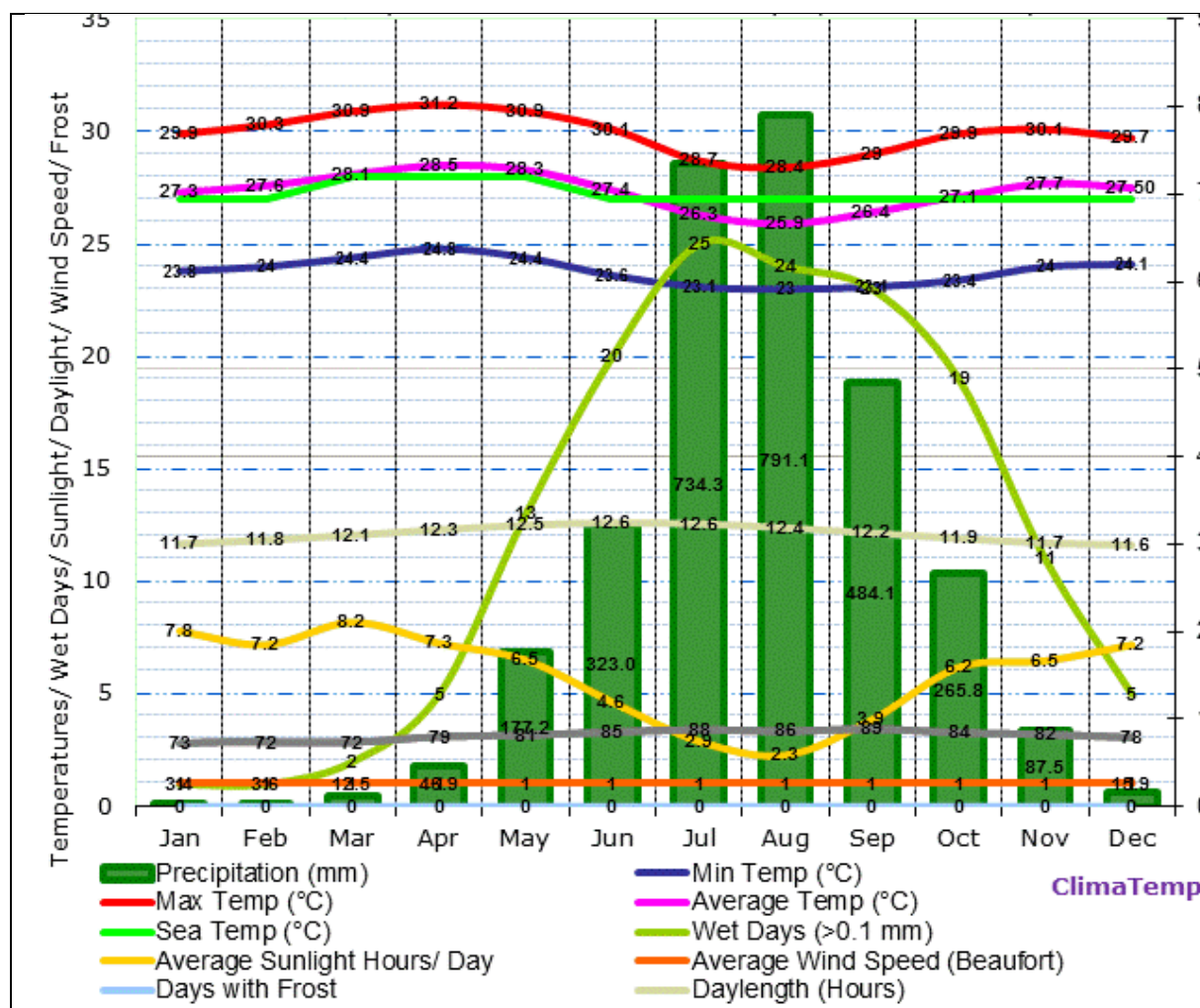
Source: Western Area Peninsula Water Fund Report, 2021

**Figure 5- 4: Drainage map of the Western Area Catchment in Sierra Leone**



### 5.2.4 Climate

The area has a tropical monsoon climate which is wetter than the more typical West African tropical wet and dry climate. There are two pronounced seasons comprising an extended rainy season from May to November, which brings torrential downpours with over 4,000 mm annual precipitation and a dry season from December to March (Figure 5-5).



Source: ClimaTemps.com

**Figure 5- 5: Climate data for the Western Area Rural District**

### 5.2.5 Environmental Quality

#### Air Quality

The Particulate Matter (PM<sub>2.5</sub> & PM<sub>10</sub>) concentrations, monitored at the Tacugama Chimpanzee Sanctuary project site, of 14.97 µg/m<sup>3</sup> and 27.20 µg/m<sup>3</sup> respectively were found to be within the

Sierra Leone Standard (SLS 42:2014) permissible values of 25 and 50 ( $\mu\text{g}/\text{m}^3$ ). The monitoring team did not observe much activities in the communities that could have significant influence on the air quality at the time of the assessment.

#### Ambient Noise

The daytime ambient noise levels (LEQ) at the Tacugama Chimpanzee Sanctuary project site and the nearest residence were 71.4 and 50.9 dB(A), respectively. The ambient noise levels (LEQ values) recorded were compared to their respective Sierra Leone Standards (SLS 83:2019) and IFC guideline values of 55dB for SLS day, 55dB for IFC Day, 45dB for SLS Night and 45 dB for IFC night. The daytime ambient noise levels (dBA) for the project site was above the SLS and IFC LA<sub>EQ</sub> guideline values mainly because of the constant loud chirping of crickets within the project site. Also, there were intermittent passing of cars and motor bikes as at the time of the assessment.

The nighttime ambient noise levels (LA<sub>EQ</sub>) recorded were 68.1 dB (A) at the project site and 44.6 dB(A) at the nearest residence respectively. Again, the nighttime ambient noise level for the Tacugama Chimpanzee Sanctuary was above the SLS and IFC guidelines due to the constant loud chirping of crickets while the levels for the nearest residence were within limits (**Annex 2**).

#### Surface water quality

The Congo and Takiyama rivers that flow within the Tacugama Chimpanzee Sanctuary is used by downstream communities like Bathurst for domestic purposes. Water quality tests were conducted on the 14th October, 2021 at 01:30pm. Parameters including Temperature, pH, TDS and Conductivity were measured in-situ using a field kit.

From the in-situ analysis, pH, conductivity, TDS and temperature values were 6.33, 14.82 $\mu\text{S}/\text{cm}$ , 7.60mg/l, and 26.0°C respectively for the Congo River. For the Takiyama, pH, conductivity, TDS and temperature values were 7.10, 12.80 $\mu\text{S}/\text{cm}$ , 7.10mg/l, and 23.5°C respectively. The parameters analysed were below the WHO drinking water guidelines, showing that the quality of both water bodies is generally good (**Annex 2**).

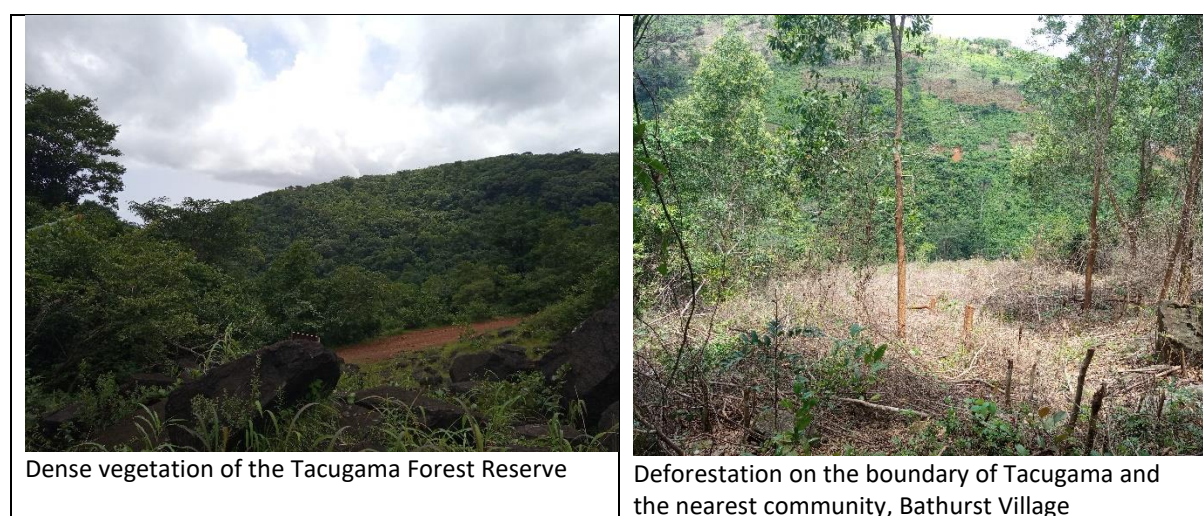
### **5.3 Biological Environment**

#### **5.3.1 Vegetation**

The vegetation in the area is a combination of secondary forest and forest regrowth which was formerly closed high forest. The vegetation is at various stages of regrowth from abandoned farm bush to secondary forest with trees up to 10m tall. The farm bush is generally overgrown by shrubby or suffrutescent weeds. This develops into a thicket with numerous woody climbers. Scattered large forest and tree-crop species left standing after clearing, are a common feature.

The project site is located within the Western Area Peninsula National Park, which is a protected forest with dense vegetation and home to species such as *Lophira alata*, *Heritiera utilis*, *Klainedoxa gabonensis*, *Uapaca guineensis*, *Erythrophleum ivorensis* and *Piptadeniastrum africanum*. Rock

outcrops and secondary forests occur in this type. Species such as *Musanga cecropioides*, *Carapa procera*, *Macaranga barteri*, *Anthocleista nobilis*, *Bridelia micrantha*, *Myrianthus arboreus* and *Sterculia tragacantha*, commonly occur in the secondary forests. Logging activities over several years have largely led to the replacement of the primary closed forest to secondary forest in most places. At the project site, species recorded include *Sterculia tragacantha*, *Piptadeniastrum africanum*, *Celtis zenkeri* and *Harungana madagascariensis*. *Piptadeniastrum africanum* is the only characteristic species of the Moist Evergreen Forest zone that was recorded on the site. The climber tangle was composed of species such as *Scleria boivinii*, *Smilax kraussiana*, *Tetracera potatoria* and *Ipomoea mauritiana*. Common shrubs include *Chromolaena odorata*, *Melanthera scandens* and *Stachytarpheta cayennensis*. There is no species of conservation concern at the project site as majority of the species are of Least Concern (LC) or Not Yet Assessed on the IUCN Red List (**Annex 1**).



**Plate 5- 2: State of the vegetation at Tacugama**

### 5.3.2 Fauna

The area provides important habitat for some 400 bird and 50 mammal species, including critically endangered species such as the Western Chimpanzee (*Pan troglodytes verus*), the endangered Jentink's Duiker (*Cephalophus jentinki*) also known as gidi-gidi in Krio and the vulnerable iconic African bird *Picathartes gymnocephalis*. Other animals in the area are monkeys, snakes, butterflies and tropical fish. Deforestation within the WAPNP and urbanization of the land surrounding it shrinks the habitat of these species, increases the potential for human-wildlife conflict, and makes it easier for poachers to access the Park. In the northern sections of the park, poachers frequently blanket the forest floor with snares, trapping and killing everything that falls into them. At the project site, only animals such as butterflies, snakes and birds are found.





**Plate 5- 3: Some mammal and bird species in the project area**

## 5.4 Socio-Economic Environment

### 5.4.1 Governance Structure

Sierra Leone is a constitutional parliamentary republic with three spheres of government: national government, local councils and chiefdom councils. At the district level, the local councils and chiefdoms govern with powers, from the Local Government Act, 2004, to raise revenue including via local taxes, property rates, licences, fees and charges, and to receive mining revenues, interest and dividends etc.

Governance at the district level is the responsibility of the local council, led by a chairperson, councillors, district development committees, village heads (headmen), village development committees and tribal heads.

At the local community level, the headmen lead and is assisted by a village development committee and tribal heads for respective tribes within the community. The tribal heads are responsible for resolution of conflicts mostly spiritual among members of their respective tribes.

### 5.4.2 Demography

The district has a total population of 444,270 comprising 49.8% males and 50.2% females. This is about 6.26% of the national population (**Table 5-1**) with an inter censal growth rate of 8.9 % per annum. The youth population is 43.2% with persons living with disability constituting 0.9% of the total population. The district poverty level is 51% of the total population. Despite 5 out of every 10 persons being poor, the district has one of the lowest poverty rates and comes only behind the Western Area Urban District with 35%. The three highest rates of deprivation are inadequate electricity, decent cooking energy and good sanitation. The total number of people who are food insecure in Western Rural Area is estimated at 53,116 and the percentage of households who are food insecure (severe and moderate) is 22.0%. However, the prevalence of food insecurity remains below the national average. The district has a population density of 724.7 persons per square kilometre and 90.2% of the

population living in urban communities making it one of the most urbanized in the country (2015 Population and Housing Census, Western Area Rural District Profile).

**Table 5- 1: District population data**

Area	Ward	Population
Koya Rural	Ward	70,423
Mountain Rural	Ward	30,488
Waterloo Rural	Ward	213,778
York Rural	Ward	129,581
<b>Sierra Leone</b>	<b>Republic</b>	<b>7,092,113</b>

Locally, there are over 1,000 persons in the nearest community, Bathurst comprising about 60% females and 40% males. The average household size is six (6) with 60% Christians and 40% Muslims. Ethnically, The Mendes constitute the majority followed by the Krios, Limbas and Temne.

#### **5.4.3 Education and Literacy**

The district is the second most literate in the country with only 29.2% of the population without any form of education. This is lower than the national average of 41.9% of persons with no education (**Table 5-2**). Currently, there are over 540 schools opened in the Western Rural district. Although the number of children in primary education has greatly increased, implementation of the compulsory education requirement has suffered a number of setbacks including a shortage of schools and teachers, and the outbreak of Ebola and COVID-19 (2015 Population and Housing Census: Thematic Report on Education and Literacy).

**Table 5- 2: Percentage of the population 6 years and older by highest educational level attained**

Education	Western Area Rural	National Average
No education	29.2	41.9
Kindergarten	3.2	2.4
Primary	26.8	26.1
JSS	17.0	13.3
SSS	17.0	11.3
Vocational/Technical/Nursing/Teacher	3.1	2.3
Higher (First Degree)	2.1	1.3
Tertiary (Post-graduate)	0.7	0.4
Koranic	0.5	0.9
Other	0.2	0.1

Source: Statistics Sierra Leone, 2015 Population and Housing Census

At the local level, Bathurst has only one (1) community-owned primary school. The primary school is solely managed by the community and staff salaries are paid with proceeds of stream water sold to water tankers.

#### **5.4.4        *Economic Activities***

The main economic activities in the area are agriculture, fishing, trading, stone and sand mining. A few of the population have salaried work, as well as unskilled and skilled work such as dressmaking, carpentry, masonry etc. There are more women in cash earning employment than men. There is some gender stereo-typing as more women are engaged in agriculture, service shop market sales and elementary occupations than men, but are less than half as likely as men to be in more professional roles such as technical and associate professionals and senior officials and managers.

This rural zone is composed of Koya, Mountain, Waterloo and York wards in the Western Area Rural district. The dense population responds to the high demand for both commodities and casual labor. The zone contains a long shoreline as well as an extensive hinterland marked by the high Peninsula Mountain ridge, which has the effect of concentrating the population on the lower hills and near the shore. Agricultural land is at a premium, but the value of the limited family plots is greatly enhanced by the production of vegetables and fruits for the urban market, which is helped by very high rainfall. Poultry, small ruminants and pigs are kept in small numbers, but again their value is enhanced by the prices supported by the urban demand.

Around half of households' food comes from the market rather than their fields, and the cash for this and other costs of life comes not only from production as above and the sale of fish, but more so from urban-linked activities: petty trade, unskilled, skilled (local soap making, tailoring, hairdressing, etc.) and salaried work, some remittances, and begging by the poorest. Some households generate income from sand, stone and granite mining for the construction industry. In fact, a substantial minority of residents are not involved in agriculture – truly a 'peri-urban' picture, which is further reinforced by the incidence of theft of vegetables and livestock.

Tourism is also an activity on which some people rely. Vibrant groups of small, local entrepreneurs and community organizations currently serve the tourism market within the district. Facilities such as fishing lodges, Eco parks, Eco-village, hotels and guesthouses are run by local operators. Tourism activities such as catamaran tours, fishing expeditions, traditional and cultural experience tours, etc. employs locals as trained guides, industry staff, parking attendants. Tourism also provide livelihood to locals through associated businesses such as restaurants, drinking bars, and car hiring services.

Within Bathurst, the mainstay of the people is stone quarrying, sale of land, charcoal burning and petty trade.



#### 5.4.5 Access to Basic Services

##### Energy

The area has quite a high electricity access rate with 67.0% of households connected to the national grid. Other sources of power or lighting include generator, solar and battery/rechargeable light with 1.2%, 0.6% and 28.8% of the population respectively depending on these sources for lighting. Only 5.1% of the population has access to clean fuel and the large dependence on firewood and charcoal has resulted in an increasing depletion of the vegetation cover in the area.

##### Water

Majority of the population (about 80.0%) in the district has access to improved drinking water. However, within the project community, there is limited access to pipe-borne water and majority depend on streams especially the Congo river, which is the nearest to Bathurst. Pipe-borne water is also supplied from the Congo and Takiyama rivers. The quality of water of the afore-mentioned water bodies is generally good (**Annex 2**).



Congo Dam River



Takiyama river



Water supply infrastructure



Supply pipeline

**Plate 5- 4: Water supply situation in Tacugama**



## Sanitation

Sanitation within the Bathurst community is poor as practices such as open dumping and open defecation are rife. Many homes are old, sometimes dilapidated and mostly with no toilets making open defecation a common practice. Solid waste generated is seldom collected by municipal waste trucks hence residents resort to open dumping.

### **5.4.6 Health**

Life expectancy at birth is 63.2 with a maternal mortality per 100,000 live births of 542. Under-five mortality per 1,000 live births stand at 152. The prevalence of HIV in adults is 6.7%, prevalence of malaria in under-fives is 6.3% and children under years with full immunization status is 53.2%.

The District Health Management Team (DHMT) has a total of 317 registered staff medical and non-medical staff working in 12 Community Health Centers (CHC), 20 Community Health Posts (CHP), 21 Maternal Child Health Posts (MCHP) and 1 hospital. Traditional medicine forms part of the primary health care system in the area.

Locally, there is no health facility so residents are compelled to visit nearby communities such as Charlotte and Leicester.

### **5.4.7 Gender**

Sexual and Gender Based Violence (SGBV) and denial of women's rights still remain a concern in Sierra Leone. As a highly patriarchal society coming out of civil war, institutionalized gender inequalities are deepened by discriminatory customs and traditional practices, particularly with relation to child marriage, property rights, sexual offences, and female genital mutilation. For instance, the age at first marriage for most women is 19.8 with majority giving birth before age 20. Also, marriage in young persons between ages 15 and 19 is higher in females (11.4%) than in males (0.4%).

Factors such as high levels of illiteracy, poverty and economic insecurity prevent women from enjoying a lot of their internationally recognized rights and contributes to women's vulnerability to GBV. The ability to address these gender inequalities is further reduced by the exclusion of women from decision making, both at the local and national level.

According to the 2019 Sierra Leone Demographic and Health Survey (SLDHS), only 57% of women participate in decision-making even at home with just 37.0% having control over their own earnings. This figure further decreases at the national level. An estimated 61% of women between the ages of 15 and 49 experience domestic violence in the form of physical, sexual or emotional violence with 30% sustaining various degrees of injuries. The perpetrators are mostly husbands/partners (52.7%), mothers/stepmothers (34.9%), fathers/stepfathers (26.6%), sisters/brothers (14.5%), other relatives (13.8%), and teachers (8.0%). Interestingly, experience of violence is more common among women

who are employed for cash (66.0%) than women who are employed but do not earn cash or the unemployed.

Only 40.0% of victims of abuse seek help as about half (49.0%) of women agree to wife beating. Sources of help for victims include; own family (81.0%), husband/partner's family (37.0%), neighbors (20.0%), friends (17.0%), religious leaders (10.0%), police (5.0%), social work organization (0.2%), lawyer (0.3%) and others.

Female Genital Cutting (FGC) or circumcision is pervasive in societies as about 71.0% of women are circumcised before the age of 15. Circumcision is higher in Muslims (87.0%) than Christians (69.0%). It is also higher in rural areas (89.0%) than urban areas (76.0%).

In the project district, the Western Area Rural District, the trend is similar with only 27.9% of women having control over their own earnings and 51.8% agreeing to spousal violence. Physical violence accounts for 45.9% of spousal violence cases with sexual violence accounting for only 8.0%. Of spousal violence victims, 39.9% sought help, 21.3% never sought help but told someone, and 38.8% never sought help or talked about their experience. Despite being one of the districts with the least cases of FGC, prevalence rate is still high (79.0%) and is only better in the Western Area Urban District (74.0%) and Bo District (65.0%).

Access to critical GBV service providers including healthcare, psychosocial support and legal assistance is limited so GBV cases are either not reported or they are handled by community leadership. However, organizations like the UNFPA are raising awareness on relevant legislation involving gender-based violence, support to access free legal counselling/representation, and access to medical care for the victims and survivors of gender-based violence.

#### **5.4.8 Land Ownership/Tenure**

Land can be owned by individuals (private lands) or the state (state lands). For individuals, land can be acquired through purchase, lease, allocation, inheritance, gift, clearing, or adverse possession. Citizens can buy and sell freehold land in the Western Area, and there are no restrictions on the sale of land or land leases. However, the Non-Citizens (Interest in Lands) Act of 1966 prohibits non-citizens from purchasing, receiving in exchange for, or receiving as a gift any freehold land in the Western Area.

By law, the government can lease state land to foreign investors for commercial and industrial use so foreign investors are frequently encouraged by the government to lease land in the Western Area.

Land ownership disputes within the area have resulted in some confrontation between the TCS management and locals. Some locals have laid claim to portions of the sanctuary with the assertion that those portions are family lands.

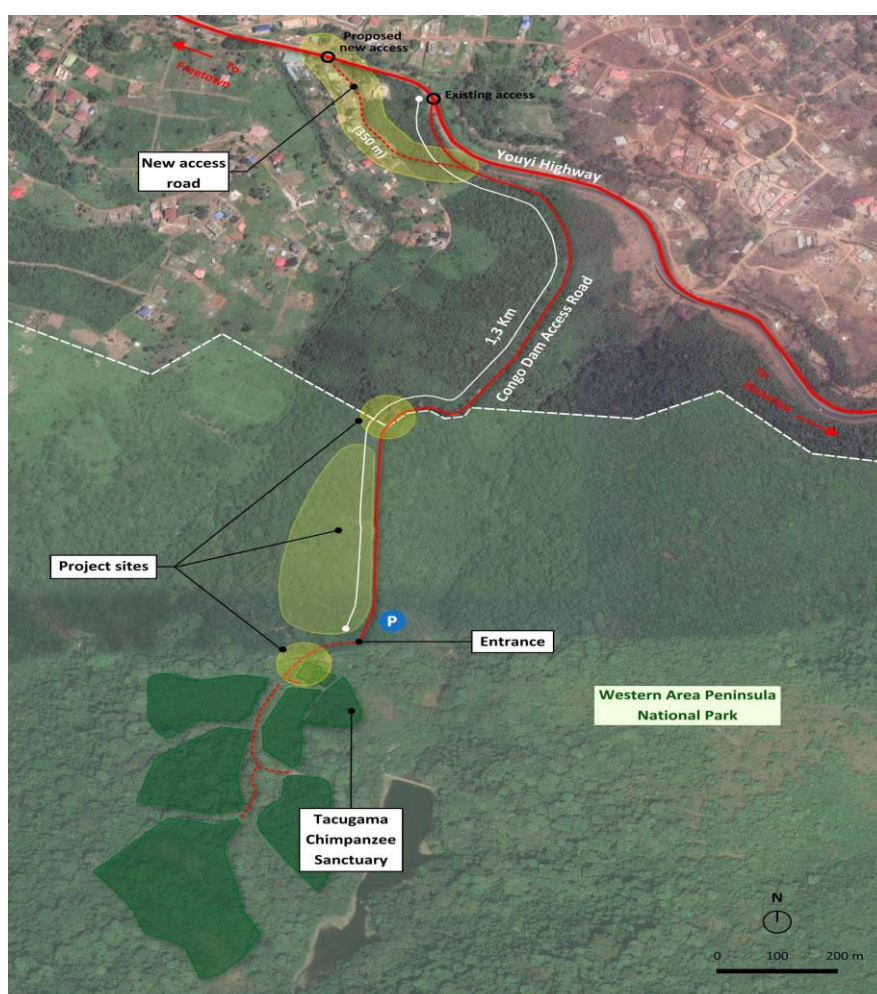
## 6.0 POTENTIAL ENVIRONMENTAL AND SOCIAL ISSUES AND IMPACTS

### 6.1 Project Area of Influence

The ESIA gives an identification, qualitative assessment and classification of potential environmental and social impacts and their respective management options based on the general project design concepts. The Tacugama project will have positive and potential negative social, economic and environmental impacts at different levels.

### 6.2 Geographical area of influence

The immediate geographical area of influence will be the Tacugama Chimpanzee Sanctuary which is within the Western Area Peninsular National Park (WAP-NP) and about 15km from Freetown, the capital. The TCS is a conservation park accredited by the Queen's Commonwealth Canopy (QCC) and a place for the rescue and rehabilitation of chimpanzees, that are national animals. Furthermore, it provides a natural barrier to the urban pressure coming from Freetown towards the forest as shown in **Figure 6-1**.



**Figure 6- 1: Tacugama Chimpanzee Sanctuary site map**

### 6.3 Environmentally sensitive areas to be influenced

Assessments indicate that there will be some adverse effect on biodiversity i.e. flora and fauna as the site is within a forest reserve. A few trees and plants will be cleared as part of land preparation for the commencement of construction activities. Within the project area, a total of 27 species belonging to 24 genera in 19 families were recorded. The families with the highest number of species were the Apocynaceae and Fabaceae with 3 species each. All other families had less than 3 species. The life form composition of the plants in the project site is presented in **Annex 1**. Trees constitute the dominant life form (40.7%) followed by Climbers (33.3%). The herb and shrub life forms were about equally represented in the flora. Medicinal plants and timber species (e.g., *Piptadeniastrum africanum*) could be affected.

To a limited extent, construction activities could affect fauna by restricting the movement of chimpanzees that use the proposed site as thoroughfare, albeit rare. Removal of vegetation that provide food for the fauna in the area could lead to death or emigration. Also, habitats of soil fauna including ants, worms, snakes etc. could be destroyed by excavation and compaction activities.

### 6.4 Community influence and vulnerable groups

The project site is in a protected forest and there are no communities within the forest. However, Bathurst, the nearest community located about 1 km from the proposed site, could be affected by construction activities especially the access road diversion. The road works could lead to traffic impacts such as accidents, knockdowns, and traffic jams.

Vulnerable groups are those at risk of becoming more vulnerable due to impacts from project implementation. These vulnerable people include women and girls who are vulnerable to gender-based violence including discrimination in employment, sexual harassment, violence, teenage pregnancy and forced marriage (**see Section 5.4.7**). This is because tourism brings in people who often have greater access to money and few social ties to the community. This can increase risks of sexual exploitation and transactional sexual relationships with women and girls, considering the high levels of poverty and vulnerability in the project area. Issues such as gender-based violence, discrimination, child labour among others will be minimized by mitigation measures proposed in this report.

### 6.5 Project Activities of Environmental and Social Concern

#### 6.5.1 Preparatory Phase Activities

Preliminary activities to be carried out prior to the implementation of the proposed project include:

- Survey and site selection;
- Project feasibility studies and Geotechnical assessments;

- Preparation of Environmental and Social Impact Assessment (ESIA);
- Permit and license acquisition;
- Material sourcing arrangements/contracts; and
- Mobilisation of construction staff.

#### **6.5.2 Construction Phase Activities**

Construction phase activities include among others:

- Mobilisation and transportation of equipment to project site;
- Land preparation involving site clearing;
- Construction of access road, improvement of unpaved road and installation of appropriate signage;
- Construction of parking bays;
- Construction of Conservation Education and Innovation Centre;
- Landscaping of botanical garden; and
- Construction of waste treatment system.

#### **6.5.3 Operation Phase Activities**

The main operation phase activities will be:

- Maintenance and management of project facilities;
- Disposal of waste from operations; and
- Traffic management.

#### **6.5.4 Decommissioning Phase Activities**

The main activities will be:

- Disconnection of utility services to temporary structures;
- Demolition/dismantling of temporary structures; and
- Waste management (collection and disposal).

### **6.6 Criteria of Impact Evaluation**

#### **6.6.1 Duration of the Impact**

- A temporary impact can last days, weeks or months, but must be associated with the notion of reversibility.
- A permanent impact is often irreversible. It is observed permanently or may last for a very long term.

#### **6.6.2      *Extent of the Impact***

- The extent is regional if an impact on a component is felt over a vast territory or affects a large portion of its population.
- The extent is local if the impact is felt on a limited portion of the zone of study or by a small group of its population.
- The extent is site-specific if the impact is felt in a small and well-defined space or by only some individuals.

#### **6.6.3      *Intensity of the Impact***

- The intensity of an impact is qualified as strong when it is linked to very significant modifications of a component.
- An impact is considered of average intensity when it generates perceptible disturbance in the use of a component or of its characteristics, but not in a way to reduce them completely and irreversibly.
- A weak intensity is associated with an impact generating only weak modifications to the component considered, without putting at risk some of its utilization or its characteristics.

#### **6.6.4      *Impact severity***

- A 'negligible or nil impact' or an impact of negligible significance is where a resource or receptor will not be affected in any way by a particular activity, or the predicted effect is deemed to be imperceptible or is indistinguishable from natural background levels.
- A 'minor impact' or an impact of minor significance is one where an effect will be experienced, but the impact magnitude is sufficiently small and well within accepted standards, and/or the receptor is of low sensitivity/value. In such instances, standard construction/ operational practices can address such impacts.
- A 'moderate impact' or an impact of moderate significance is where an effect will be within accepted limits and standards. Moderate impacts may cover a broad range, from a threshold below which the impact is minor, up to a level that might be just short of breaching an established (legal) limit. In such cases, standard construction practices can take care of these impacts but mitigation measures may also be required.
- A 'major impact' or an impact of major significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. In such cases, alternatives are required to address such impacts otherwise mitigation measures should be adopted with strict monitoring protocols.

The above classification is largely subjective, and may be overruled by new site-specific issues or information and detailed project activities not captured in this ESIA report.

### **6.7 Potential Positive Impacts**

The significant positive impacts of the Leicester Peak Viewpoint project are outlined as follows:



- Creation of employment opportunities;
- Increased commerce and other economic activities;
- Improvement in social services;
- Cultural empowerment and exchange; and
- Enhanced conservation awareness in the local community.

#### **6.7.1      *Creation of employment opportunities***

Employment opportunities for skilled, semi-skilled and unskilled labour will be created at the construction and operation phases as locals, will be recruited for short-term and long-term jobs. Jobs will such as tour guides, waiters, parking attendants. The presence of workers will create an opportunity for food vendors, shop owners and other business operators in the communities to make some income.

#### **6.7.2      *Increased commerce and other economic activities***

The local economy will experience an increase in opportunities directly and indirectly through the supply of goods and the necessary services for tourist activities. Growth in numbers and revenue will be experienced by Small, Medium and Micro-enterprises (SMMEs) including restaurants, supermarkets, hotels/guest houses, art markets, car rentals, hairdressing, sewing, mechanic shops etc. Cultural empowerment and cultural exchange.

#### **6.7.3      *Improvement in social services***

The influx of tourists into tourist destinations stimulates the improvement of social services such as electricity, and water supply to meet the standards of tourists. Also, tourism revenue helps improve other public services like healthcare and education services, in addition to a general increase in funding across the entire community.

#### **6.7.4      *Cultural empowerment and exchange***

Traditional communities often experience increased self-esteem as a result of outsiders' respectful interest i.e. tourists meeting locals and learning about their cultures. Also, community participation adds significant value to a sustainable tourism program as locals also enhance their language and social skills and cultural knowledge of other places.

#### **6.7.5      *Enhanced conservation awareness in the local community***

Most rural residents grow up in beautiful natural areas, yet many are unaware of the global significance of their natural and cultural resources until international nature tourists arrive, who are often enthralled by the local areas and communities. As a result, local communities experience a growing sense of pride and appreciation, which often leads to increased conservation efforts. Many residents become motivated to protect their communities and alter their resource usage patterns.



### **6.7.6      *Avenue for research, teaching and learning***

The Conservation Education and Innovation Centre and the botanical garden will serve as a hub of useful information on important fauna and flora for researchers. The presentation of a collection of plants will help teach systematics and also play the role of a public garden, which gives visitors the pleasure of a place set back from the urban norm.

## **6.8 Potential Negative Impacts**

The potential adverse impacts are grouped under the following:

- Preparatory phase impacts;
- Construction phase impacts; and
- Operations phase impacts.

### **6.8.1      *Preparatory and Construction Phase Potential Adverse Impacts***

The preparatory and construction phase potential adverse impacts are discussed below.

#### **Occupational health and safety risks**

The labour force would be exposed to workplace accidents, incidents and hazards including mechanical hazards e.g. crushing, impact, shearing, stabbing, trapping, entanglement, cutting/severing etc., non-mechanical hazards e.g., vibration, noise, radiations, dust, fumes, lighting, electricity, hazardous substances, extreme temperature, ergonomics, etc. and potential infection and spread of COVID-19, HIV/AIDS etc. Risks are mostly due to human errors, worker interactions, workers not wearing PPE and mechanical faults on equipment or improper fixing, handling or operation of equipment.

Occupational health and safety risks are localised, small scale and short term. However, they are highly sensitive because they impact human lives and could lead to mortality and long-term indisposition of victims hence rated major in significance.

#### **Poor labour working conditions**

Conditions of work could be unacceptable as the absence of employment contracts may lead to workers being paid rates below the stipulated national minimum wage and discriminated against. Also, workers could be denied proper welfare facilities such as toilets, changing rooms, clean drinking water, and shaded areas for resting during breaks as these may be considered by contractors as unnecessary expenses that could reduce profit margins. Rights such as freedom of association and

speech, expression of grievances could be restricted as most contractors feel workers joining unions could lead to strikes and revolts.

The likelihood of the labour force working under poor working conditions is high, but the impact is localised and short-term spanning the construction phase. It is also highly sensitive since subjecting employees to poor conditions of service or work are against the Sierra Leone Employers and Employed Act, 1960. Hence this impact is moderately significant.

### **Destruction of vegetation and displacement of fauna**

Land preparation activities will lead to the destruction of some common vegetation, mostly shrubs and grasses, and a few trees. Habitats of common soil organisms such as earthworms will also be destroyed. However, the project site has existing facilities with sparse vegetation and a little fauna, especially in the dry season. The vegetation is that of secondary forest and forest regrowth and common species such as *Sterculia tragacantha*, *Piptadeniastrum africanum*, *Celtis zenkeri*, *Harungana madagascariensis*, *Scleria boivinii*, *Smilax kraussiana*, *Tetracera potatoria*, *Ipomoea mauritiana*, *Chromolaena odorata*, *Melanthera scandens* and *Stachytarpheta cayennensis* are not species of conservation concern as per the IUCN Red List.

Impact on vegetation is localized (site-specific), short term and small scale as only a few trees of no conservation concern will be affected. This impact therefore rated minor in significance or severity.

Clearing of vegetation will lead to loss of habitats for fauna including reptiles (snakes and lizards), ants, amphibians (frogs), earthworms etc. The impact is short-term, localized and minor in intensity as it will affect a very small population. The impact is therefore classified as moderate in significance.

### **Soil degradation**

Clearing of project site vegetation as part of land preparation, and excavation for drains and foundation of structures would disturb the soil and lead to soil erosion. Considering the project area's undulating topography, transportation of the loose soil by runoff especially in the rainy season will create gullies that are unsightly. Also, oil spillages and improperly disposed waste oils/lubricants from the maintenance of construction equipment and vehicles could contaminate soils. These could affect flora and destroy soil fauna such as earthworms and their habitats. The impact is localized, temporary and of average severity hence it is considered moderate.

### **Air pollution**

Clearing and preparation of land for construction of access roads and other project facilities and transport of materials such as sand, gravels, and excavated spoil on untarred roads will lead to emission of particulate matter i.e. dust. Exhaust fumes will also be emitted from operation of poorly maintained vehicles and equipment. These could adversely affect air quality, especially in the dry season. Particulate matter can be carried by winds over some distance into neighbouring communities and affect the quality of air as well as contribute to respiratory diseases in those areas. However, this

impact is expected to be localized, temporary and of average intensity. The impact is considered moderate in significance.

### **Water Pollution**

Sediment from land preparation, oil waste from equipment and vehicle maintenance, wastewater from washing of construction vehicles and domestic waste from construction workers and food vendors could be transported into the Congo and Takiyama rivers by runoff and reduce the quality of water. Sediments could increase turbidity of the water and make it unpleasant for domestic use. Oil wastes could poison aquatic organisms in the water as well as affect the health of locals who use it for drinking and cooking purposes. The impact is localised, temporary in duration, average in intensity hence considered moderate in significance.

### **Noise and vibration nuisance**

Construction activities including operation of construction equipment, movement of haulage vehicles and tooting of horns are expected to produce vibrations and noise levels in the range of 80 - 95 dB (A). Vibrations and high noise levels could affect the personnel operating the machines as well as the residents within the project community. Workers operating vibrating equipment such as poker vibrators could be exposed to musculo-skeletal disorders. Exposure to high noise levels could also damage eardrums and lead to hearing impairment in sensitive receptors. This impact is temporary and localized, affecting sensitive receptors in the immediate environs of the noise and vibration generating activity. Also, it is average in intensity as it could cause discomfort and loss of hearing ability. It is therefore considered to be of moderate significance.

### **Waste generation and disposal**

Land preparation activities like vegetation clearance, earthworks like digging of trenches for drains and civil works will generate vegetative waste, excavated spoil, construction debris, pieces of steel/metal, packaging materials, plastic pieces, domestic waste etc. Liquid wastes expected to be generated include wastes from washing of construction equipment and vehicles, worker washrooms and canteen. Also, hazardous wastes including waste lubricants/oils, leftover paints, thinners etc. will be generated. If not properly managed, wastes could be washed off into and clog drains, decomposing organic waste like leftover food could produce foul smell/odour, vermin, and facilitate the outbreak of sanitary related diseases e.g. cholera by creating breeding grounds for disease-causing vectors such as houseflies. Wastes entering aquatic environments e.g. lubricants and plastics could poison and smother fishes and other aquatic organisms. The impact is local, temporary and of a high intensity hence considered major in significance.

### **Community safety concerns**

Trucks hauling materials to the project site and/or carting waste from the site may be involved in accidents which may involve the beneficiary community or members of the general public. Such

accidents can cause injuries, fatalities, loss of property and/or traffic disruptions along the haulage routes. Also, community members accessing the project site could be exposed to hazards such as trip and falls into trenches for drains and excavations, impact from falling/rolling objects and moving vehicles/equipment, cuts and bruises from sharp objects littering project site etc. Fire outbreaks resulting from electrical faults and negligence of workers, during activities such as welding, can occur during the construction phase. If such fires are not immediately controlled, they can spread to and destroy nearby telecommunication facilities i.e. masts, generators etc.

Community safety concerns leading to accidents are localised, short term and small scale. However, being able to cause fatalities and/or long-term injuries on the local residents nearby, the impact intensity is rated average and the impact considered moderately significant.

### **Gender based violence**

Workers with relatively high incomes will be working on the various sites. The site workers can lure young boys and girls, hawkers, food vendors, other petty traders who supply them food and other services and defile or rape them. Workers may also abuse themselves and/or supervisors. They can also do same to their wives, partners, children, hawkers, petty traders and food vendors physically or verbally over misunderstanding over prices of goods and services and other issues.

On site, managers and supervisors may solicit for sexual favours in exchange for employment opportunities, during negotiations for pay increment and improved conditions of service or in the assignment of tasks on site. Women may also be denied employment opportunities and /or their services may be undervalued on the basis of cultural norms.

The incidence of rape, defilement and other forms of Gender Based Violence is expected to be temporary, localised i.e. affecting mostly persons within the project area, and average in intensity as it could lead to injury, disability, or in extreme cases, death. However, since there are national laws in place to protect survivors, punish perpetrators and deter persons from engaging in these illegal activities, this impact is rated moderate in significance.

### **Public health issues**

Improper waste management may create conditions for the growth of vectors of diseases such as cholera and dysentery. The outbreak of these diseases would have far-reaching negative implications for the health of residents and put pressure on the limited health facilities in the area.

Dust emissions are expected from construction activities like earthworks, trenching and excavation. Fumes will also be generated from operation of vehicles and equipment. These emissions have the potential of causing respiratory infections and minor throat and eye irritations, especially during the dry season.

The presence of workers and related increase in disposable cash makes the transmission of STDs such as HIV/AIDS a possibility. During project execution (civil works), large numbers of workers will be required to assemble together in meetings, and even at work sites; varied number of workforces including suppliers of material and services are also expected to come in from various places which

may be COVID-19 hot spots; and interaction of workers with the project host community. The potential for the spread of any infectious disease like COVID-19 is high.

This impact is regional as migrant workers could carry diseases both into or out of the project area and increase the disease prevalence in the receiving community. It is temporal in duration yet average in intensity as it could lead to extended morbidity or even death. The impact is therefore rated moderate in significance.

### **Security concerns**

Construction works can be associated with theft and pilfering of construction materials normally from the general public and site workers. Site workers can also steal from private properties within the immediate project zone. Other crimes include illicit sexual assault, child labour and drunk driving.

There may also be confrontations arising out of accidents and destruction of property by workforce, equipment or vehicles. This impact is localized, severe but temporary hence considered moderate.

### **Impact on social and cultural structures**

Values associated with traditional life include songs, crafts, spiritual beliefs, oral history, traditional languages, innovations and practices of the project community. These values could be affected by the presence of migrant workers who may not understand and have no regard for them. This has the potential of eroding distinct values that form part of the identity of locals. This impact is temporary, localised, average in intensity as it could lead to social/cultural decadence. However, the project is expected to employ mostly local labour especially for unskilled jobs making the effect of cultural dilution minimal. The impact is therefore rated minor in significance.

### **Impact on cultural heritage resources**

Cultural heritage resources such as shrines, cemeteries, sacred groves, rivers and artefacts form part of the spiritual and cultural fabric of most host communities and any damage to them is considered a desecration of its sacredness. Construction activities such as vegetation and land clearance and excavation pose the most significant risk to cultural heritage resources. However, there are no known cultural heritage resources within the project area.

Also, in undertaking construction activities, cultural heritage resources or archaeological material could be encountered or chanced upon. In chance find situations, a chance find procedure (**sample in Annex 5**) will be followed. This impact is local, temporary and average in intensity hence it is rated minor in significance.

### **6.8.2      *Operation Phase Potential Adverse Impacts***

The operation phase potential adverse impacts are discussed below.

#### **Occupational health and safety risks**

Workers employed to manage the facility could be exposed to fire hazards from electrical faults and negligence in handling fire, especially in the restaurant kitchen. Also, they could be exposed to minor work-related injuries such as falls, trips and slips, potential infection, spread of COVID-19 and other emergencies.

Occupational health and safety risks at this stage are localised, small scale, and less likely to occur compared to the construction stage. However, they are strong in intensity as they affect human lives and could lead to mortality and long-term indisposition of victims hence rated moderate in significance.

#### **Poor labour working conditions**

Unemployment and a lack of job opportunities could make staff providing services for the operation of tourism facilities settle for unacceptable work conditions including poor salaries, discrimination, lack of employment contracts, and long working hours. Also, rights such as freedom of association (joining unions) and speech could be restricted. In other cases, the absence of an effective worker grievance redress mechanism could deprive workers of the opportunity to have grievances addressed.

This impact is localised and long-term as it will persist over the lifespan of the facility. It is also highly sensitive since subjecting employees to poor conditions of service or work are against the Sierra Leone Employers and Employed Act, 1960 and international labour requirements. Hence this impact is moderately significant.

#### **Air Pollution**

The increased number of tourists and revellers visiting the facility at Leicester Peak in vehicles will generate vehicular exhaust fumes and pollute the air in the project area. Also, generator sets used to produce electricity will generate fumes. Considering that electrical power supply is erratic in the project area, generators could be used for long hours generating more fumes than usual. This impact is however localised, long-term and average in intensity hence considered moderate in significance.

#### **Water Pollution and over-abstraction**

Improperly managed garbage and liquid waste from kitchens and washrooms could pollute nearby waterbodies through runoff as well as groundwater. Also, over-abstraction of water, both from surface water and groundwater, could result from increased demand associated with influx of tourists. This impact is localised, long-term (throughout the facility existence) and average in intensity as it could lead to the spread of water-borne diseases and water scarcity. It is therefore moderately significant.

### **Noise Nuisance**

Sources of noise include vehicular engines, generators and other noise-generating equipment, music, PA systems, shouts and chatter by tourists. Noise levels could go high depending on the occasion and the number of tourists at a particular time. This impact is localised, intermittent and weak in intensity hence classified as minor in significance.

### **Waste generation and disposal**

Solid waste including general waste i.e. plastic and paper packaging, cans, leftover food etc. will be generated. Also, liquid waste will be generated from washrooms, and kitchens. Improper management and littering of the facility and its surroundings with wastes such as plastics, paper, cans etc. could create unsightly scenes. Decomposing organic waste could produce foul smell/odour, vermin, and facilitate the outbreak of sanitary related diseases e.g. cholera and malaria by creating breeding grounds for disease-causing vectors such as houseflies and mosquitoes. Liquid waste from washrooms and kitchen could enter and pollute nearby waterbodies such as the Congo and Takiyama, making them unsuitable for use.

The impact is localised, temporary and average in intensity, as it could affect the health of persons and other organisms. However, waste generated can generally be managed hence the impact is considered moderate in significance.

### **Community safety concerns**

The roads leading to the project site are mostly narrow, on hills and with a lot of curves presenting a high risk of road accidents, especially for drivers using the roads for the first time. Increase in vehicular and human traffic on the roads in the project area is likely to lead to cases of motor accidents and knockdowns. Such accidents can cause injuries, fatalities, loss of property and/or traffic disruptions along the routes. Also, tourists could stray into unauthorized areas and fall on the slopes of the mountain.

Community safety concerns are largely localised making management possible, intermittent, and strong in intensity as it can lead to loss of property and lives. It is therefore considered moderate in significance.

### **Attacks by wild animals**

Different animals may inflict injury and even cause death to humans, both in the wild and in domestic environments as a result of blunt or sharp force trauma. The nature of the attack is dependent upon the animal involved, the environment, the type of interaction that was occurring before and at the time of the episode and the characteristics of the victim. Within the project site, tourists and even nearby community members, especially children could be victims of attacks from wild animals like chimpanzees and snakes. Chimpanzees at the sanctuary, who mostly have had troubled pasts i.e.



injured, orphaned and abandoned, could hurl stones and other objects at tourist. They may also escape and maul or kill their victims as chimpanzees are territorial in nature. Tourists or victims in such a situation will be defenceless as chimpanzees are five (5) times stronger than humans and injuries sustained could be severe.

However, there is very little likelihood of a severe attack as only one of such has been recorded in the twenty-seven (27) years of the sanctuary's operation. Also, chimpanzees are housed in enclosures with electric fence making escape difficult. Besides the one attack and occasional stone-pelting, there is no record of any form of attack, be it from snakes or other animals, despite the sanctuary constantly receiving visitors with some being resident at the Eco lodge.

The impact is localised, permanent and average in intensity as it has the potential to cause serious injury or fatality. Nevertheless, the likelihood of wild animal attacks occurring is low hence the impact is considered minor in significance.

### **Gender based violence**

Tourists will come from neighbouring communities, other parts of the country and even outside the country into the project area. Interactions between the community especially women and tourists may lead to potential safety issues. If not properly managed, the influx of tourists could have a negative impact in the project area, especially in the context of high prevalence and social acceptability of violence against women and girls.

Women are likely to face discrimination and found in lower-paid, unskilled jobs. As poverty and unemployment is pervasive, they are more likely to experience poor working conditions, inequality of opportunity and treatment, violence, exploitation, stress and sexual harassment. Tourists may even get away with sexual harassment of female workers like waitresses and cleaners as the customer is always considered right.

Tourists who are normally outside their sphere of social control put up inappropriate behaviour such as sexual harassment of women and girls and illicit sexual relations with minors from the local community. The influx of tourists may increase the demand for sex work, the risk for trafficking of women for the purposes of sex work. There is also the risk of teenage pregnancy and forced marriages.

Also, employment of females may also cause shifts in power dynamics within households and between community members. This could lead to male jealousy and spousal violence.

This impact is localised, long-term and strong in intensity, considering that responsible bodies such as the Police Family Support Unit is inadequately resourced and lacks the capacity to offer the required GBV issues. The impact is therefore considered moderate in significance.

### **Public health issues**

The density of tourist visits increases interactions and the likelihood of disease transmission from one person to another e.g. COVID-19. The presence of tourists will also drive an increase in sex work and the associated sexually transmitted infections like HIV/AIDS.

Improper waste management may create conditions for the growth of vectors of diseases such as cholera and dysentery. The outbreak of these diseases would have far-reaching negative implications for the health of residents and put pressure on the limited health facilities in the area.

This impact is regional as tourists move from place to place frequently and may spread diseases very fast increasing the burden of disease in the receiving community. It is long-term as the facility is expected to operate for a long period. It is strong in intensity as it could lead to higher infection rates resulting in extended morbidity or even death. The impact is therefore rated major in significance.

### **Security concerns**

Tourists could be attacked by unscrupulous persons and robbed of their money and valuables. Incidents of theft, burglary and even armed robbery are expected to increase. Unsuspecting females i.e. locals and tourists could be attacked and raped especially in the night, along deserted paths or in deserted areas. Cases of fraud could increase as tourists could be tricked into paying for goods and services that may never be offered. Economic inequality could lead to resentment and intolerance by locals which may result in confrontations with tourists. Violent behaviour on the part of tourists and abuse could also result in fights or clashes with locals. This impact is long-term, localised and average in intensity hence classified as moderate in significance.

### **Impact on social and cultural structures**

Pre-tourist culture is likely to be affected by the project implementation. Traditional values and practices are likely to be altered as tourists may not understand and have no regard for them. Social problems like drug abuse, prostitution, and gambling are expected.

Also, demand for accommodation, entertainment, food and beverages, and transportation services may increase the cost of living making rent, food etc. unaffordable for locals and driving them into deeper poverty. Increased traffic and tourist activities could hinder or disrupt the daily life of locals. The impact is localised, long-term or permanent, and strong in intensity as it affects values which are the foundation on which societies are built. However, there is the opportunity for cultural exchange where tourists and locals get to learn about and experience new cultures hence the impact is considered moderate in significance.

## 7.0 PROPOSED MITIGATION AND MANAGEMENT MEASURES

The proposed mitigation options and interventions are to avoid, minimise and reduce negative environmental and social impacts and to ensure smooth and sustainable implementation of project and minimise conflicts or disputes. These are provided below.

### Occupational health and safety measures

#### Construction Phase

- Good housekeeping around work area must be ensured to prevent slips, trips & falls.
- Only trained and competent workers should be allowed to carry out work, and must be well briefed on safe working procedures.
- Mandatory and basic PPE must be worn.
- Have accident and incident reporting form available to record accidents and near-misses
- Provide standard safety signage and lighting at suitable locations
- Fence and/or barricade around trenches and excavations
- Provide alternative safe routes for pedestrians in case their normal routes become unsafe due to ongoing work
- Provide qualified first aiders and ensure availability of a well-stocked first aid box on construction site
- Conduct regular toolbox meetings
- Properly segregate pedestrians and machinery at construction sites

#### Operation Phase

- Put in place fire prevention and emergency response measures
- Ensure disease prevention and COVID-19 control measures are in place
- Provide measures to ensure security of persons and property
- Keep facility clean and free of obstructions at all times to prevent injury from falls, trip and slips.
- Ensure workers have the required competence to execute assigned tasks.

### Poor labour working conditions prevention

#### Construction Phase

- Provide all workers with signed contracts that are consistent with national labour laws
- Provide welfare facilities such as potable drinking water, shades, restrooms etc. for workers.
- Establish labour grievance management mechanism
- Ensure workers sign Code of Conduct (CoC).

#### Operation Phase

- Provide all workers with signed contracts that are consistent with national labour laws
- Provide welfare facilities such as potable drinking water, shades, restrooms etc. for workers.
- Ensure that only competent workers are assigned tasks and provide training where necessary
- Establish an effective worker grievance redress mechanism

## **Destruction of vegetation and displacement of fauna minimization measures**

### Construction Phase

- Clear only area required for the project
- Stray animals that are observed at or around project sites should be given safe passage to nearby bush and not killed.
- Hunting and or killing of animals in bushes around project site by construction or other workers should be prohibited and made punishable.

## **Soil degradation avoidance measures**

### Construction Phase

- Manage waste and sediments properly to prevent it from entering and polluting nearby waterbodies.
- Avoiding washing of vehicles, machinery, equipment near water bodies.
- Treatment of effluents and wastewater from construction site before discharging into water bodies
- Avoid seepage of oil and other hazardous waste which could contaminate ground water
- Training of workers on water pollution preventive measures

## **Air Pollution prevention measures**

### Construction Phase

- Dust control measures including regular dousing of ground/roads, provision of nose covers, speed limit restrictions e.g., 20km/hr etc.
- Discourage idling of engines to minimise emission of vehicular fumes

### Operation Phase

- Discourage idling of engines to minimise emission of vehicular and other equipment fumes.

## **Water Pollution prevention measures**

### Construction Phase

- Manage waste and sediments properly to prevent it from entering and polluting nearby waterbodies.
- Avoid washing of vehicles, machinery, equipment near water bodies.
- Treatment of effluents and wastewater from construction site before discharging into water bodies
- Avoid seepage of oil and other hazardous waste which could contaminate ground water
- Train workers on water pollution preventive measures

### Operation Phase

- Manage waste properly to prevent it from entering and polluting nearby waterbodies.
- Treat and reuse water to prevent over-abstraction
- Harvest rainwater and use e.g. for watering grass, flushing toilet etc.

### **Noise and vibration nuisance abatement measures**

#### Construction Phase

- Unnecessary tooting of horn by drivers must be discouraged.
- Provide silencers on or properly house all noise generating equipment such as generators.
- Regularly service construction machinery, equipment, and vehicles to reduce noise generation
- Provide workers with ear muffs/plugs.

#### Operation Phase

- Discourage indiscriminate honking by drivers.
- Keep music and noise from PA systems low, especially in the evening.
- Provide silencers on or properly house all noise generating equipment such as generators.

### **Waste management measures**

#### Construction Phase

- Waste bins must be provided and well labelled for waste segregation and disposal.
- Only licensed waste management companies must be engaged to collect and dispose of waste collected at approved dumping sites.
- Regular toolbox talk on waste management must be provided to operatives/workers at the facility.
- Have SOPs for managing hazardous and non-hazardous waste.
- Keep written record of waste generated during construction, (including e-waste). Such record should include type, amount, transportation and final disposal site to avoid dumping in the open or at uncertified locations.

#### Operation Phase

- Waste bins must be provided and well labelled for waste segregation and disposal.
- Only licensed waste management companies must be engaged to collect and dispose of waste collected.
- Liquid waste should be treated before discharged into the environment
- Have SOPs for managing hazardous and non-hazardous waste.

## **Community/public safety concerns**

### Construction Phase

- Trained flagmen (to slow down traffic) or parking attendants must be used to ensure safety when vehicles are entering or leaving the construction site.
- Appropriate warning signs should be put in place to warn the public especially motorists.
- Have accident and incident reporting form to record accidents and near-misses.
- Fence all excavations/trenches within communities to reduce risks of falling in trenches

### Operation Phase

- Trained flagmen (to slow down traffic) or parking attendants must be used to ensure safety when vehicles are entering or leaving the facility.
- Appropriate warning signs should be put in place to warn the public, especially motorists.
- Have accident and incident reporting form to record accidents and near-misses.
- Employment of tourist guides, possibly from the local community, to conduct facility tours
- Give tourists orientation on safe and restricted areas and post appropriate signs at such locations

## **Wild animal attack prevention and management measures**

- Ensure the fences of enclosures or dens are intact
- Establish an early warning system for animal escape
- Discourage unaccompanied tours i.e. all tours should be led by a trained tour guide
- Encourage tourists to keep kids and pets close
- Advise tourists to stay on trails, stay alert and wear appropriate clothing and boots to prevent snakebites and other attacks
- Have dedicated medical professionals onsite to provide first aid in the event of an attack
- Have an ambulance on standby or arrange with nearest health facility to provide service

## **Gender based violence prevention measures**

### Construction Phase

- Require all contractors to have a Code of Conduct for project workers that prohibits gender-based violence (including sexual exploitation and abuse and sexual harassment (SEA/SH) as well as child and forced labour); prohibits sexual contact with persons under 18; and contains clear sanctions in the event of breach
- Require all contractors to regularly train employees on Codes of Conduct and how to report incidents;
- Require all contractors to document other SEA/SH risk mitigation measures (including incident response procedures) in their c-ESMPs or other safeguards instruments
- Ensure that the project's Grievance Mechanism has special procedures for confidentially responding to GBV/SEA/SH complaints with a survivor-centred approach;
- Put in place a referral pathway to GBV service providers linked to the Grievance Mechanism;



- Develop an incident response protocol to guide the IA's response to GBV/SEA/SH incidents (Accountability and Response Framework)
- Sensitize communities on GBV/SEA/SH risks as well as reporting mechanisms and expectations;
- Contact numbers of representative on the Grievance Redress Committee and GBV Service Providers should be pasted around the construction site
- A minimum requirement of female employment should be indicated in the human resource policy of contractor.

#### Operation Phase

- Facility must have and require all third-party contractors to have a Code of Conduct for workers that prohibits gender-based violence (including sexual exploitation and abuse and sexual harassment (SEA/SH) as well as child and forced labour); prohibits sexual contact with persons under 18; and contains clear sanctions in the event of breach
- Facility must have and require all third-party contractors to regularly train employees on Codes of Conduct and how to report incidents;
- Ensure that the facility's Grievance Mechanism has special procedures for confidentially responding to GBV/SEA/SH complaints with a survivor-centred approach;
- Put in place a referral pathway to GBV service providers linked to the Grievance Mechanism;
- Develop an incident response protocol to guide the IA's response to GBV/SEA/SH incidents (Accountability and Response Framework)
- Sensitize communities on GBV/SEA/SH risks as well as reporting mechanisms and expectations;
- Contact numbers of representative on the Grievance Redress Committee and GBV Service Providers should be pasted around the construction site
- A minimum requirement of female employment should be indicated in the human resource policy of facility manager/operator

#### **Public health measures**

##### Construction Phase

- Organize trainings on COVID-19 and Sexually Transmitted Diseases (STDs) for the workers and the community to create awareness.
- Provide female and male condoms in washrooms for workers and patrons.
- Conduct daily temperature screening of workers and patrons.
- Provide handwashing stations and sanitizers
- Ensure workers and visitors adhere to all COVID-19 protocols including wearing of face mask and social distancing.
- Encourage workers to get vaccinated.

##### Operation Phase

- Sensitize community on COVID-19 and STDs.
- Encourage health facilities to provide locals with condoms for STD prevention.
- Conduct daily temperature screening of employees and patrons.

- Provide handwashing stations and sanitizers
- Ensure workers and visitors adhere to all COVID-19 protocols including wearing of face mask and social distancing.
- Encourage workers to get vaccinated.

### **Security measures**

#### Construction Phase

- Provide adequate security by liaising with Police to conduct regular patrols
- Sensitize local community on cultural tolerance and grievance mechanisms to prevent confrontations

#### Operation Phase

- Provide adequate lighting around the facility to prevent attacks in the dark
- Provide adequate security by liaising with Police to conduct regular patrols
- Employ local youth to provide security at car parks
- Sensitize local community on cultural tolerance and grievance mechanisms to prevent confrontations

### **Social and cultural structures and resources impact avoidance measures**

- A code of conduct for employees, third parties and visitors that establishes rules for respect of local norms and traditions should be adopted.
- Ensure that internal and external complaints are dealt with speedily.
- Traditional authorities should be constantly engaged to ensure cordial relations between project and the local community.
- Develop chance find procedures to guide handling of archaeological materials found by chance at the construction stage

## 8.0 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

This section presents the Environmental and Social Management Plan (ESMP), **Table 8-1** that is designed to operationalize the environmental and social commitments presented in this ESIA report. The ESMP presents a set of management, mitigation and monitoring measures to be taken at different stages of the project implementation. It sets out record keeping required to ensure that mitigation measures and monitoring are effective and results duly communicated to stakeholders.

**Table 8- 1: Environmental and Social Management Plan**

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
<b>Occupational health and safety</b>	Construction	<ul style="list-style-type: none"> <li>Project site</li> </ul>	<ul style="list-style-type: none"> <li>Abate on site</li> </ul>	<ul style="list-style-type: none"> <li>Good housekeeping around work area must be ensured to prevent slips, trips &amp; falls.</li> <li>Only trained and competent workers should be allowed to carry out work, and must be well briefed on safe working procedures.</li> <li>Mandatory and basic PPE must be worn.</li> <li>Have accident and incident reporting form available to record accidents and near-misses</li> <li>Provide standard safety signage and lighting at suitable locations</li> <li>Fence and/or barricade around trenches and excavations</li> <li>Provide alternative safe routes for pedestrians in case their normal routes become unsafe due to ongoing work</li> <li>Provide qualified first aiders and ensure availability of a well-stocked first aid box on construction site</li> <li>Conduct regular toolbox meetings</li> <li>Properly segregate pedestrians and machinery at construction sites</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)
<b>Poor labour working conditions</b>	Construction	<ul style="list-style-type: none"> <li>Project Site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid at source</li> </ul>	<ul style="list-style-type: none"> <li>Provide all workers with signed contracts that are consistent with national labour laws</li> <li>Provide welfare facilities such as potable drinking water, shades, restrooms etc. for workers.</li> <li>Establish labour grievance management mechanism</li> </ul>	Works contractor	Environmental and Social Safeguards Specialists of PCU	To be captured in Bill of Quantities (BoQ)

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
				<ul style="list-style-type: none"> <li>Ensure workers sign Code of Conduct (CoC)</li> </ul>			
<b>Destruction of vegetation and displacement of wildlife</b>	Construction	<ul style="list-style-type: none"> <li>Site preparation</li> </ul>	<ul style="list-style-type: none"> <li>Offset</li> </ul>	<ul style="list-style-type: none"> <li>Clear only area required for the project</li> <li>Stray animals that are observed at or around project sites should be given safe passage to nearby bush and not killed.</li> <li>Hunting and or killing of animals in bushes around project site by construction or other workers should be prohibited and made punishable.</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)
<b>Soil erosion</b>	Construction	<ul style="list-style-type: none"> <li>Project site</li> </ul>	<ul style="list-style-type: none"> <li>Repair or remedy</li> </ul>	<ul style="list-style-type: none"> <li>Manage waste and sediments properly to prevent it from entering and polluting nearby waterbodies.</li> <li>Avoiding washing of vehicles, machinery, equipment near water bodies.</li> <li>Treatment of effluents and wastewater from construction site before discharging into water bodies</li> <li>Avoid seepage of oil and other hazardous waste which could contaminate ground water</li> <li>Training of workers on water pollution preventive measures</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)
<b>Air Pollution</b>	Construction	<ul style="list-style-type: none"> <li>Project site and haulage route</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or reduce at source</li> </ul>	<ul style="list-style-type: none"> <li>Dust control measures including regular dousing of ground/roads, provision of nose covers, speed limit restrictions e.g., 20km/hr etc.</li> <li>Discourage idling of engines to minimize emission of vehicular fumes</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)

Impact	Project Phase	Location/S ource	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
<b>Water Pollution</b>	Construction	<ul style="list-style-type: none"> <li>Project site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid at source</li> </ul>	<ul style="list-style-type: none"> <li>Manage waste and sediments properly to prevent it from entering and polluting nearby waterbodies.</li> <li>Avoid washing of vehicles, machinery, equipment near water bodies.</li> <li>Ensure proper site drainage to limit standing pools of water</li> <li>Fence off temporary storm ponds and other waterbodies within the work space (and not permitting wildlife access to any potentially contaminated waterbodies)</li> <li>Use appropriate sediment and erosion control measures to protect the quality of surface water adjacent to or downstream of the work space.</li> <li>Treatment of effluents and wastewater from construction site before discharging into water bodies</li> <li>Avoid seepage of oil and other hazardous waste which could contaminate ground water</li> <li>Train workers on water pollution preventive measures</li> <li>Discharges of wastewater 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, e.g., WHO guidelines as recommended by the WBG EHS guidelines.</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)



Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
Noise Nuisance	Construction	<ul style="list-style-type: none"> <li>Equipment and vehicles on site</li> </ul>	<ul style="list-style-type: none"> <li>Abate on site</li> </ul>	<ul style="list-style-type: none"> <li>Unnecessary tooting of horn by drivers must be discouraged.</li> <li>Provide silencers on or properly house all noise generating equipment such as generators.</li> <li>Regularly service construction machinery, equipment, and vehicles to reduce noise generation</li> <li>Provide workers with ear muffs/plugs.</li> <li>Carry out work during the day to reduce effect on fauna especially at night when noise travels quite far</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)
Waste generation and disposal	Construction	<ul style="list-style-type: none"> <li>Project site</li> </ul>	<ul style="list-style-type: none"> <li>Abate or reduce at source</li> </ul>	<ul style="list-style-type: none"> <li>Waste bins must be provided and well labelled for waste segregation and disposal.</li> <li>Waste control (prevent littering)</li> <li>Keep all trash secured in wildlife-proof containers, and promptly remove from the site (especially in warm weather).</li> <li>Only licensed waste management companies must be engaged to collect and dispose of waste collected at approved dumping sites.</li> <li>Regular toolbox talk on waste management must be provided to operatives/workers at the facility.</li> <li>Have SOPs for managing hazardous and non-hazardous waste.</li> </ul>	Works contractor	Environmental Safeguards Specialist of PCU	To be captured in Bill of Quantities (BoQ)

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
<b>Community/Public/Wildlife safety concerns</b>	Construction	<ul style="list-style-type: none"> <li>Project site</li> </ul>	<ul style="list-style-type: none"> <li>Abate on site</li> </ul>	<ul style="list-style-type: none"> <li>Trained flagmen (to slow down traffic) or parking attendants must be used to ensure safety when vehicles are entering or leaving the construction site.</li> <li>Appropriate warning signs should be put in place to warn the public especially motorists.</li> <li>Have accident and incident reporting form to record accidents and near-misses.</li> <li>Fence all excavations/trenches within the work area to reduce risks of falling in trenches</li> <li>Cover or contain piles of soil, fill, brush, rocks and other loose materials</li> <li>Cap ends of pipes where necessary to keep wildlife out;</li> <li>Ensure that trailers, bins, boxes, and vacant buildings are secured at the end of each work day to prevent access by wildlife.</li> <li>Appoint workers to be responsible for checking the work site (including previously cleared areas) for wildlife, prior to beginning work each day; regularly inspecting protective fencing or other installed measures to ensure their integrity and continued function.</li> </ul>	Works contractor	Environmental and Social Safeguards Specialists of PCU	To be captured in Bill of Quantities (BoQ)
<b>Public health issues</b>	Construction	<ul style="list-style-type: none"> <li>Project-community</li> </ul>	<ul style="list-style-type: none"> <li>Avoid at source</li> </ul>	<ul style="list-style-type: none"> <li>Organize trainings on COVID-19 and Sexually Transmitted Diseases (STDs) for the workers and the community to create awareness.</li> </ul>	Works contractor	Environmental and Social Safeguards	3,500

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
		interactions		<ul style="list-style-type: none"> <li>Provide female and male condoms in washrooms for workers and patrons.</li> <li>Conduct daily temperature screening of workers and patrons.</li> <li>Provide handwashing stations and sanitizers</li> <li>Ensure workers and visitors adhere to all COVID-19 protocols including wearing of face mask and social distancing.</li> <li>Encourage workers to get vaccinated.</li> </ul>		Specialists of PCU	
<b>Security concerns</b>	Construction	<ul style="list-style-type: none"> <li>Project site</li> </ul>	<ul style="list-style-type: none"> <li>Abate or reduce at source, abate on site</li> </ul>	<ul style="list-style-type: none"> <li>Provide adequate security by liaising with Police to conduct regular patrols</li> <li>Sensitize local community on cultural tolerance and grievance mechanisms to prevent confrontations</li> </ul>	Works contractor	Environmental and Social Safeguards Specialists of PCU	1,500
<b>Gender based violence</b>	Construction	<ul style="list-style-type: none"> <li>Project and community interaction</li> </ul>	<ul style="list-style-type: none"> <li>Avoid at source, repair or remedy</li> </ul>	<ul style="list-style-type: none"> <li>Require all contractors to have a Code of Conduct for project workers that prohibits gender-based violence (including sexual exploitation and abuse and sexual harassment (SEA/SH) as well as child and forced labour); prohibits sexual contact with persons under 18; and contains clear sanctions in the event of breach</li> <li>Require all contractors to regularly train employees on Codes of Conduct and how to report incidents;</li> <li>Require all contractors to document other SEA/SH risk mitigation measures (including incident response</li> </ul>	PCU	Environmental and Social Safeguards Specialists of PCU	4,000

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
				<p>procedures) in their c-ESMPs or other safeguards instruments</p> <ul style="list-style-type: none"> <li>• Ensure that the project's Grievance Mechanism has special procedures for confidentially responding to GBV/SEA/SH complaints with a survivor-centred approach;</li> <li>• Put in place a referral pathway to GBV service providers linked to the Grievance Mechanism;</li> <li>• Develop an incident response protocol to guide the IA's response to GBV/SEA/SH incidents (Accountability and Response Framework)</li> <li>• Sensitize communities on GBV/SEA/SH risks as well as reporting mechanisms and expectations;</li> <li>• Contact numbers of representative on the Grievance Redress Committee and GBV Service Providers should be pasted around the construction site</li> <li>• A minimum requirement of female employment should be indicated in the human resource policy of contractor.</li> </ul>			
<b>Impact on social and cultural structures and resources or values</b>	Construction	<ul style="list-style-type: none"> <li>• Project and community interaction</li> </ul>	<ul style="list-style-type: none"> <li>• Abate at source</li> </ul>	<ul style="list-style-type: none"> <li>• A code of conduct for construction workers and patrons that establishes rules for respect of local norms and traditions should be adopted.</li> <li>• Ensure that internal and external complaints are dealt with speedily.</li> </ul>	Works contractor	Social Safeguards Specialists of PCU	To be captured in Bill of Quantities (BoQ)

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
				<ul style="list-style-type: none"> <li>Traditional authorities should be constantly engaged to ensure cordial relations between project and the local community.</li> <li>Develop and follow chance find procedures (Annex 4) to guide handling of archaeological materials found by chance</li> </ul>			
<b>Operation</b>							
<b>Occupational health and safety</b>	Operation	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or reduce at source</li> </ul>	<ul style="list-style-type: none"> <li>Put in place fire prevention and emergency response measures</li> <li>Ensure disease prevention and COVID-19 control measures are in place</li> <li>Provide measures to ensure security of persons and property</li> <li>Keep facility clean and free of obstructions at all times to prevent injury from falls, trip and slips.</li> <li>Ensure workers have the required competence to execute assigned tasks.</li> </ul>	Facility manager	HSE Manager of Facility Operator	3,000
<b>Poor labour working conditions</b>	Operation	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid at source</li> </ul>	<ul style="list-style-type: none"> <li>Provide all workers with signed contracts that are consistent with national labour laws</li> <li>Provide welfare facilities such as potable drinking water, shades, restrooms etc. for workers.</li> <li>Ensure that only competent workers are assigned tasks and provide training where necessary</li> <li>Ensure workers sign Code of Conduct (CoC).</li> </ul>	Facility manager	HSE Manager and HR Manager of Facility Operator	3,000

Impact	Project Phase	Location/S ource	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
				<ul style="list-style-type: none"> <li>Establish an effective worker grievance redress mechanism</li> </ul>			
<b>Air Pollution</b>	Operation	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or at source</li> </ul>	<ul style="list-style-type: none"> <li>Discourage idling of engines to minimise emission of vehicular and other equipment fumes</li> </ul>	Facility manager	HSE Manager of Facility Operator	-
<b>Water Pollution</b>	Operation	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid at source</li> </ul>	<ul style="list-style-type: none"> <li>Manage waste properly to prevent it from entering and polluting nearby waterbodies.</li> <li>Treat and reuse water to prevent over-abstraction</li> <li>Harvest rainwater and use e.g. for watering grass, flushing toilet etc.</li> </ul>	Facility manager	HSE Manager of Facility Operator	-
<b>Noise Nuisance</b>	Operation	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or at source</li> </ul>	<ul style="list-style-type: none"> <li>Discourage indiscriminate honking by drivers.</li> <li>Keep music and noise from PA systems low, especially in the evening.</li> <li>Provide silencers on or properly house all noise generating equipment such as generators.</li> </ul>	Facility manager	HSE Manager of Facility Operator	2,000
<b>Waste generation and disposal</b>	Operation	<ul style="list-style-type: none"> <li>Facility</li> </ul>	<ul style="list-style-type: none"> <li>Reduce at source</li> </ul>	<ul style="list-style-type: none"> <li>Waste bins must be provided and well labelled for waste segregation and disposal.</li> <li>Only licensed waste management companies must be engaged to collect and dispose of waste collected.</li> <li>Liquid waste should be treated before discharged into the environment</li> <li>Have SOPs for managing hazardous and non-hazardous waste.</li> </ul>	Facility manager	HSE Manager of Facility Operator	4,000



Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
<b>Community/Public safety concerns</b>	Operation	<ul style="list-style-type: none"> <li>Facility</li> </ul>	<ul style="list-style-type: none"> <li>Abate on site</li> </ul>	<ul style="list-style-type: none"> <li>Trained flagmen (to slow down traffic) or parking attendants must be used to ensure safety when vehicles are entering or leaving the facility.</li> <li>Appropriate warning signs should be put in place to warn the public, especially motorists.</li> <li>Have accident and incident reporting form to record accidents and near-misses</li> <li>Employment of tourist guides, possibly from the local community, to conduct facility tours</li> <li>Give tourists orientation on safe and restricted areas and post appropriate signs at such location</li> </ul>	Facility manager	HSE Manager and Community Liaison Officer of Facility Operator	1,500
<b>Attacks by wild animals</b>	Operation	<ul style="list-style-type: none"> <li>Facility</li> </ul>	<ul style="list-style-type: none"> <li>Abate on site</li> </ul>	<ul style="list-style-type: none"> <li>Ensure the fences of enclosures or dens are intact</li> <li>Establish an early warning system for animal escape</li> <li>Discourage unaccompanied tours i.e. all tours should be led by a trained tour guide</li> <li>Encourage tourists to keep kids and pets close</li> <li>Advise tourists to stay on trails, stay alert and wear appropriate clothing and boots to prevent snakebites and other attacks</li> <li>Have dedicated medical professionals onsite to provide first aid in the event of an attack</li> <li>Have an ambulance on standby or arrange with nearest health facility to provide service</li> </ul>	Facility manager	HSE Manager and Community Liaison Officer of Facility Operator	10,000
<b>Public health issues</b>	Operation	<ul style="list-style-type: none"> <li>Workers, patrons,</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or reduce at source</li> </ul>	<ul style="list-style-type: none"> <li>Sensitize community on COVID-19 and STDs.</li> <li>Encourage health facilities to provide locals with condoms for STD prevention.</li> </ul>	Facility manager	HSE Manager and Community Liaison Officer	3,500

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
		community		<ul style="list-style-type: none"> <li>Conduct daily temperature screening of employees and patrons.</li> <li>Provide handwashing stations and sanitizers</li> <li>Ensure workers and visitors adhere to all COVID-19 protocols including wearing of face mask and social distancing.</li> <li>Encourage workers to get vaccinated.</li> </ul>		of Facility Operator	
<b>Security concerns</b>	Operation	<ul style="list-style-type: none"> <li>Community</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or reduce at source</li> </ul>	<ul style="list-style-type: none"> <li>Provide adequate lighting around the facility to prevent attacks in the dark</li> <li>Provide adequate security by liaising with Police to conduct regular patrols</li> <li>Employ local youth to provide security at car parks</li> <li>Sensitize local community on cultural tolerance and grievance mechanisms to prevent confrontations</li> </ul>	Facility manager	HSE Manager and Community Liaison Officer of Facility Operator	1,500
<b>Gender based violence</b>	Operation	<ul style="list-style-type: none"> <li>Workers, patrons, community</li> </ul>	<ul style="list-style-type: none"> <li>Avoid or reduce at source, repair and remedy</li> </ul>	<ul style="list-style-type: none"> <li>Facility must have and require all third-party contractors to have a Code of Conduct for workers that prohibits gender-based violence (including sexual exploitation and abuse and sexual harassment (SEA/SH) as well as child and forced labour); prohibits sexual contact with persons under 18; and contains clear sanctions in the event of breach</li> <li>Facility must have and require all third-party contractors to regularly train employees on Codes of Conduct and how to report incidents;</li> </ul>	Facility manager	HSE Manager and Community Liaison Officer of Facility Operator	3,500

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost
				<ul style="list-style-type: none"> <li>• Ensure that the facility's Grievance Mechanism has special procedures for confidentially responding to GBV/SEA/SH complaints with a survivor-centred approach;</li> <li>• Put in place a referral pathway to GBV service providers linked to the Grievance Mechanism;</li> <li>• Develop an incident response protocol to guide the IA's response to GBV/SEA/SH incidents (Accountability and Response Framework)</li> <li>• Sensitize communities on GBV/SEA/SH risks as well as reporting mechanisms and expectations;</li> <li>• Contact numbers of representative on the Grievance Redress Committee and GBV Service Providers should be pasted around the construction site</li> <li>• A minimum requirement of female employment should be indicated in the human resource policy of facility manager/operator</li> </ul>			
<b>Impact on social and cultural structures or values</b>	Operation	<ul style="list-style-type: none"> <li>• Workers, patrons</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid or reduce at source, repair and remedy</li> </ul>	<ul style="list-style-type: none"> <li>• A code of conduct for employees, third parties and visitors that establishes rules for respect of local norms and traditions should be adopted.</li> <li>• Ensure that internal and external complaints are dealt with speedily.</li> <li>• Traditional authorities should be constantly engaged to ensure cordial relations between project and the local community.</li> </ul>	Facility manager	HSE Manager and Community Liaison Officer of Facility Operator	2,000

Impact	Project Phase	Location/Source	Mitigation Hierarchy	Mitigation Measure	Responsible Party	Supervision	Cost

## 8.1 ESMP Implementation

### 8.1.1 Institutional Arrangement and Responsibilities

The institutional arrangement identifies the relevant institutions and actors involved in the implementation of the ESMP, their roles and responsibilities. The main institutions or actors concerned with the implementation of the Project and the ESMP related activities are provided in **Table 8-2**. The ESMP implementation activities will be under the overall guidance of the PCU.

**Table 8- 2: Roles and Responsibilities of Key Actors**

<b>Key Actors / Institutions</b>	<b>Description of Key Roles/Responsibilities</b>
<b>PCU</b>	<ul style="list-style-type: none"> <li>Responsible for project implementation in general.</li> <li>Have the overall responsibility to ensure that the project implements the construction phase management and monitoring requirements provided in the ESMP.</li> <li>Responsible for grievance redress procedure and its functioning and effectiveness of other litigation avoidance measures.</li> <li>Oversee sensitization and awareness programmes.</li> <li>Grievance Redress</li> </ul>
<b>Ministry of Tourism and Cultural Affairs</b>	<ul style="list-style-type: none"> <li>Project planning and design</li> <li>Land acquisition and payment of compensations to PAPs</li> <li>Management of Contract award at the operational phase</li> <li>Compliance monitoring</li> </ul>
<b>EPA</b>	<ul style="list-style-type: none"> <li>Issuing of environmental permit upon review and approval of ESIA</li> <li>Adhoc monitoring of the sub project to ensure compliance with conditions of the Environmental Permit.</li> </ul>
<b>Local Council</b>	<ul style="list-style-type: none"> <li>Adhoc monitoring of project during the construction phase</li> <li>Monitoring facilities during the operational phase of the project to ensure that it is working properly and help resolve operational phase challenges</li> <li>Grievance Redress</li> </ul>
<b>Project Consultant including Project Engineer and Safeguards Specialist representing the PCU</b>	<ul style="list-style-type: none"> <li>Ensure that project execution meets specified environmental, social, health and safety guidelines contained in this report and contract documents</li> <li>Issue site instructions to Contractors to ensure environmental and social mitigation measures are implemented by contractors</li> <li>Grievance Redress</li> <li>The Environmental Safeguards Specialist will be responsible for environmental issues and the Social Safeguards Specialist responsible for social issues. Safeguards specialists are however required to work as a team to ensure that issues are dealt with in a holistic manner</li> </ul>
<b>HR Manager</b>	<ul style="list-style-type: none"> <li>In charge of human resource management and handling of issues related to labour and working conditions</li> <li>Grievance redress</li> </ul>

<b>Key Actors / Institutions</b>	<b>Description of Key Roles/Responsibilities</b>
<b>HSE Manager</b>	<ul style="list-style-type: none"> <li>• Monitors health, safety and environment issues at the operational stage</li> <li>• Conduct trainings for workers</li> </ul>
<b>Community Liaison Officer</b>	<ul style="list-style-type: none"> <li>• Liaises with the project and community on social issues</li> <li>• Assist with sensitization drives</li> <li>• Grievance redress</li> </ul>
<b>Works Contractors/Sub Contractors</b>	<ul style="list-style-type: none"> <li>• Contractors for the civil works will be responsible for construction and installations under the project according to project specifications and designs.</li> <li>• Contractors are responsible for reinstatement of all damaged properties.</li> <li>• Contractors are responsible for implementation of the construction phase mitigation measures provided in this ESIA report</li> <li>• Responsible for presentation of monthly monitoring report to the PCU</li> <li>• Responsible for remedying defects committed during construction of the facility</li> </ul>
<b>National Tourist Board</b>	<ul style="list-style-type: none"> <li>• Adhoc compliance monitoring of project during the construction phase</li> <li>• Grievances redress</li> <li>• Supervision of facility management during the operational phase</li> </ul>
<b>Grievance Redress Committee</b>	<ul style="list-style-type: none"> <li>• To receive and find solutions to grievances</li> </ul>

## 8.2 Monitoring and Reporting

At the project implementation stage, monitoring will be done to confirm the effectiveness of impact management, including the degree of success in implementing mitigation measures. During construction works, checks, reviews and inspections will be carried out to assess compliance with permit conditions. Monitoring will be done by the relevant institutions, the PCU, District Councils, National Tourist Board. A summary of impacts, mitigation, management and monitoring measures to be implemented is captured in **Table 8-3**.

Periodic monitoring reports will be prepared by the works contractor and submitted to the PCU, District Council and EPA. The monitoring reports will serve as the basis for EPA's compliance monitoring in line with the permit conditions, and verification of other environmental and social safeguard commitments.

A construction completion report, which is a compilation of outcomes of the monitoring activities, in compliance with EPA's permit conditions and for the records of the District Council, will be prepared. The completion report will form the basis for EPA's final monitoring for project completion and closure. Also, PCU will prepare quarterly monitoring reports and share with the World Bank to show the extent of compliance with E&S requirements of the EPA and the Bank for the construction period.

**Table 8- 3: Environmental and Social Monitoring Plan**

No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
<b>CONSTRUCTION PHASE</b>						
	<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>Records of accidents, incidents and near misses.</li> <li>Records of PPE disbursed</li> <li>Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>Construction site</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	3,000
	<b>Poor labour working conditions</b>	<ul style="list-style-type: none"> <li>Availability of copies of signed contracts</li> <li>Human Resource Management Plan/Recruitment Policy</li> <li>Complaints lodged by workers</li> </ul>	<ul style="list-style-type: none"> <li>Construction site</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	2,000
	<b>Soil impacts and sediment transport</b>	<ul style="list-style-type: none"> <li>Observable change in turbidity of water in drains or water bodies</li> <li>Observable oil sheen in drain</li> <li>Observation of rills/gullies</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental Safeguards Specialist	1,000
	<b>Air and Noise Pollution</b>	<ul style="list-style-type: none"> <li>Dust (PM2.5, PM10 and TSP)</li> <li>Emissions (NOx, SOx, TSP)</li> <li>Noise (dB) levels</li> <li>Number of complaints by residents/workers</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental Safeguards Specialist	2,000
	<b>Waste generation and disposal</b>	<ul style="list-style-type: none"> <li>Number of mobile toilets and dustbins provided on site</li> <li>Number of times waste is lifted in a week</li> <li>Cleanliness of site/housekeeping</li> <li>Odour</li> <li>Complaints by workers/residents</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Weekly	Environmental Safeguards Specialist	-



No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
	<b>Community/Public safety concerns</b>	<ul style="list-style-type: none"> <li>Grievance records</li> <li>Traffic related incidents/accidents</li> <li>Records of accidents, incidents and near misses.</li> <li>No. of fenced excavations</li> <li>No. of installed safety signages</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	-
	<b>Public health issues</b>	<ul style="list-style-type: none"> <li>Number of sensitization campaigns</li> <li>Number of condoms distributed to Contractor's staff in a month</li> <li>Number of STD cases reported to local health facilities involving encounters with Contractor's staff</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	1,500
	<b>Security and GBV concerns</b>	<ul style="list-style-type: none"> <li>Number of conflicts/cases reported to the Grievance Redress Committee/Community Liaison Officer</li> <li>Number of conflicts/cases dealt with by the Grievance Redress Committee</li> <li>Number of crimes such as theft, defilement and rape reported, investigated, and concluded by the police</li> <li>Availability of worker Code of Conduct (CoC)</li> <li>Training records on CoC</li> <li>No. of sensitization programs organized</li> </ul>	<ul style="list-style-type: none"> <li>Construction site and Immediate environs</li> </ul>	Monthly	Environmental and Social Safeguards Specialists	3,500
<b>OPERATIONAL PHASE</b>						

No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
	<b>Occupational health and safety</b>	<ul style="list-style-type: none"> <li>Records of accidents, incidents and near misses.</li> <li>Records of PPE disbursed</li> <li>Housekeeping</li> </ul>	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	Monthly	HSE Manager	2,000
	<b>Poor labour working conditions</b>	<ul style="list-style-type: none"> <li>Availability of copies of signed contracts</li> <li>Human Resource Management Plan/Recruitment Policy</li> <li>Complaints lodged by workers</li> </ul>	<ul style="list-style-type: none"> <li>Facility site</li> </ul>	Monthly	HSE Manager and HR Manager	3,000
	<b>Soil impacts and sediment transport</b>	<ul style="list-style-type: none"> <li>Observable change in turbidity of water in drains or water bodies</li> <li>Observable oil sheen in drain</li> <li>Observation of rills/gullies</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager	-
	<b>Air and Noise Pollution</b>	<ul style="list-style-type: none"> <li>Dust (PM2.5, PM10 and TSP)</li> <li>Emissions (NOx, SOx, TSP)</li> <li>Noise (dB) levels</li> <li>Number of complaints by residents/workers</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Bi-annually	HSE Manager and Community Liaison Officer	5,000
	<b>Waste generation and disposal</b>	<ul style="list-style-type: none"> <li>Presence of toilets and number of dustbins provided on site</li> <li>Number of times waste is lifted in a week</li> <li>Cleanliness of site/housekeeping</li> <li>Odour</li> <li>Presence of human waste on site</li> <li>Complaints by workers/residents</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Weekly	HSE Manager and Community Liaison Officer	4,000

No.	Potential Environmental and Social Impacts	Monitoring Parameters	Monitoring Site	Frequency	Responsibility (Implementation/ Supervision)	Cost Estimate/ Year (USD)
	<b>Community/Public safety concerns</b>	<ul style="list-style-type: none"> <li>Grievance records</li> <li>Traffic related incidents/accidents</li> <li>Records of all accidents, incidents and near misses.</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager and Community Liaison Officer	3,000
	<b>Public health issues</b>	<ul style="list-style-type: none"> <li>Number of sensitization campaigns</li> <li>Number of condoms distributed to workers or placed in washrooms in a month</li> <li>Prevalence of STD cases reported to local health facilities</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager and Community Liaison Officer	1,500
	<b>Security and GBV concerns</b>	<ul style="list-style-type: none"> <li>Number of conflicts/cases reported to the Grievance Redress Committee/Community Liaison Officer</li> <li>Number of conflicts/cases dealt with by the Grievance Redress Committee</li> <li>Number of crimes such as theft, defilement and rape reported, investigated, and concluded by the police involving workers or patrons</li> <li>Availability of worker Code of Conduct (CoC)</li> <li>Training records on CoC</li> <li>No. of sensitization programs organized</li> </ul>	<ul style="list-style-type: none"> <li>Facility site and immediate environs</li> </ul>	Monthly	HSE Manager and Community Liaison Officer	3,500

## 9.0 DECOMMISSIONING

A Decommissioning and Site Closure Plan (DCP) is required to guard against the remote possibility that installations used for construction are abandoned or the facility ceases to operate and the installations are abandoned. Should such a circumstance arise, the potential would exist for impacts from abandonment of the facility such as aesthetic impacts and potential trespassing and safety concerns. This DCP is being posted to provide a guide on details of the decommissioning activities. The purpose of this conceptual DCP is to describe the general objectives for the post project land use, and the planning processes leading to development of a final DCP.

The specific objectives in managing the decommissioning process will be:

- To ensure that rehabilitation and decommissioning are carried out in a planned sequential manner, consistent with best practice;
- To ensure that agreed post-project land-use outcomes are achieved; and
- To avoid on-going liability

A Full Decommissioning Report is expected to be prepared in the event of any such activity for approval by the EPA and any other requisite state agencies.

### 9.1 Pre-Decommissioning Assessment

Prior to any decommissioning, the EPA will be notified and an assessment will be carried out to identify any potential environmental impacts that need to be addressed and mitigated in the decommissioning process.

### 9.2 Decommissioning Phase Activities

#### 9.2.1 *Dismantling and Removal of Structures and Equipment*

During decommissioning activities, the respective Planning Department and the EPA office shall have access to the site, pursuant to reasonable notice, to inspect the results of complete decommissioning.

The removal of installations, structures, and equipment would include a complete inventory of all hardware and capturing of their final operational status. This exercise will require the as built drawing to guide the process. Disposal of the hardware and documentation would be planned, including any environmental concerns that may dictate disposal method.

All decommissioning and restoration activities will be in accordance with all applicable state and local permits and requirements and will include the following specific activities:

- **Hardware retirement:** All power sources would be disconnected from structures and equipment before dismantling commences. Cranes and/or other machinery will be used for the disassembly and removal of structures and associated installations. These will either be transported whole for reconditioning and reuse or disassembled into salvageable, recyclable, or disposable components;

- **Foundation removal:** All foundation materials will be removed as per EPA guidelines or requirements. The remaining excavation will be filled with clean sub-grade material, compacted to a density similar to surrounding sub-grade material, and finished with topsoil;
- **Monitoring:** A monitoring and remediation period of two years immediately following the completion of any decommissioning and restoration activities will be undertaken.
- **Area restoration:** Areas where subsurface components are removed will be graded to match adjacent contours, stabilized with an appropriate seed mix, and allowed to re-vegetate naturally. All town roads, impacted by Project decommissioning activity, if any, will be restored to original condition upon completion of decommissioning.

### **9.2.2      *Solid Waste Management***

All solid waste resulting from the decommissioning process will be evacuated by certified handlers commissioned by the Municipal Solid Waste Department.

## **9.3 Post-Decommissioning Assessment**

Removal of machinery, equipment and all other materials related to the project will be completed within one year of decommissioning. At the end of the decommissioning exercise, the EPA will be invited to carry out a post-decommissioning assessment to establish compliance with all regulatory requirements and issue a certificate to that effect. The Decommissioning and Closure Plan will be finalized and submitted to the relevant authorities for approval at least six months prior to closure of the site.

A report describing the performance of the final DCP in working towards its objectives, based on monitoring results, and the extent to which it has been complied with, will be submitted to the EPA. The report will be provided to documented stakeholders and will otherwise be publicly available on request. Files and documents used to collate information regarding closure commitments, licenses, approvals and other information concerning closure will be catalogued and maintained in accordance with standard practices.

## **10.0 CAPACITY BUILDING AND TRAINING**

### **10.1 Major Institutions**

The main institutions to be involved with the implementation of the project and to ensure sound management of the environmental and social aspects include:

- Ministry of Tourism and Cultural Affairs
- Ministry of Trade and Industry
- Ministry of Lands, Country Planning and the Environment
- Environment Protection Agency of Sierra Leone
- National Tourist Board and
- Project Coordinating Unit

### **10.2 Capacity Building Requirements**

Project institutions need to understand the purpose of the ESMP, their expected roles and the extent to which the ESMP will facilitate the respective statutory functions. This will engender the required collaboration for the ESMP implementation.

Competence of government i.e., the ability of active government parties to carry out their respective design, planning, approval, permitting, monitoring and implementation roles will, to a large extent, determine the success and sustainability or otherwise of the project.

The objectives and provisions of the ESMP therefore cannot be achieved in the absence of relevant competencies on environmental and social management within the Ministry of Tourism and Cultural Affairs, the project contractor and other stakeholders. The following sections provide recommendations on capacity building to support the program's environmental and social management objectives.

#### Identification of Capacity Building Needs

The first step in pursuing capacity building will be to identify the capacity building needs of the various stakeholders. Capacity building should be viewed as more than training. It is human resource development and includes the process of equipping individuals with the understanding, skills and access to information, knowledge and training that enables them to perform effectively. It also involves organizational development, the elaboration of relevant management structures, processes and procedures, not only within organizations but also the management of relationships between the different organizations and sectors (public, private and community).

The capacity building requirements will mostly be in the form of training workshops as follows:

(1) A training workshop on the E&S Safeguards should be organized for the major stakeholders identified above.

(2) A training workshop for the key project implementers including the Ministry of Tourism and Cultural Affairs, PCU, NTB and EPA should cover the following:

- Inclusion of environmental and social mitigation measures & penalties in contract documents of contractor and contractor supervision;
- Environmental screening and monitoring; and
- Public/community participation techniques and procedures.

For each group, training will be provided at different level of expertise in different areas, and would include:

- In-depth training to a level that allows trainees to go on to train others, including environmental and social procedures where relevant; and
- Sensitization or awareness-raising in which the participants are familiarized with the significance or relevance of the issues, to the extent that they can identify potential or emergent problems and request further assistance as necessary.

### **10.3 Public Engagement/Sensitization**

In order to ensure proper implementation of the project, and to avoid public agitations/litigations which could affect the project execution, the Ministry of Tourism and Cultural Affairs and Local Councils should engage/sensitize the public, particularly those whose property or livelihood may be affected. The engagement/sensitization should include the schedule of implementation, relocation and compensation processes for any affected persons, grievance redress mechanism, traffic management, etc. The public engagement/sensitization should be carried out ahead of construction works and any grievances addressed.



## **11.0 PUBLIC CONSULTATIONS AND DISCLOSURE**

The ESIA preparation included preliminary stakeholder identification, some initial consultations and analysis of the requirements with key stakeholders. The key project stakeholders identified for consultations included government and non-governmental organizations. Stakeholder consultation is a process and should continue through the design stage of the project implementation phase.

### **11.1 Objectives of the consultations**

The main objective of consultations with stakeholders is to discuss and provide relevant information on the project. Specifically, to achieve the following objectives:

- Provide information about the proposed project;
- Provide opportunities for stakeholders to discuss their opinions and concerns;
- Provide and discuss with stakeholders, alternatives considered to reduce anticipated impacts;
- Identify and verify significance of environmental, social and health impacts; and
- Inform the process of developing appropriate mitigation and management guidelines.

### **11.2 Stakeholders Identified**

The stakeholders identified for consultations are as follows:

#### Project Proponent/Beneficiary

- Ministry of Tourism and Cultural Affairs
- Project Coordinating Unit

#### Regulatory Institution

- Environment Protection Agency
- National Tourist Board

#### Other Government Institutions

- Ministry of Trade
- Ministry of Lands

#### Other stakeholders

- Local Committee Members
- Councillors
- Headmen
- Focus groups including Community Youth, Women, Traders etc. Community meetings had representation from vulnerable groups i.e. the elderly and persons with disability.

### 11.3 Outcome of Consultations

A summary of the outcome of the initial consultations is provided below. These are mostly concerns and suggestions/interventions from institutions and individuals engaged.

<b>Stakeholder Consultation and Community Entry</b>	<ul style="list-style-type: none"> <li>Engagement of political and community leadership for their buy-in is key to ensuring the sustainability of the project</li> <li>Stakeholder engagement is key and should reflect in the EIA</li> <li>Community entry has to be done right i.e. through the local council</li> </ul>
<b>Project Ownership/Facility Management</b>	<ul style="list-style-type: none"> <li>The Ministry of Tourism and Cultural Affairs should own the project as it is better placed to coordinate with other Ministries who are involved e.g. Ministry of Trade</li> <li>Management of the facilities should not be left to the communities. Instead, private sector players should be engaged as past experience has shown that communities could mismanage such projects e.g. Banana Island</li> <li>Communities can benefit from the improved economic activities that will come with the project implementation.</li> </ul>
<b>Alternative Livelihood</b>	<ul style="list-style-type: none"> <li>Alternative livelihood considerations must be integrated into the project as it has the potential to reduce environmental degradation such as deforestation and stone quarrying as well as crime and conflicts.</li> </ul>
<b>Social Issues and Gender Based Violence</b>	<ul style="list-style-type: none"> <li>NTB's initiative of employing the local youth as Beach Marshalls to provide security services could be extended to the project site.</li> <li>Sensitization of workers and community is key in reducing gender-based violence cases</li> </ul>
<b>Access to Finance</b>	<ul style="list-style-type: none"> <li>Requirements of financial institutions should be reviewed to allow to SMEs (beach bar operators, souvenir sellers, taxi drivers, tour guides etc.) that constitute about 60-70% of industry players access finance.</li> <li>High interest rates and stringent requirements, which are prohibitive, must be checked to enable local entrepreneurs grow their businesses.</li> <li>SMEDA's funding and logistical challenges should be addressed so they can use their national network to reach SMEs across the nation with affordable credit.</li> </ul>

**Training**

- A capacity assessment and capacity building targeting locals should focus on areas such as Accounting, Marketing and Management for locals to benefit from key employment opportunities at the operation phase
- The capacity of Implementing institutions should also be built especially in the E&S safeguards area

**Project Implementation and Monitoring**

- An ecotourism plan should be developed to address issues of wildlife and forest protection, sand mining, stone breaking, natural disaster management, development of additional tourism attraction to mitigate environmental concerns.
- The project must go through the EIA process to ascertain its impacts
- Proponents are required to submit a completed application and screening form to adequately categorize the project
- Stakeholder engagement is key and should reflect in the EIA
- Owners of properties close to the forest reserve should be compensated and relocated to prevent encroachment
- A buffer zone should be established to prevent encroachment and associated threats to water catchment, the forest resources and the safety of persons
- The project should look at means of helping address the widespread poverty and deprivation in the nearest community (Bathurst) and adjoining communities

Details of stakeholder engagements are captured in **Table 11-1 below**.

**Table 11- 1: Details of Stakeholder Engagement**

Stakeholder/ Institution/ Location	Contact Person(s)	Role	Contact No.	Date	Concerns Raised/ Information Received
Ministry of Tourism and Culture	Dr. Memunatu B. Pratt  Mohamed Jalloh	Hon. Minister  Director of Tourism	+232 76 604 716  +232 76 522 838	14/09/2021	<ul style="list-style-type: none"> <li>• The project will be owned by the Ministry of Tourism and Culture as the ministry is the main beneficiary. However, there are other components (Component 2 – Business enhancement) that will be handled by the Ministry of Trade through SMEDA.</li> <li>• The project will be a self-financing one.</li> <li>• In managing the facilities, contractual agreements will be entered into with private sector players to invest and manage the facilities through PPP arrangements.</li> <li>• Land ownership is not an issue as all lands earmarked for the project are state lands and legally vested in the Ministry of Lands who have also handed over these lands to the Ministry of Tourism. This is consistent with the National Tourism Act which gives ownership of beaches to the Ministry of Tourism.</li> <li>• For future expansion, the Ministries of Tourism and Lands will liaise to compensate project affected persons, where necessary.</li> <li>• Locals in the project areas will benefit from trainings organized the Ministry of Tourism in waste management and tourism security to provide these services at the operational phase</li> <li>• Consideration must be given to environmental issues such as the effects of climate change and waste management</li> <li>• Alternative livelihood considerations must be integrated into the project</li> <li>• Engagement of political and community leadership for their buy-in to ensure the sustainability of the project</li> <li>• An ecotourism plan should be developed to address issues of wildlife and forest protection, sand mining, stone breaking, natural disaster management, development of additional tourism attraction to mitigate environmental concerns.</li> </ul>
National Tourist Board	Umaru Woody	Planning and Development Manager	+232 76 286 507  +232 25 216 345	15/09/2021	<ul style="list-style-type: none"> <li>• The Board is the implementing agency of the Ministry of Tourism. It is also responsible for the classification and inspection of tourist sites and facilities as well training industry players.</li> <li>• There are sometimes overlapping roles hence the Ministry is sometimes seen to make policies and do implementation as well</li> <li>• However, this challenge will be dealt with by the Tourism and Financial Management Strategy that clearly defines roles of all the industry stakeholders</li> </ul>

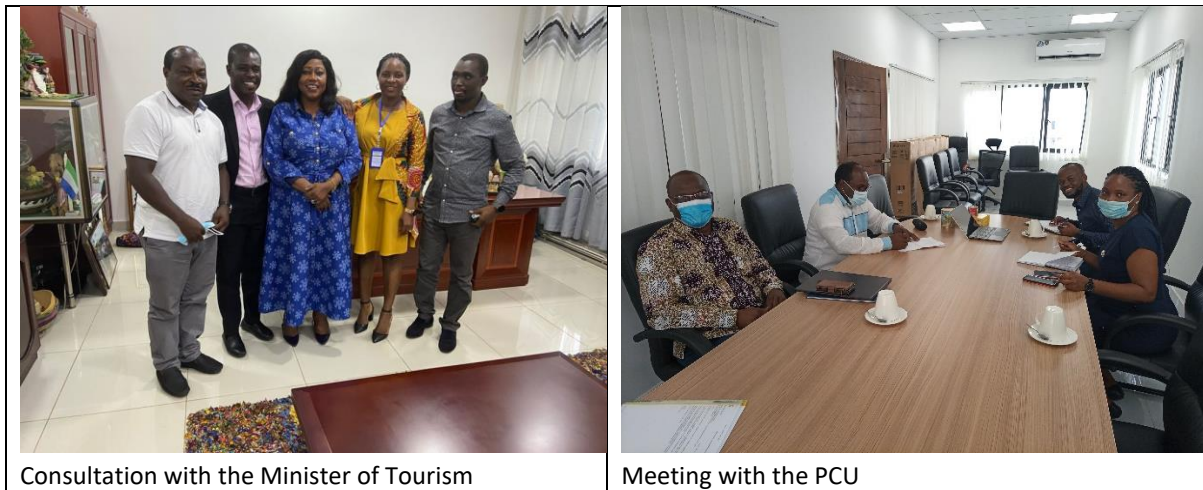
Stakeholder/ Institution/ Location	Contact Person(s)	Role	Contact No.	Date	Concerns Raised/ Information Received
					<ul style="list-style-type: none"> <li>On ownership of the project, the Board is of the opinion that the Ministry of Tourism and Culture should own the project as it is better placed to coordinate with other Ministries who are involved e.g. Ministry of Trade</li> <li>Management of the facilities should be left to private sector players as past experience has shown that communities could mismanage such projects e.g. Banana Island</li> <li>Communities can benefit from the improved economic activities that will come with the project implementation.</li> <li>Currently, the Board's initiative of employing the local youth as Beach Marshalls to provide security services could be extended to the project sites and provide the youth with employment opportunities. This could become a Tourism Police Force in future</li> <li>For locals to contribute meaningfully to the management of facilities, a capacity assessment must be done and capacity building should focus on areas such as Accounting, Marketing and Management</li> <li>Access to finance is a major challenge to SMEs that constitute about 60-70% of players (beach bar operators, souvenir sellers, taxi drivers, tour guides etc.) within the tourism value chain. High interest rates and stringent requirements tend to be prohibitive.</li> <li>Socially, there have been some cases of gender based violence (GBV) i.e. sexual harassment at tourist sites but it is not rampant.</li> </ul>
Small and Medium Enterprises Development Agency (SMEDA)	Melvin H. Foray  Medely M. Mansaray	Enterprise Development Manager  Monitoring and Evaluation Manager	+232 78 284 374  +232 76 137 755	09/09/2021	<ul style="list-style-type: none"> <li>The role of SMEDA is to provide access to low-cost finance, business development including access to markets, training support, building SME observatory and database, ecosystem mapping, policy advocacy and coordination of government SME activities.</li> <li>Enterprises are categorized based on their annual revenue. Small enterprises are those with less than 100 million Leones annual revenue while Medium enterprises are those with 100 to 500 million Leones revenue.</li> <li>SMEDA has been engaged right from the beginning of the project especially because Component 2 borders on the creation of the environment for business growth.</li> <li>SMEDA has presence in 4 regions including the regions (headed by Regional Coordinators and assisted by Field Officers) where the projects will be implemented.</li> <li>Current total staff strength is 32 including regional staff.</li> <li>SMEDA's flagship project is the MUNAFA Fund serving over 5,000 SMEs using Ecobank as a financial intermediary</li> </ul>

Stakeholder/ Institution/ Location	Contact Person(s)	Role	Contact No.	Date	Concerns Raised/ Information Received
					<ul style="list-style-type: none"> <li>• Trainings are organised for SMEs especially on sound investments as well as MMDAs on capacity building.</li> <li>• Funding agencies include AU, GIZ</li> <li>• Monitoring and evaluation is done through Mid-term review to assess progress together with the Financial Service Providers (FSPs), who are currently 10 in number, periodic visits to SMEs and monitoring of SME database.</li> <li>• Major challenges include insufficient funding and logistical challenges</li> <li>• Clarity was sought on how the facilities, when done, will be managed</li> </ul>
Environmental Protection Agency	Momodu A. Bah Lamin Tarawalli Sheikh A. Tunis Aiah Wurie Kembay	Director Deputy Director Dep. Director PPR Assistant Director	+232 78350627 +232 79636797 +232 79118276 +232 78463417	06/09/2021	<ul style="list-style-type: none"> <li>• The project must go through the EIA process to ascertain its impacts</li> <li>• Proponents are required to submit a completed application and screening form to adequately categorize the project</li> <li>• Stakeholder engagement is key and should reflect in the EIA</li> <li>• The challenge of bad access roads to beaches is a common problem and the upgrade proposed by the project is welcome.</li> </ul>
Tacugama Chimpanzee Sanctuary	Bala Amarasekaran	Sanctuary Manager		07/09/2021	<ul style="list-style-type: none"> <li>• The sanctuary was established in 1995 to provide a safe haven for chimpanzees that were getting killed in the wild for bush meat and pet trade/trafficking mostly to China</li> <li>• Chimpanzee population reduced from 20,000 in the 1960s and 1970s to about 5,500 at the last census in 2010</li> <li>• In 2019, a national declaration was made for the Chimpanzee to become a protected animal</li> <li>• Currently, the chimpanzee population in the sanctuary is 104 and the staff strength is 49 (43 local and 6 expatriate)</li> <li>• Captive chimpanzees are aggressive so they are kept in enclosures (electric fences)</li> <li>• Sand/stone mining activities are increasing as well as development of residential facilities</li> <li>• Challenges faced by the sanctuary include encroachment by locals which threatens water catchment like the Takiyama dam.</li> <li>• The safety of encroachers is also threatened as the encroached land is unstable and recorded 3 mini landslides in 2017 when the Regent landslide occurred</li> <li>• Owners of properties close to the forest reserve should be compensated and relocated</li> </ul>

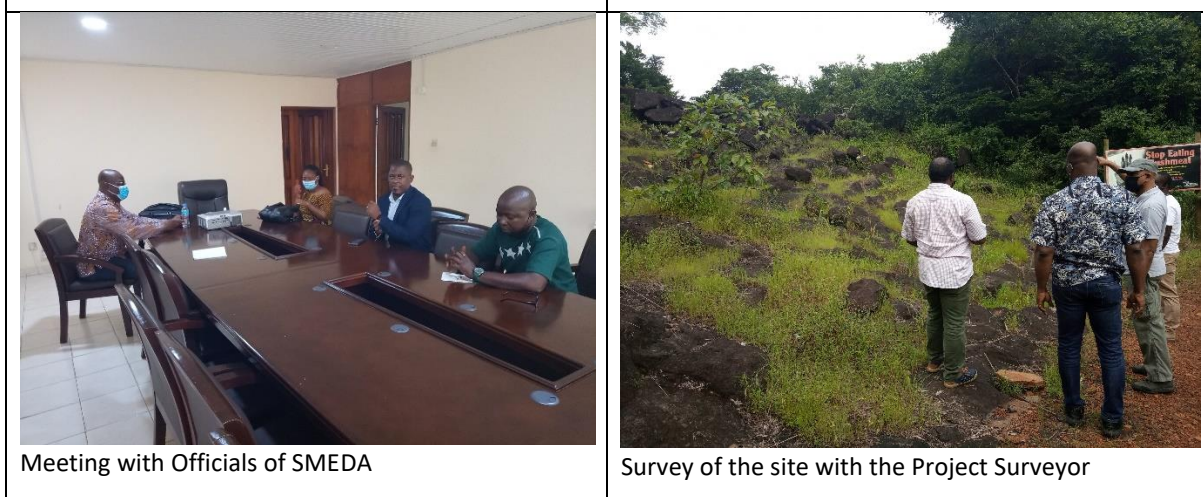
Stakeholder/ Institution/ Location	Contact Person(s)	Role	Contact No.	Date	Concerns Raised/ Information Received
					<ul style="list-style-type: none"> <li>A buffer zone should be established to prevent encroachment and associated threats to water catchment, the forest resources and the safety of persons</li> </ul>
Bathurst Community	Madusu Kamara Theophilus Johnson Eric Foday George	Councillor (WARD 396) Headman Youth Leader	+232 77222325 +232 77651537 +232 30783635	15/09/2021	<ul style="list-style-type: none"> <li>Project is welcome and the expectation is that locals will benefit through job creation</li> <li>Currently, the community benefits from a few jobs and scholarships provided by the Tacugama Chimpanzee Sanctuary but it is inadequate</li> <li>There has been some confrontation in the past between the TCS Management and locals who claim a portion of the forest was owned by their forefathers</li> <li>The Bathurst community is quite deprived as it has no health facility, a poorly resourced primary school, bad roads and limited pipe-borne water supply</li> <li>Flooding is a challenge and access to the community is restricted when it rains as the community bridge is broken and the alternative access route gets flooded.</li> <li>Open defecation and dumping of waste is rife</li> <li>Access to finance is a challenge for locals</li> </ul>



Some photographs taken during the stakeholder engagements are presented below (**Plates 11-1 to 11-3**):



**Plate 11- 1: Meetings with Project Proponents**



**Plate 11- 2: Meetings with representatives of Government Institutions**





**Plate 11- 3: Community Engagement**

#### 11.4 Grievance Redress Mechanism

Grievances can be an indication of growing stakeholder concerns (real and perceived) and can escalate if not identified and resolved. The management of grievances is therefore a vital component of stakeholder management and an important aspect of risk management for a project. Grievances and disputes that may arise during the course of implementation of the EDP will be related to the following issues among others:

- Siting of the project/subproject;
- Mistakes in inventorying or valuing properties;
- Disagreement on property boundaries, either between the affected person and the expropriation agency or between two neighbours;

- Disputed ownership of a given asset (two or more affected people claim that the affected asset is theirs);
- Disagreement on asset valuation methods and compensation amounts in cash or in-kind;
- Successions, divorces, and other family issues resulting in disputed ownership or disputed shares between inheritors or family members;
- Disagreement with the computation of the resettlement or livelihood assistance or transportation cost;
- Claims by people who relocated on their own after receiving notification about the project and the likelihood of impact on their activities; and
- Delays in resolving complaints of PAPs.

The general steps of the grievance process comprise the following which will include a feedback process for complainants to get responses within agreed time frames:

- Registration/receipt of Complaints;
- Determining and Implementing the Redress Action;
- Verifying the Redress Action;
- Monitoring and Evaluation; and
- Dissatisfaction and Alternative Actions.

#### Registration/ receipts of complaints

The PCU will establish a register of resettlement/compensation related grievances and disputes. The receipt of complaints will include its logging and registration as this will help with monitoring the status of the grievances and ease reporting on them. The existence and conditions of access to this register (where, when, how) will be widely disseminated within the project community/town as part of the consultation undertaken for the project in general.

For the tourist project sites, the complaints will be lodged verbally or in writing directly by the affected person or through the local Headman/woman to the District Council Office representative designated to receive all complaints. A designated member of the Ward Committee for the project area could also receive complaints from PAPs (because the Ward Committee is within the community and is closer to the PAPs and some PAPs may prefer to route their complaints through the Committee and avoid undue transport and time cost to the District office). The Committee will ensure that such complaints reach the District Office representative designated to receive complaints within 24 hours via phone call or through any other means. The person assigned the responsibility at the District Council shall receive all complaints and shall officially register these complaints using the first section of the proposed complaint registration and resolution form provided in **Annex 2**. The District Council representative will inform the National Tourist Board representative (officer/ warden) on the Grievance Redress Team within 24 hours on any complaint lodged.

At the Solution Centers, the SMEDA safeguard person will be in regular contact with the operators of the Centers to ensure that any complaints are dealt with within designated time periods.

For cases involving gender-based violence, the GBV outreach staff who will be stationed in project communities will intervene and ensure that satisfactory actions as proposed in this ESIA, are taken to support the survivor.

#### Determining and implementing the redress action

When a grievance/dispute is recorded as per above-mentioned registration procedures, the Grievance Redress Team (GRT) will be called into action, and mediation meetings will be organized with interested parties. Minutes of meetings will be recorded.

The GRT will first investigate the foundation of the grievance and then determine the redress action in consultation with the complainant and concerned party if necessary. Otherwise, the grievance redress team will communicate to the complainant on the acknowledgement of the grievance, the redress action proposed and the timeframe for implementation.

The proposed redress action and the timeframe in which it is to be implemented will be discussed within 5 working days of receipt/registration of the grievance. The grievance issue should be resolved within 10 working days of receipt of complaints.

#### Verifying the redress action

The grievance redress team will visit the affected property site or get in touch with the complainant to confirm that the redress action is carried out. If the complainant is dissatisfied with the outcome of the redress proposal or action, additional steps may be taken to resolve the issue or reach an amicable agreement. Verification should be completed within one week of execution of the redress action.

#### Monitoring and Evaluation

The Monitoring and Evaluation Team will monitor the activities of the Grievance Redress Team to ensure that complaints and grievances lodged by PAPs are followed-up and resolved amicably as much as possible.

#### Dissatisfaction and Additional Steps

##### *2<sup>nd</sup> Tier Amicable Mediation and Settlement*

If the complainant is not satisfied with the decision of the grievance redress team, he/she can bring it to the attention of the Safeguard Officer at the PCU to draw the attention of PCU to the unresolved grievance. Otherwise, the GRT should forward the issue directly to PCU for further action. The PCU in consultation with the Ministry of Finance will set up an appropriate mediation team to resolve the issue within 2 weeks from the date of receipt of such a decision by PCU. If such a time line is not possible, the PCU should inform the GRT and the complainant accordingly giving reasons and possible new date.

##### *Appeal to Court*

If the complainant remains dissatisfied with the mediation effort of EDP PCU and the MTCA/ SMEDA, the complainant has the option to pursue appropriate recourse via judicial process in Sierra Leone. The Constitution allows any aggrieved person the right of access to Court of law. Courts of law will be a “last resort” option, in view of the above mechanism.

### Membership, Function and Financing of the GRT

The Grievance Redress Team (GRT) will include the following:

- Representative of the National Tourist Board (Officer/ Guide/ Warden)
- Representative of the relevant District Council;
- Representative of the Ward Committee for the project area; and
- Representative of the traditional authority.

The Tourist Board and the District Council should ensure that at least one of the GRT members is a woman. In addition to the main function of resolving grievances, disputes, complaints and conflicts, the GRT will also:

- i. Ensure smooth implementation of the resettlement instrument;
- ii. Establish dialogue with the PAPs; and
- iii. Ensure that their concerns and suggestions are incorporated and implemented during the project.

The grievance redress teams will be made known or be set up as soon as land acquisition or resettlement plan preparation starts. Disputes can arise from census operations and preliminary siting of subprojects and it is therefore important that the mediation mechanisms be available to cater for claim, disputes and grievances at the early stage. The activities of the GRT will be financed by PCU.

The GRM would have specific procedures for GBV including confidential reporting with safe and ethical documenting of GBV cases. Parallel GRM outside of the project GRM may be warranted for substantial to high-risk situations.

The grievance management guide is provided in the table below.

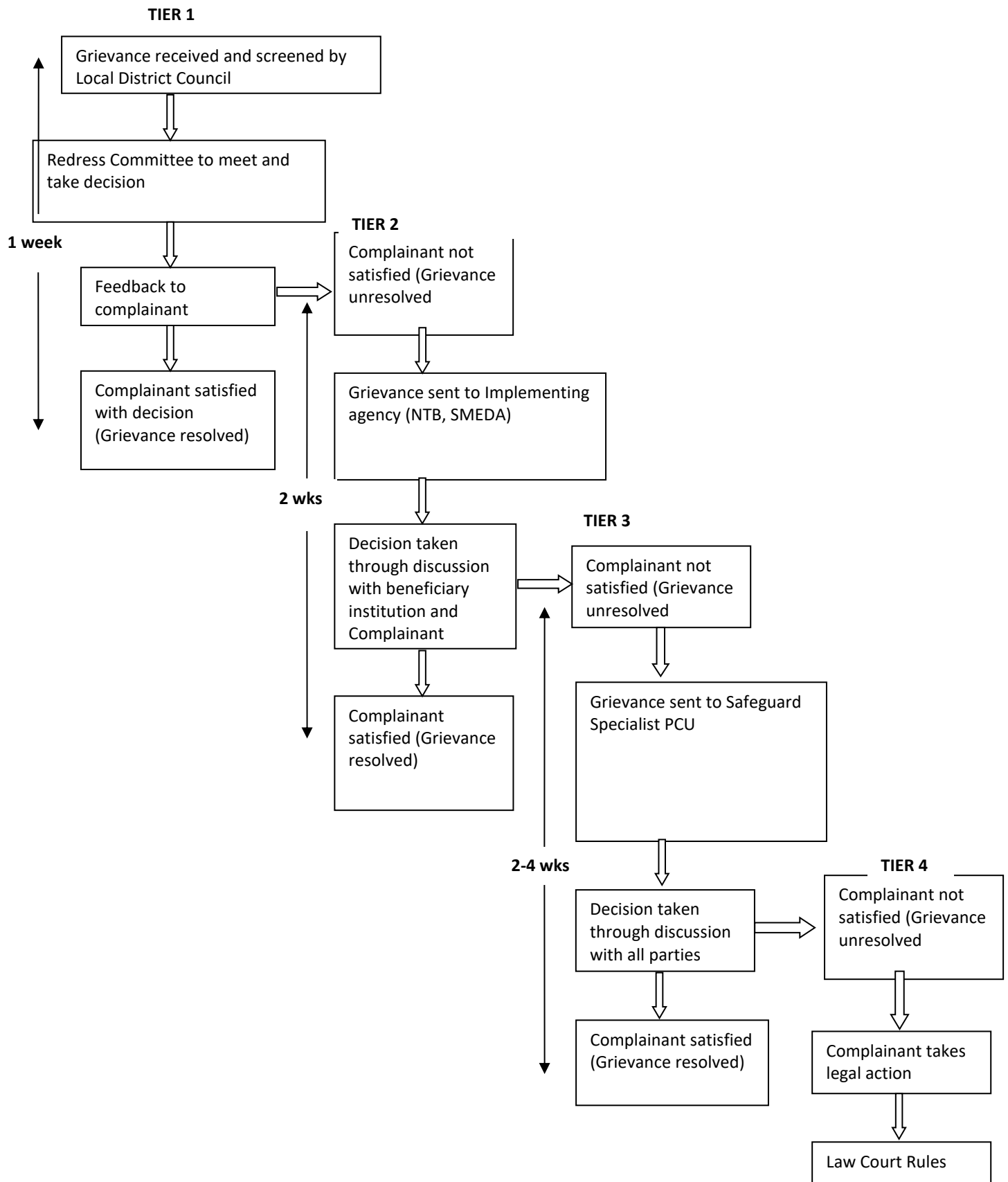
**Table 11- 2: Grievance management guide**

Steps	Process	Description	Timeline Maximum	Other information
1	Identification of grievance	Face to face; phone; letter, e-mail; recorded during public/community interaction; others	1 Day	Email address; hotline number
2	Grievance assessed and logged	Significance assessed and grievance recorded or logged (i.e. in a log book)	4-7 Days	Significance criteria Level 1 –one off event; Level 2 – complaint is widespread or repeated; Level 3- any complaint (one off or repeated) that indicates breach of law or policy or this ESMF/RPF provisions

Steps	Process	Description	Timeline Maximum	Other information
3	Grievance is acknowledged	Acknowledgement of grievance through appropriate medium	7 Days	
4	Development of response	-Grievance assigned to appropriate party for resolution -Response development with input from management/ relevant stakeholders	4-7 Days 10-14 Days	
5	Response signed off	Redress action approved at appropriate levels	4-7 Days	Senior management staff of MoF should sign off
6	Implementation and communication of response	Redress action implemented and update of progress on resolution communicated to complainant	10-14 Days	
7	Complaints Response	Redress action recorded in grievance log book Confirm with complainant that grievance can be closed or determine what follow up is necessary	4-7 Days	
8	Close grievance	Record final sign off of grievance If grievance cannot be closed, return to step 2 or refer to sector minister or recommend third-party arbitration or resort to court of law	4-7 Days	Final sign off on by MoF

A flow chart depicting the process is given below.





**Figure 11- 1: Procedure for Grievance Redress**



**12.0 ESMP IMPLEMENTATION BUDGET**

Budgetary estimates are provided in **Table 12-1** below to support the implementation of the environmental and social management plan. The estimated budget is **USD 52,000**.

**Table 12- 1: Estimated budget to implement ESMP**

No	Activity	Description	Unit cost, US\$	No.	Total Cost, US\$
1.	Awareness creation on Project	Stakeholder engagement	Lump Sum (LS)	-	3,000
2	ESMP Disclosure	Distribution of documents to key stakeholders and publications in at least two national dailies (public) and one private newspaper	LS	-	3,000
3	Capacity building for key stakeholders	Training workshop on National and WB requirements, EIA procedures, social measures and incorporating environmental and social measures etc. in contract documents.	3,000	2	6,000
4	Public engagement/sensitization	Sensitization and engagement of project affected persons	LS	-	7,000
5	ESMP Project Management	Coordination and reporting	10,000	-	10,000
6	Monitoring and evaluation	Hiring of consultants and preparation of reports	LS	-	13,000
7	Decommissioning	Dismantling and removal of structures and equipment and waste disposal	LS	-	10,000
	<b>TOTAL</b>	<b>ESMP IMPLEMENTATION</b>	-	-	<b>52,000</b>

## CONCLUSION

Implementation of the proposed project, Enhancing Visitors' Experience and Education at Tacugama, in the Western Area Rural District of Sierra Leone is expected to be in accordance with relevant national laws as well as best international practices.

Upon assessment, it is evident that the project generally has moderate environmental and social impacts. These impacts could be further mitigated with the adoption of good health, safety and environment practices. Occupational, public health, safety and security issues and impacts will be properly managed to prevent any serious incident/accident or conflict.

Negative impacts will be minimised with the implementation of the proposed mitigation measures and residual impacts contained and controlled by implementing environmental management plan included in this report. Stakeholder concerns arising out of the public consultation and involvement process will be properly handled or addressed and further consultations will continue during the implementation stage.

The project will obviously benefit the local community through creation of avenue for research, jobs, growth of businesses especially SMEs, better social services etc. The government will also benefit from increased revenue from taxes, foreign direct investment, reduced unemployment rate and a general improvement in the economy. Stakeholders are therefore urged to ensure that the outlined benefits accrue to the beneficiaries which includes the local community and government.

## **ANNEXES**

Annex 1	Baseline Report on Flora and Fauna at Tacugama
Annex 2	Air Quality, Noise Assessment and Surface Water Testing at Tacugama
Annex 3	Sample Grievance Form
Annex 4	Public Disclosure of ESIA Report for the Tacugama Project
Annex 5	Chance Find Procedure

Annex 1

Baseline Report on Flora and Fauna at Tacugama



**Ministry of Finance**

**SLEDP**

**DRAFT BASELINE REPORT ON  
FLORA AND FAUNA AT TACUGAMA**

OCTOBER, 2021



## Table of Contents

<a href="#"><u>1.0 INTRODUCTION</u></a> .....	109
<a href="#"><u>2.0 METHODOLOGY</u></a> .....	110
<a href="#"><u>2.1 Flora Survey</u></a> .....	110
<a href="#"><u>2.2 Fauna Survey</u></a> .....	112
<a href="#"><u>3.0 RESULTS AND DISCUSSION</u></a> .....	112
<a href="#"><u>3.1 Flora Survey</u></a> .....	112
<a href="#"><u>3.1.1 General Vegetation of Project Area</u></a> .....	112
<a href="#"><u>3.1.2 Vegetation of the Project Site</u></a> .....	113
<a href="#"><u>3.1.3 The Floristic Composition of the Project site</u></a> .....	115
<a href="#"><u>3.1.4 Species of Conservation Concern in the project area</u></a> .....	116
<a href="#"><u>3.1.5 Alien Invasive Plant Species</u></a> .....	116
<a href="#"><u>3.2 The Fauna of the Project Area</u></a> .....	117
<a href="#"><u>4.0 CONCLUSION AND RECOMMENDATIONS</u></a> .....	118
<a href="#"><u>5.0 REFERENCES</u></a> .....	118

## 1.0 INTRODUCTION

The Tacugama Chimpanzee Sanctuary (TCS) is located approximately 15 km from Freetown and is within the boundaries of the Western Area Peninsular -National Park (WAP-NP). It was founded in 1995 for conservation purposes, with 40 ha of land at the edge of the forest. Besides being a place for the rescue and rehabilitation of chimpanzees, it also provides a natural barrier to the urban pressure coming from Freetown towards the forest.

Tacugama is a critical attraction for Sierra Leone as it is one of the few unique assets of the country. Now the Chimpanzee has been made the national animal, the Ministry of Tourism are using Tacugama imagery at trade fairs and throughout their advertising. It is critical this national asset meets visitor expectations.

The proposed Conservation Education and Innovation Centre, located on an easily visible and accessible site, completed by a botanical garden and a new parking along the access road, will greatly enhance the visitor experience. The main infrastructural components would include the following:

- Improving the access road from the main road network to the entrance including moving the access (to improve safety), soil stabilization, improvement of the unpaved road and drainage (1,600 m approximately).
- Construction of the Conservation Education and Innovation Centre of 1,000 sqm of gross floor area, located at the rocky peak on the road to TCS. The Centre will include an exhibition hall, a multimedia learning space, a screening room, a library, a boardroom, a rooftop café and viewing platform, and a shop.
- Hard and soft landscaping of approximately 500 m of new pedestrian paths connecting the TCS with the new Centre and the new parking (cleaning and paving, soil stabilization and gravel), ensuring safe circulation of visitors (railings, steps, anti-slip, no overhanging foliage on pathways, etc.) and access for people with disabilities.
- Landscaping of a “green parking” area at the TCS entrance (interlocking paving with grass and new trees, local species, min. 3 m high): 12 parking bays (150 sqm), including parking for people with disabilities.

This flora and fauna survey was conducted in the area designated for the development of the Enhancing Visitors' Experience and Education at Tacugama.

## 2.0 METHODOLOGY

### 2.1 Flora Survey

A literature review was conducted to obtain already existing information on the flora of the project area. This was followed by a detailed field survey. The literature consulted included FAO (1979) and Hutchinson and Dalziel (1954-72).

The following objectives were set for the field survey:

- To determine the spatial distribution of native vegetation patches across the site.
- To record GPS locations of Sample point positions.
- To determine critical terrestrial ecological features that would be affected negatively by the proposed project.

A reconnaissance survey was conducted in the study site and its external boundaries to obtain an overview of the extent, topography and complexity of the vegetation. A total of 4 sweep sample plots (about 20 m radius) were studied while walking through the proposed project site. The reconnaissance survey revealed that the project site has undulating topography. Table 1 shows the sample location coordinates and their associated vegetation types.

**Table 1. Coordinates of sampling locations and associated vegetation types**

Sample No	Latitude	Longitude	Elevation (m absl)	Description
1	08.42409	013.20520	356	Secondary thicket on rocks
2	04.42475	013.20531	348	Degraded secondary thicket
3	08.42431	013.20489	353	Secondary thicket
4	08.42445	013.20499	352	Secondary forest on rocks

Nomenclature follows Flora of West Tropical Africa (Hutchinson and Dalziel, 1972). IUCN threat categories (IUCN,2021) (Table 2) as follows:



**Table 2 IUCN Red List Categories**

<b>Category</b>	<b>Description</b>
Extinct (EX)	A taxon is Extinct when there is no reasonable doubt that the last individual has died. A taxon is presumed Extinct when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
Extinct in the Wild (EW)	A taxon is Extinct in the Wild when it is known only to survive in cultivation, in captivity or as a naturalized population (or populations) well outside the past range. A taxon is presumed Extinct in the Wild when exhaustive surveys in known and/or expected habitat, at appropriate times (diurnal, seasonal, annual), throughout its historic range have failed to record an individual. Surveys should be over a time frame appropriate to the taxon's life cycle and life form.
Critically Endangered (CR)	A taxon is Critically Endangered when the best available evidence indicates that it meets any of the criteria A to E for Critically Endangered, and it is therefore considered to be facing an extremely high risk of extinction in the wild.
Endangered (EN)	A taxon is endangered when the best available evidence indicates that it meets any of the criteria for Endangered, and it is therefore considered to be facing a very high risk of extinction in the wild.
Vulnerable (VU)	A taxon is Vulnerable when the best available evidence indicates that it meets any of the criteria for Vulnerable, and it is therefore considered to be facing a high risk of extinction in the wild.
Near Threatened (NT)	A taxon is Near Threatened when it has been evaluated against the criteria but does not qualify for Critically Endangered, Endangered or Vulnerable now, but is close to qualifying for or is likely to qualify for a threatened category in the near future.
Least Concern (LC)	A taxon is Least Concern when it has been evaluated against the criteria and does not qualify for Critically Endangered, Endangered, Vulnerable or Near Threatened. Widespread and abundant taxa are included in this category
Data Deficient (DD)	A taxon is Data Deficient when there is inadequate information to make a direct, or indirect,

	assessment of its risk of extinction based on its distribution and/or population status. A taxon in this category may be well studied, and its biology well known, but appropriate data on abundance and/or distribution are lacking.
Not Assessed (NA)	A taxon is Not yet Assessed when it has not yet been evaluated against the criteria

## 2.2 Fauna Survey

A literature review was conducted to obtain already existing information on the project area, followed by a field survey.

The survey on the fauna of the area involved three main methods viz., direct/opportunistic observation, identification of animal spoor, and interviews. Direct/opportunistic observation involved recording any animal sightings while driving or walking along the main access roads or animal trails to the areas bordering the proposed project site. Transect walks to spot animal *spoor* (any sign left by a living animal, such as feeding sites, regular pathways, tracks, footprints, faecal pellets, nests, etc.) were also undertaken. Some Park officials and security personnel were interviewed for information about the fauna of the area. The interviews focused mainly on the identification of the various animals that commonly occurred in the area, and some indication of their abundance (animals are listed as Abundant, Common or Rare). Species of global conservation concern were identified using the IUCN threat categories (IUCN, 2021).

## 3.0 RESULTS AND DISCUSSION

### 3.1 Flora Survey

#### 3.1.1 General Vegetation of Project Area

The Tacugama Chimpanzee Sanctuary (TCS) is located approximately 15 km from Freetown and is sited within the boundaries of the Western Area Peninsular -National Park (WAP-NP). The Western Area Forest, a mainly closed forest (17688 ha), is a protected forest and a non-hunting reserve.

The natural vegetation of the WAP-NP is classified as Moist Evergreen Forest (FAO, 1979). The characteristic species of this forest type include *Lophira alata*, *Heritiera utilis*, *Klainedoxa gabonensis*, *Uapaca guineensis*, *Erythrophleum ivorensis* and *Piptadeniastrum africanum*. Rock outcrops and secondary forests occur in this type. Species such as *Musanga cecropioides*, *Carapa procera*, *Macaranga barteri*, *Anthocleista nobilis*, *Bridelia micrantha*, *Myrianthus arboreus* and *Sterculia tragacantha*, commonly occur in the secondary forests. Logging activities over several years have largely led to the replacement of the primary closed forest to secondary forest in most places.

### 3.1.2 Vegetation of the Project Site

The proposed site for the parking area is about 2 ha in size. It has undulating topography with rock outcrops. The natural vegetation of the site has been replaced by a secondary thicket with climber tangles and isolated trees (Plates 1 to 3). The trees recorded on the site include *Sterculia tragacantha*, *Piptadeniastrum africanum*, *Celtis zenkeri* and *Harungana madagascariensis*. *Piptadeniastrum africanum* is the only characteristic species of the Moist Evergreen Forest zone that was recorded on the site. The climber tangle was composed of species such as *Scleria boivinii*, *Smilax kraussiana*, *Tetracera potatoria* and *Ipomoea mauritiana*. Common shrubs include *Chromolaena odorata*, *Melanthera scandens* and *Stachytarpheta cayennensis*.



Plate 1: Bare patch in the project site





Plate 2: Secondary thicket with climber tangle on project site



Plate 3: Secondary thicket with the alien invasive species, *Chromolaena odorata* (bottom right)

### 3.1.3 The Floristic Composition of the Project site

The 4 quadrat samples taken during the survey and their species compositions are presented in Appendix 1. A total of 27 species belonging to 24 genera in 19 families were recorded during the survey (Appendix 2). The families with the highest number of species were the Apocynaceae and Fabaceae with 3 species each. All other families had less than 3 species. The paucity of species is indicative of the degraded nature of the project site. The life form composition of the plants in the project site is presented in Table 3. Trees constitute the dominant life form (40.7%) followed by Climbers (33.3%). The Herb and Shrub life forms were about equally represented in the flora.

Table 3: Life Form Composition of the Project Site

<b>Life Form</b>	<b>No of Species</b>	<b>%</b>
Climber	9	33.3
Herb	4	14.8
Shrub	3	11.1
Tree	11	40.7
<b>Total</b>	<b>27</b>	<b>99.9</b>

The ecological guilds of the species, which reflect the successional stage of the vegetation, shows a preponderance of secondary species (i.e., Pioneers) with a percentage composition of 54.5%. The primary species Non-Pioneer Light Demanders (primary species) constituted about 27.3% of the species record (Table 4). This indicates that the vegetation is highly - previous construction activities, evident on the site, being the major cause of the disturbance.

Table 4: Ecological Guild Composition of the Flora

<b>Ecological Guild</b>	<b>No of species</b>	<b>%</b>
NA	6	18.2
NPLD	6	27.3
Pioneer	15	54.5
<b>Total</b>	<b>27</b>	<b>100</b>

### 3.1.4 Species of Conservation Concern in the project area

Evaluation of the conservation statuses of the species recorded on the basis of the IUCN Red List of threatened species indicates that no species of global conservation concern was recorded at the site. Most of the species (Table 5) were Least Concern (66.7%) or Not yet Assessed (33.3%). Sierra Leone has a total vascular plant species record of 2090, of which 74 are endemic. Among the 74 vascular plant species endemic to Sierra Leone are *Pseudovigna sulaensis*, *Eriocaulon sulanum*, *Eriocaulon petraeum*, *Ledermanniella yiben*, *Inversodicraea feika*, the orchids *Bulbophyllum parvum* and *Eulophia distans*, *Gladiolus leonensis*, *Sabicea arachnoidea*, *Croton leonensis*, *Afrotrilepis jaegeri*, *Scleria monticola*, *Mussaenda rufa*, *Tricalysia parva*, *Byttneria* (or *Ayenia*) *guineensis*, the grasses *Loudetia jaegeriana* and *Loxodera strigosa*, *Stylochaeton pilosum*, *Bidens sierra-leonensis*, and a screwpine *Pandanus fretownensis*. *Habropetalum* is an endemic genus.

Endemic non-vascular plants include the mosses *Leucoloma sericeum* and *Trichosteleum jaegeri*. None of the plant species endemic species listed above were recorded in the project site.

Table 5: Global Conservation Status of Species

IUCN Red List Status	No of species	%
Least Concern	18	66.7
Not yet Assessed	9	33.3
<b>Total</b>	<b>27</b>	<b>100</b>

### 3.1.5 Alien Invasive Plant Species

One species, *Chromolaena odorata*, recorded during the survey is classified as an Alien Invasive species by the IUCN Invasive Species Specialist Group of the IUCN Species Survival Commission (IUCN, 2004). This species is listed among the world's worst 100 species and thus it should be closely monitored and appropriately managed to prevent its spread.



### 3.2 The Fauna of the Project Area

According to the World Conservation Monitoring Centre, Sierra Leone has 938 known species of amphibians, birds, mammals and reptiles according to figures from the World Conservation Monitoring Centre. Of these, 0.4% are endemic and 2.9% are threatened. The closed forest zone, which includes the WAP-NP, has 15 primates, 10 antelopes and duikers, Elephants and Leopards, 9 bat species and some 500 bird species. Among these, the Pigmy hippopotamus (*Hexapratodon*), Bongo (*Boocerus eryceros*), the duikers (*Cephalophus doriae* and *C.jentinks*) as well as the Chimpanzee (*Pan troglodytes*) are endangered.

Although no sightings of fauna were made during the survey (because of time limitations), the proximity of the site (at the edge of the Chimpanzee sanctuary and the closed forest) suggests that some of these animals could be found in the site. The interviews with park officials and security guards (Plate 4) confirmed the presence of snakes and sightings of Chimpanzees and other wildlife in the vicinity of the project site.



Plate 4: Some Park officials and Security guards interviewed on fauna at the project site



## 4.0 CONCLUSION AND RECOMMENDATIONS

During the construction phase, it is likely that all the vegetation on the site would be removed. This will result in the loss of medicinal plants and timber species (e.g., *Piptadeniastrum africanum*). The survey showed that none of the plants on the site are of conservation concern. Timber species of merchantable size should be removed in accordance with the national regulations.

Since the vegetation provides habitat and food for the fauna of the area, its removal will lead to the death or emigration of the fauna. Furthermore, compaction of soils which is expected during the construction phase, will destroy soil invertebrate fauna as well as burrowing mammals and reptiles.

The impact of the project on the biodiversity of the site is expected to be insignificant.

## 5.0 REFERENCES

- FAO (1979). Vegetation and Land Use in Sierra Leone. Land Resources Survey Report, Sierra Leone, Technical Report 2.
- Hutchinson, J. & J.M. Dalziel, 1972. Flora of West Tropical Africa. 2<sup>nd</sup> edition Revised by Keay, R.W.J. and F.N. Hepper, Crown Agents, London.
- [Animals and Plants Unique to Sierra Leone \(Intreasures.com\)](http://Intreasures.com)
- Kingdon, J. (1997) *The Kingdon Field Guide to African Mammals*. Academic Press, London.
- Schiotz, A. (1969) Amphibia of West Africa: a review. *Niger Fld.*, 34: 4-17.

**Appendix 1: Sample profiles**

<b>Sample 1</b>	<b>Sample 2</b>	<b>Sample 3</b>	<b>Sample 4</b>
Degraded Secondary thick on rocks on hill slope, to 8 m high	Degraded secondary thicket	Secondary thicket with climber tangle	Rocky out crop with secondary thicket
Lat N 08.42409	Lat N 04.42475	Lat: N 08.42431	Lat: N 08.42445
Long W 013.20520	Long W 013.20531	Long W 013.20489	Long: W 013.20499
Elevation: 356 m	Elevation: 348	Elevation: 353	Elevation: 352 m
Photo ID: 816/817		Photo: 818/819	
<b>Species list</b>			
Acacia mangium	Celtis zenkeri	Parkia bicolor	Chromolaena odorata
Ipomoea mauritiana	Nauclea latifolia	Rauvolfia vomitoria	Tetracera potatoria
Tetracera potatoria	Uvaria chamae	Tetracera potatoria	Funtumia elastica
Scleria naumanniana	Sterculia tragacantha	Cissus petiolata	Cissus petiolata
Smilax kraussiana	Scleria boivinii	Heterotis rotundifolia	Clerodendrum splendens
Piptadeniastrum africanum	Chromolaena odorata	Chromolaena odorata	Melanthera scandens
Heterotis rotundifolia	Clerodendrum splendens	Uvaria chamae	Ipomoea mauritiana
	Rauvolfia vomitoria	Sterculia tragacantha	Acacia mangium
	Uvaria sofa	Funtumia africana	Scleria boivinii
	Stachytarpheta indica	Funtumia elastica	Piptadeniastrum africanum
	Harungana madagascariensis	Ipomoea mauritiana	Sterculia tragacantha

	Acacia mangium		Rauvolfia vomitoria
	Funtumia africana		Smilax kraussiana
	Cissus petiolata		Ficus sur
	Nephrolepis biserrata		Celtis zenkeri
	Dioscorea minutifolia		

**Appendix 2: Floristic Composition of the Project Site**

<b>Species</b>	<b>Family</b>	<b>Life Form</b>	<b>Guild</b>	<b>IUCN</b>
Uvaria chamae	Annonaceae	Climber	NA	LC
Uvaria sofa	Annonaceae	Climber	NA	LC
Acacia mangium	Fabaceae	Tree	NA	LC
Nauclea latifolia	Rubiaceae	Tree	NA	LC
Funtumia africana	Apocynaceae	Tree	NPLD	LC
Funtumia elastica	Apocynaceae	Tree	NPLD	LC
Celtis zenkeri	Cannabaceae	Tree	NPLD	LC
Parkia bicolor	Fabaceae	Tree	NPLD	LC
Piptadeniastrum africanum	Fabaceae	Tree	NPLD	LC
Dioscorea minutiflora	Dioscoreaceae	Climber	Pioneer	LC
Clerodendrum splendens	Lamiaceae	Climber	Pioneer	LC
Heterotis rotundifolia	Melastomataceae	Herb	Pioneer	LC
Melanthera scandens	Asteraceae	Shrub	Pioneer	LC
Stachytarpheta indica	Verbenaceae	Shrub	Pioneer	LC
Rauvolfia vomitoria	Apocynaceae	Tree	Pioneer	LC
Harungana madagascariensis	Hypericaceae	Tree	Pioneer	LC
Sterculia tragacantha	Malvaceae	Tree	Pioneer	LC
Ficus sur	Moraceae	Tree	Pioneer	LC
Tetracera potatoria	Dilleniaceae	Climber	NA	NA

<i>Nephrolepis biserrata</i>	Nephrolepidaceae	Herb	NA	NA
<i>Grewia carpinifolia</i>	Malvaceae	Climber	NPLD	NA
<i>Ipomoea mauritiana</i>	Convolvulaceae	Climber	Pioneer	NA
<i>Smilax kraussiana</i>	Smilacaceae	Climber	Pioneer	NA
<i>Cissus petiolata</i>	Vitaceae	Climber	Pioneer	NA
<i>Scleria boivinii</i>	Cyperaceae	Herb	Pioneer	NA
<i>Scleria naumanniana</i>	Cyperaceae	herb	Pioneer	NA
<i>Chromolaena odorata</i>	Asteraceae	Shrub	Pioneer	NA

Annex 2

Air Quality, Noise Assessment and Surface Water Testing at Tacugama



ENVIRONMENTAL LABORATORIES

**Ministry of Finance**

**SLEDP**

**AIR QUALITY, NOISE ASSESSMENT AND  
SURFACE WATER TESTING AT  
TACUGAMA**

OCTOBER, 2021



## TABLE OF CONTENTS

TABLE OF CONTENTS.....	I
LIST OF TABLES .....	I
LIST OF FIGURES .....	I
LIST OF PLATES .....	II
ACRONYMS .....	III
<b>1.0 INTRODUCTION .....</b>	<b>1</b>
1.1 BACKGROUND.....	1
1.2 PURPOSE OF ENVIRONMENTAL QUALITY MONITORING .....	2
1.3 OBJECTIVE .....	2
1.4 SAMPLING LOCATION AND WEATHER CONDITIONS.....	2
<b>2.0 ENVIRONMENTAL MONITORING METHODOLOGY .....</b>	<b>5</b>
2.1 PARTICULATE MATTER MONITORING.....	5
2.2 AMBIENT NOISE .....	7
2.3 WATER SAMPLING.....	8
<b>3.0 RESULTS AND DISCUSSIONS .....</b>	<b>10</b>
3.1 AIR QUALITY .....	10
3.1.1 <i>Ambient Particulate Matter (PM<sub>2.5</sub>, and PM<sub>10</sub>)</i> .....	10
3.2 AMBIENT NOISE .....	10
3.2.1 <i>Daytime Ambient Noise Levels</i> .....	10
3.2.2 <i>Nighttime Ambient Noise Levels</i> .....	11
3.2.3 <i>Surface water Quality</i> .....	11
<b>4.0 CONCLUSION .....</b>	<b>ERROR! BOOKMARK</b>
NOT DEFINED.	

## LIST OF TABLES

TABLE 1: DETAILS OF AIR AND NOISE SAMPLING LOCATIONS AND WEATHER CONDITIONS.....	4
TABLE 2: DETAILS OF WATER TESTING LOCATIONS .....	4
TABLE 3: AMBIENT PM <sub>2.5</sub> AND PM <sub>10</sub> MEASURED AT TACUGAMA CHIMPANZEE SANCTUARY.....	10
TABLE 4: DAY AMBIENT NOISE LEVELS (dBA) RECORDED AT THE VARIOUS LOCATIONS. ....	10
TABLE 5: NIGHT AMBIENT NOISE LEVELS (dBA) RECORDED AT THE VARIOUS LOCATIONS. ....	11
TABLE 6: COMPARISON OF WATER QUALITY AGAINST WHO DRINKING WATER QUALITY GUIDELINES.....	12



## LIST OF FIGURES

FIGURE 1: GEOGRAPHIC DISTRIBUTION OF THE SIX DESTINATIONS .....	1
FIGURE 2: PROJECT LOCATION .....	3

## LIST OF PLATES

PLATE 1: ARA N-FRM SAMPLER PM <sub>2.5</sub> SETUP AND MONITORING AT TACUGAMA SITE .....	6
PLATE 2: ARA N-FRM SAMPLER PM <sub>10</sub> SETUP AND MONITORING AT TACUGAMA SITE. ....	6
PLATE 3: NOISE ASSESSMENT AT NEAREST RESIDENCE .....	7
PLATE 4: NOISE ASSESSMENT AT THE PROJECT SITE.....	8
PLATE 5: THERMO SCIENTIFIC EUTECH HANDHELD METER KIT .....	9
PLATE 6: TAKIYAMA AND CONGO RIVER WATER TESTING.....	9

## ACRONYMS

LEQ	- Equivalent noise level
L10	- Nuisance noise level
L50	- Average noise level
L90	- Background noise level
Lmax	- Maximum Noise Level
PM	- Particulate Matter
SLS	- Sierra Leone Standards

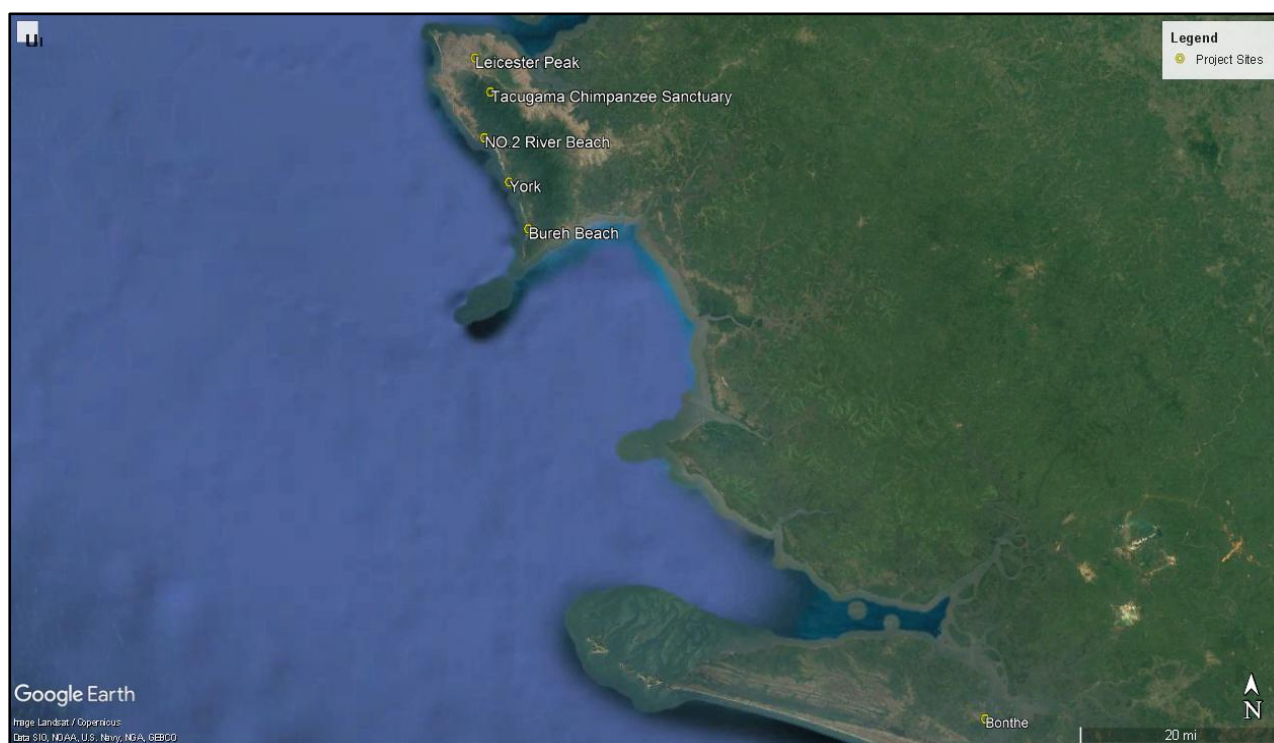
## 1.0 INTRODUCTION

### 1.1 Background

Many developing countries look at tourism as a potential key economic driver. Global tourism growth worldwide translates into job creation in many economies. In Sierra Leone, many tourism assets, particularly its natural heritage, have high potential compared to the sub-region, but the lack of facilities and services and the poor enabling environment and international image are critically inhibiting the sector's growth. Therefore, Sierra Leone's tourism sector remains in a pre-emergent stage.

The World Bank Group (WBG) is assisting the Government of Sierra Leone to improve the tourism business environment, enhance market access and improve tourism products and services through the Sierra Leone Economic Diversification Project (project id P164212).

A total of Six (6) sites have been selected for the project namely, Tacugama Chimpanzee Sanctuary, River No.2 Beach, Bureh Beach, York village, Tacugama Chimpanzee Sanctuary and Bonthe. Figure 1 below shows the geographic distribution of the six selected destinations.



**Figure 1: Geographic distribution of the six destinations**

The project aims to increase investment and entrepreneurship in non-mining productive sectors, including tourism. In this area, the proposed project will take an integrated destination approach to improving the performance of Sierra Leone's tourism sector.

SAL Consult Ltd has been contracted to carry out the Environmental and Social Impact Assessment study which includes a baseline study for air quality, noise assessment and water quality. The field

activities were undertaken between 10<sup>th</sup> October, 2021 and 27<sup>th</sup> October, 2021 and this report provides the outcome of the field study at Tacugama Chimpanzee Sanctuary.

## 1.2 Purpose of Environmental Quality Monitoring

The aim of this monitoring is therefore to gather relevant environmental quality data with respect to Ambient Air, Noise Levels and Water Quality to describe baseline conditions at the project site. The data gathered will provide useful information to help monitor its operational impacts on the environment, health and safety of its employees and surrounding neighbours.

## 1.3 Objective

The objectives of the monitoring are to:

- Measure the concentration of particulate matter (PM<sub>2.5</sub> & PM<sub>10</sub>) at selected locations within the project catchment area
- Measure ambient noise levels at selected locations within the project catchment and neighbouring communities.
- In-situ testing of nearest water bodies for the following parameters
  - pH
  - Conductivity;
  - Total Dissolved Solids; and
  - Temperature

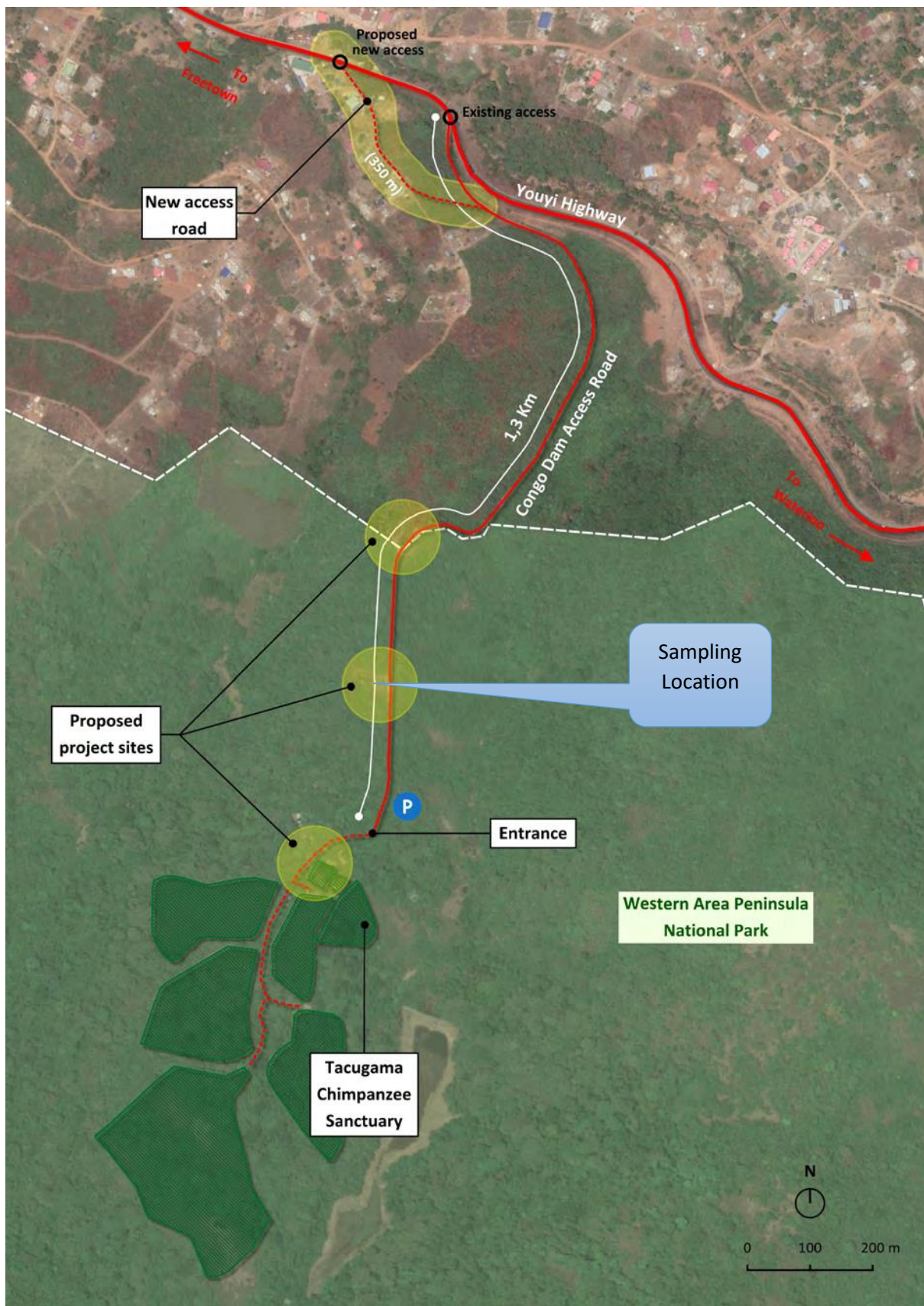
## 1.4 Sampling Location and Weather conditions

The Tacugama Chimpanzee Sanctuary (TCS) is located approximately 15km from Freetown located within the boundaries of the WAP-NP as shown in figure 2.

The specific monitoring sites were chosen based on either or all of the following criteria:

- Accessibility to unrestricted air flow to the sampling units;
- Suitability of location as a collection point of representative samples for baseline air quality and noise level; and
- Potential of future air quality and noise levels impacting on the employees and the neighbouring environment.

Air/Noise Monitoring was done from the 13<sup>th</sup> October, 2021 to 14<sup>th</sup> October, 2021. Particulate matter and noise were all monitored at the same time thus all parameters were monitored under the same weather conditions. The weather showed intermittent cloud with humidity (80%-87%), Temperature (29°C-31°C), and wind direction and speed (North west, south west and Southeast at 4km/h, 5 km/h and 7 km/h respectively) on the days of measurement. **Table 1** shows details in sampling locations and weather conditions.



**Figure 2: Project Location**

**Table 1: Details of Air and Noise sampling locations and weather conditions.**

	DATE AND TIME		SAMPLE CODE	GPS LOCATION			WEATHER CONDITION			
	DATE	TIME		Longitude	Latitude	Link to location	Temp.	Relative Humidity	Atmospheric condition	Wind Direction and Speed
PM10	13/10/2021-14/10/2021	<b>24HRS</b>	AQ1A	-13.205640	8.422209	<a href="#">CTRL+ Click to view</a>	31°C	80%	Clear	NW @ 4km/h
PM2.5	14/10/2021-15/10/2021	<b>24HRS</b>	AQ1B	-13.205640	8.422209	<a href="#">CTRL+ Click to view</a>	30°C	83%	Clear	SW @ 5km/h
NOISE ASSESSMENT ON PROJECT SITE	13/10/2021	<b>24HRS</b> Daytime monitoring- 6:00am-10:00pm and Nighttime monitoring- 10:00pm- 6:00am.	NA1A	-13.205415	8.422054	<a href="#">CTRL +Click to view</a>	31°C	80%	Clear	NW @ 4km/h
NOISE ASSESSMENT NEAREST RESIDENCE	14/10/2021	<b>24HRS</b> Daytime monitoring- 6:00am-10:00pm and Nighttime monitoring- 10:00pm- 6:00am.	NA1B	-13.207794	8.427644	<a href="#">CTRL + Click to view</a>	29°C	87%	Partly cloudy	SE @ 7km/h

**Table 2: Details of water testing locations**

	Date	Sampling code and description	Longitude	Latitude	Link to Location
WATER TESTING	14/10/2021	WQ1-Congo River	-13.204303	8.419745	<a href="#">CTRL + Click to view</a>
		WQ2-Takiyama river	-13.210072	8.419694	<a href="#">CTRL + Click to view</a>

## 2.0 ENVIRONMENTAL MONITORING METHODOLOGY

The methodology for sampling the various parameters are discussed in this section. Particulate matter and noise were both monitored at the same time; thus, all parameters were monitored under the same weather conditions.

### 2.1 Particulate matter monitoring

The sampling and analysis of ambient particulate matter concentrations was done according to the ASTM Test Method D4096-17.

Particulate matter was sampled for 24 hours using ARA N-FRM Air Sampler set to a flow rates of 16.7 L/min. The sampler draws air through the inlet onto a 47mm quartz filter for analysis. The quartz filter paper was stabilized for a minimum of 24 hours before and after sampling in a desiccator.

The fresh quartz filter paper was weighed before sampling. After the 24-hour sampling period, post sampling filters were weighed and the difference in weight (W2-W1) was used to calculate the concentration of the particulate matter in  $\mu\text{g}/\text{m}^3$  using the formulabelow.

$$(\text{PM}_{2.5} \text{ \& } \text{PM}_{10}) \mu\text{g}/\text{m}^3 = \frac{\text{Net dust weight} * 10^6}{\text{Flow rate (L/Min)} * \text{Sampling time (Min)}}$$

Photo of equipment mounted at the selected locations for  $\text{PM}_{10}$  and  $\text{PM}_{2.5}$  sampling is provided in Plates 1 & 2 below:





**Plate 1: ARA N-FRM Sampler PM<sub>2.5</sub> Setup and monitoring at Tacugama site**



**Plate 2: ARA N-FRM Sampler PM<sub>10</sub> Setup and monitoring at Tacugama site.**



## 2.2 Ambient Noise

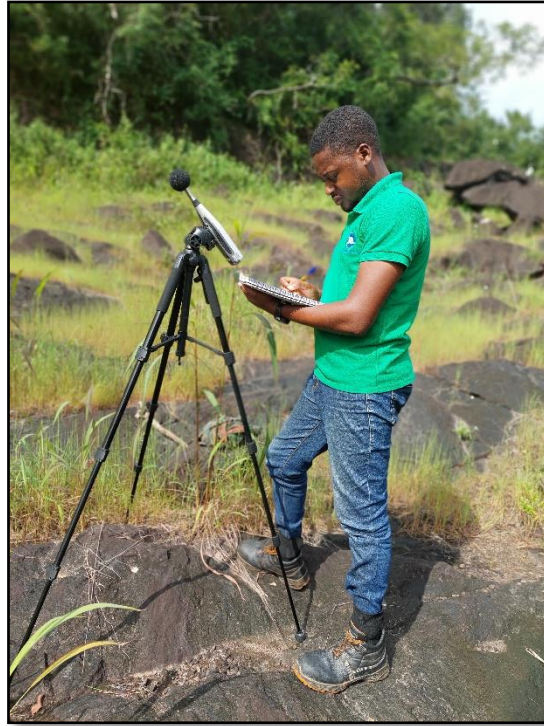
Sound is energy that travels in waves and is measured in frequency and amplitude. Frequency, reported in Hertz (Hz), measures the number of sound vibrations in one second. Amplitude, reported on the decibel (dB) scale, measures its pressure or forcefulness. The more amplitude a sound has, the louder it is.

A decibel (dB) is therefore the unit for the measurement of noise. The zero on a decibel scale is at the threshold of hearing, the lowest sound pressure that can be heard on the scale 20 dB which is a whisper, 40 dB the noise in a quiet office, 60 dB is normal conversation, 80 dB is the level at which sound becomes physically painful.

Noise measurements/recordings were taken with a High Precision TSI Quest Sound Level Meter, Model Type 1. The sound level meter has an in-built calibrator and was calibrated before each measurement/recordings were taken at each site. The noise meter was calibrated at 114 dB (A) prior to the measurement. Photo of equipment mounted at the selected locations for noise monitoring is provided in Plates 3 & 4 below:



**Plate 3: Noise Assessment at Nearest residence**



**Plate 4: Noise Assessment at the Project Site**

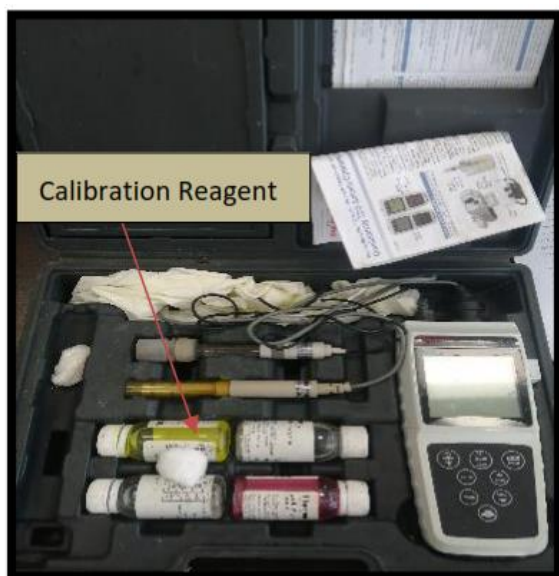
### **2.3 Water Sampling**

Water testing was done at the nearest water bodies (Congo River and Takiyama river) to the project site. Distances from the Congo and Takiyama rivers to the project site are 316m and 392m respectively. These two water bodies are within the project area of influence and potential recipients of any pollution impact from the project site.

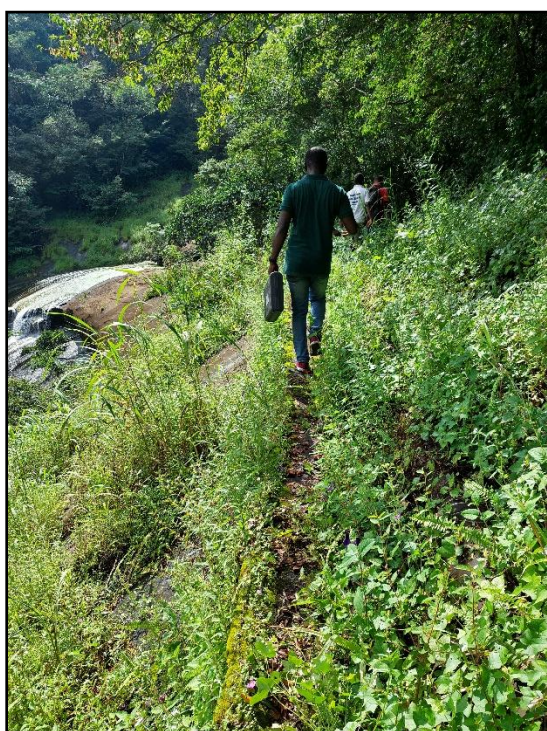
These are relatively clean waterbodies and currently do not serve as sources of water to any communities for drinking, washing or farming.

The Stream was tested on the 14<sup>th</sup> October, 2021 at 1:30pm. Parameters including Temperature, pH, TDS and Conductivity were measured in-situ by means of field kit (Plate 3). Calibration reagents are used to calibrate the Field Test Kit before each use.





**Plate 5: Thermo Scientific EUTECH Handheld Meter Kit**



**Plate 6: Takiyama and Congo River water testing**

### 3.0 RESULTS AND DISCUSSIONS

#### 3.1 Air Quality

The ambient air quality and noise monitoring results are provided in Tables 3 and 4 below.

##### 3.1.1 Ambient Particulate Matter (PM<sub>2.5</sub>, and PM<sub>10</sub>)

The 24-hour PM<sub>2.5</sub> and PM<sub>10</sub> concentrations measured at Tacugama Chimpanzee Sanctuary were 14.97 µg/m<sup>3</sup> and 27.20 µg/m<sup>3</sup> respectively. (See **table 3**). These values are within the Sierra Leone Standards (SLS 42:2014) and WHO guideline values.

**Table 3: Ambient PM<sub>2.5</sub> and PM<sub>10</sub> Measured at Tacugama Chimpanzee Sanctuary.**

Location	PM <sub>2.5</sub> (µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> )
Tacugama chimpanzee sanctuary	14.97	27.20
Sierra Leone Standards (SLS 42:2014)	25	50
WHO Ambient Air Quality Guidelines for 24-hour for PM <sub>10</sub> and PM <sub>2.5</sub> (Source:www.ifc.org/ehsguidelines)	25	50

#### 3.2 Ambient Noise

##### 3.2.1 Daytime Ambient Noise Levels

The daytime ambient noise levels (LEQ) recorded were 71.4 and 50.9 dB(A) at the Tacugama Chimpanzee Sanctuary project site and the nearest residence respectively (see **Table 4**). The daytime ambient noise levels (dB(A)) for the project site was above the Sierra Leone Standards (SLS 83:2019) mixed residential and IFC LA<sub>EQ</sub> guideline value for Residential, Institutional, Educational and Industrial commercial facilities. This was mainly because of the constant loud chirping of crickets within the project site also there were intermittent passing of cars and motor bikes.

**Table 4: Day Ambient Noise levels (dBA) recorded at the various locations.**

Location	LEQ	L <sub>10</sub>	L <sub>50</sub>	L <sub>90</sub>	L <sub>MAX</sub>
Tacugama Chimpanzee Sanctuary project site	71.4	72.6	71.1	69.9	71.4
Nearest Residence	50.9	52.1	49.6	45.8	70.6
<b>Sierra Leone Standards (SLS 83:2019)</b> Mixed residential ( <i>with some commercial and entertainment</i> ) 6:00am-10:00pm.	55				
<b>Sierra Leone Standards (SLS 83:2019)</b> Residential + industry or small-scale production + commerce 6:00am-10:00pm.	60				

IFC Noise Level Guidelines for Residential, Institutional, Educational Facilities Day. (07:00-22:00) (Source:www.ifc.org/ehsguidelines)	55	
IFC Noise Level Guidelines for Industrial, Commercial facilities Day (7:00-22:00) (Source:www.ifc.org/ehsguidelines)	70	

### 3.2.2 Nighttime Ambient Noise Levels

The nighttime ambient noise levels ( $LA_{EQ}$ ) recorded were 68.1 dB (A) and 44.6 dB(A) at the Tacugama Chimpanzee Sanctuary project site and the nearest residence respectively (see **Table 5**).

The Nighttime ambient noise levels (dBA) for the project site was above nighttime Sierra Leone Standards (SLS 83:2019) for mixed residential and IFC  $LA_{EQ}$  guideline value for Residential, Institutional, Educational and Industrial commercial facilities mainly because of the constant loud chirping of crickets within the project site the ambient noise level for the nearest residence was below the nighttime Sierra Leone Standards (SLS 83:2019) for mixed residential and IFC  $LA_{EQ}$  guideline value for Residential, Institutional, Educational and Industrial commercial facilities.

**Table 5: Night Ambient Noise levels (dBA) recorded at the various locations.**

Location	$LA_{EQ}$	$L_{10}$	$L_{50}$	$L_{90}$	$L_{MAX}$
Tacugama Chimpanzee Sanctuary project site	68.1	69.7	67.2	59.5	69.2
Nearest Residence	44.6	44.9	39.3	48.1	53.0
<b>Sierra Leone Standards (SLS 83:2019) Mixed residential (with some commercial and entertainment) 10:00am-6:00am.</b>	45				
<b>Sierra Leone Standards (SLS 83:2019) Residential + industry or small-scale production + commerce 10:00pm-6:00am.</b>	50				
IFC Noise Level Guidelines for Residential, Institutional, Educational Facilities Day. (22:00-7:00) (Source:www.ifc.org/ehsguidelines)	45				
IFC Noise Level Guidelines for Industrial, Commercial facilities Day (22:00-7:00) (Source:www.ifc.org/ehsguidelines)	70				

### 3.2.3 Surface water Quality

The quality of the Congo and Takiyama water against WHO drinking guidelines is provided in **table 6**.

**Table 6: Comparison of water Quality against WHO drinking water quality guidelines.**

Parameter	Congo Dam	Takiyama	WHO drinking water quality guidelines
pH	6.33	7.10	6.5-8.5
Conductivity, $\mu\text{S}/\text{cm}$	14.82	12.80	-
Total Dissolved Solids (TDS)	7.6	7.1	1000
Temperature	26.0	23.5	-

## 4.0 CONCLUSION

### Air Quality

The Particulate Matter ( $\text{PM}_{2.5}$  &  $\text{PM}_{10}$ ) concentrations monitored at Tacugama Chimpanzee Sanctuary were found to be within the Sierra Leone Standard (SLS 42:2014) permissible values of 25 and 50 ( $\mu\text{g}/\text{m}^3$ ). The monitoring team did not observe much activities in the communities that could have significant influence on the air quality at the time of the assessment.

### Noise Monitoring

The ambient noise levels (LEQ values) recorded were compared to their respective Sierra Leone Standards (SLS 83:2019) and IFC guideline values of 55dB for SLS day, 55dB for IFC Day, 45dB for SLS Night and 45 dB for IFC night. The daytime ambient noise levels(dBA) for the project site was above the SLS and IFC  $\text{LA}_{\text{EQ}}$  guideline values. This was mainly because of the constant loud chirping of crickets within the project site also there were intermittent passing of cars and motor bikes as at the time of the assessment. The nighttime ambient noise level for Tacugama Chimpanzee Sanctuary and the nearest residence were within the Noise Level Guidelines for SLS and IFC  $\text{LA}_{\text{EQ}}$  guideline values.

### Surface water quality

From the in-situ analysis, it can be inferred that the parameters analysed were below the WHO drinking water guidelines, showing that the quality of the Congo and Takiyama is generally good.



Annex 3:        Sample Grievance Form

**GRIEVANCE REGISTRATION FORM (FORM A) – For Complainant**

Confidentiality Required: Yes ☐    No: ☐

Name (Complainant) Optional:.....

Contact Information (house number/ mobile phone):.....

Nature of Grievance or Complaint:.....

Details of Grievance:.....

.....

.....

.....

.....

.....

.....

Name (Receiver):..... Signature:..... Date:.....

Name (Filer):..... Signature:..... Date:.....

Relationship of Filer to Complainant (if different from Complainant):

.....

.....



**SIERRA LEONE ECONOMIC DIVERSIFICATION  
PROJECT (SLEDP)**

**ENVIRONMENTAL AND SOCIAL  
IMPACT ASSESSMENT (ESIA)**

**PUBLIC DISCLOSURE REPORT**

**FOR**

**ENHANCING VISITORS'  
EXPERIENCE AT TACUGAMA**

*Prepared by:*

SAL Consult Limited, P. O. Box GP20200, Accra, Ghana  
February 2022



## TABLE OF CONTENT

<b>TABLE OF CONTENT .....</b>	<b>15</b>
<b>1.0 INTRODUCTION .....</b>	<b>16</b>
1.1 BACKGROUND .....	16
1.2 CONSULTATION AND DISCLOSURE PROCESS BRIEF .....	16
1.3 METHODOLOGY .....	16
<b>2.0 OVERVIEW OF MEETING.....</b>	<b>17</b>
2.1 CHAIRMAN’S OPENING REMARKS – JOHN W. TAYLOR (REPRESENTING DIRECTOR OF TOURISM, MOTCA).....	17
2.2 KEYNOTE ADDRESS BY MR. KEMBE (EPA) .....	<b>ERROR! BOOKMARK NOT DEFINED.</b>
2.3 PRESENTATIONS.....	18
<b>3.0 INTERACTIVE SESSION .....</b>	<b>19</b>
<b>4.0 CONCLUSION .....</b>	<b>21</b>

## **1.0 INTRODUCTION**

### **1.1 Background**

The Government of Sierra Leone (GoSL) with assistance from the World Bank Group (WBG) is implementing the Sierra Leone Economic Diversification Project (SLEDP) to improve the tourism business environment, enhance market access and improve tourism products and services. The project aims to increase investment and entrepreneurship in non-mining productive sectors, including tourism. The proposed Enhancing Visitors' Experience and Education at Tacugama project aims at developing a "Conservation Education and Innovation Centre" and a botanical garden close to the existing Sanctuary, "to provide Sierra Leone with a world class educational tourist destination that attracts visitors from around the world". The Centre and botanical gardens would complement TCS, while each being separate tourist destination in their own right. This project, which is one of six similar projects at different locations across Sierra Leone, is being developed as part of the SLEDP.

The project involves upgrade of access road and parking, landscaping and slope stabilization, construction of the Conservation Education and Innovation Centre, establishment of a botanical garden and improvement in custom signage.

### **1.2 Consultation and Disclosure Process Brief**

The main objective of the disclosure is to notify interested and/or affected persons/parties of the Environmental and Social Impact Assessment (ESIA), to understand the potential implications of the exercise, make inputs to mitigate potential adverse threats and impacts; and raise the necessary awareness before, during, and after construction.

As per the requirements of the EPA-SL for Class A and B projects, the report or outcome of Environmental and Social Impact Assessment (ESIA) must be discussed with affected communities or parties in a Public Consultation and Disclosure process. SAL Consult Limited held consultative meeting with the Bathurst Community on February 09, 2022. Details of proceedings and outcomes of the meeting are presented in this report.

### **1.3 Methodology**

With approval from EPA-SL to conduct the disclosure meeting, the following steps were taken to ensure maximum participation by the public, especially members of the Bathurst Community, who are the immediate project affected persons.

1. Copies of the ESIA Report was submitted for public viewing at:

Freetown:

- The Environment Protection Agency - Sierra Leone (EPA-SL) Office,  
92 Dundas Street, Freetown
- SLEDP Project Coordinating Unit Office,  
35 Percival Street, Freetown

Bathurst:

Western Area Rural District Council Office;

2. Advertisements for the Workshop were published on radio and in national newspapers as follows:

Media Type	Media Name	Information format	No. of adverts
Print	Awareness Times	Public notice	
Electronic	Sierra Leone Broadcasting Corporation (SLBC) Radio	Public notice	

3. Letters of invitation were sent to the project stakeholders, government institutions and interested parties prior to the meeting.

## 2.0 Overview of Meeting

This section presents details of statements and presentations made by the meeting participants. The meeting which was opened with Christian and Muslim prayers, followed by introduction of local authorities and representatives of EPA-SL, MoTCA, NTB, PCU, ICS and SAL.

### 2.1 Chairman's Opening Remarks – John W. Taylor (Representing Director of Tourism, MoTCA)

Mr. Taylor welcomed participants and indicated that as one of the few beneficiaries of the SLEDP, he hopes that the Bathurst community will appreciate the project, make the most of it and ensure its sustainability.

### 2.2 Keynote Address by Madam Bintu representing EPA-SL

Madam Bintu highlighted the role of the EPA, which is to provide protection, policy and legal framework to ensure Sierra Leonean environment is protected. She further stated that the expectation is for locals to play an active role in environmental protection by desisting from activities such as sand wining, deforestation, game hunting that degrade the environment and deplete natural resources. These activities have the potential of adversely affecting the sustainability of the proposed project and deprive the community of the benefits that would have accrued. The objective of the meeting is therefore to provide the platform for locals to raise concerns and have answers from the appropriate agencies.



A cross-section of representatives of key stakeholder agencies (EPA-SL, MoTCA, ICS, PCU)

## 2.3 Presentations

The Project background was presented by Mr. Henson Venn, M&E Specialist of the SLEDPCU and this was followed by:

- Presentation on Project Components and Designs by Mrs. Sabiatu Bakarr, Environmental Safeguards Specialist of the SLEDPCU and Ms. Stella Kanu of ICS, Design Consultants
- Presentation on Socio-Economic Issues by Mr. William Dauda, Social Safeguards Specialist of the SLEDPCU
- Presentation on Potential Environmental and Social Impacts and Proposed Mitigation Measures by Wilson A. Asamoah of SAL Consult Limited, Environmental and Social Safeguards Consultants



Presentation on social issues



The representative of EPA-SL delivering the keynote address

### 3.0 Interactive Session

Opinions of participants on the presentations, statements and project as a whole were sought in an open forum. Below are pictures and outcomes of the discussions in **Table 3-1**.

**Table 3-1: Summary of open discussion issues, concerns and responses**

Issue	Questions/Comments	Responses
<b>Land Ownership/ issues</b>	<u>Allan Kambo</u> Some areas are owned by locals and should be properly engaged before land take (some locals claim they have documents).	<u>SLEDPCU</u> The project will be implemented in the Tacugama Chimpanzee Sanctuary which is part of the state owned and protected WAP-NP and not on private land. However, any local with concerns over land will be further engaged
	<u>Bannie Williams</u> About 98% of community members are only interested in land and need assurance that the project in future would not take their lands.	<u>SLEDPCU</u> This was noted and participants were advised to channel their grievances through the outlined process.
	<u>Cornelius Thomas</u> He claimed that portions of the sanctuary (TCS) land belong to locals and there are documents to that effect	<u>SLEDPCU</u> This was noted and he was assured that the issue will be escalated to the appropriate authorities
	<u>Christiana (Chair lady)</u> The community wants to be engaged by the ministry of Land.	Noted
<b>Project Implementation</b>	<u>Vivian Thomas</u> The community has lost trust in government processes due to previous experiences and expects trust to be built. This is the only way the project can gain the full support of locals.	<u>SLEDPCU</u> The PCU believes in transparency that is why stakeholders are constantly being engaged and the opinions sought.
	<u>Theophilus Adeyemi William Johnson</u> The community suspects that the waste from the sanctuary enters the Congo River and this could have environmental implications.	<u>EPA/SAL</u> The EPA allayed the fears of the community by indicating that no such thing has happened. SAL also indicated that water tests conducted show that the quality of the water is generally good.  This was noted.



Issue	Questions/Comments	Responses
	Also, it was alleged that the community has not benefitted from any CSR project or programme in the last 27 years that the sanctuary has operated in the area. Going forward, the community expects to benefit from CSR projects.	
<b>Recommendation</b>	The community supports the implementation of the project but expects that where there is land take, owners of the land will be duly compensated.	



Discussions at the open forum with the Bathurst community

#### **4.0 Conclusion**

The Public disclosure meeting conducted on February 09, 2022 was successful, drawing representation from project community, Bathurst Village and institutional stakeholders from Freetown.

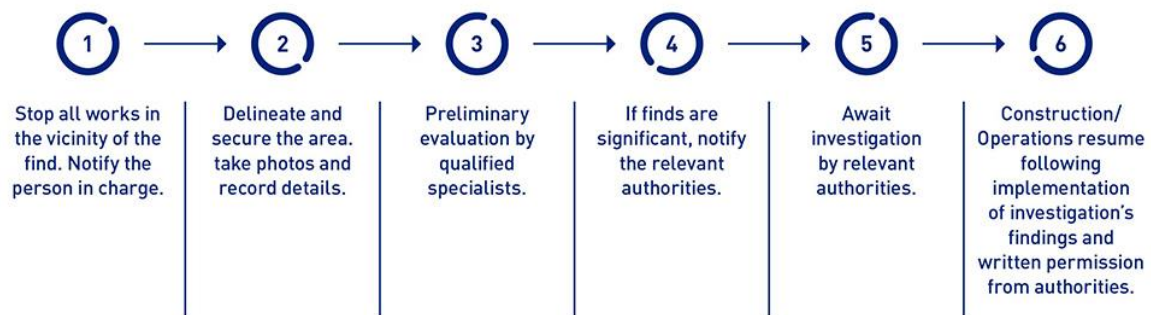
The meeting was conducted predominantly in English and translated to Krio to ensure that community stakeholders fully understood the details of the project and to encourage questions/comments.

Presentations were made, describing the technical, environmental and socio-economic aspects of the proposed Tacugama project and operation of the facility. This was followed by an interactive question and answer session.

Generally, participants were concerned about land ownership, project implementation, corporate social responsibility. Questions from participants were responded to by representatives of the PCU, EPA-SL, MoTCA, ICS and SAL.

## ANNEX 5: SAMPLE CHANCE FIND PROCEDURE

The Chance Find Procedure provides further guidance on the implementation of the Cultural Heritage Plan. It is a site-specific procedure detailing the steps to be followed (Figure below) if a previously unknown heritage resource is discovered.



If a physical cultural resource such as archaeological sites, historical sites, remains and objects, or a cemetery and/or individual graves is discovered during land vegetation clearance, land preparation or excavation, the steps below should be followed:

1. Halt all works or activities in the area of the find, until a solution is found for the preservation of these artefacts, or advice from the relevant authorities e.g. Monuments Board or Archaeological Authority is obtained;
2. Immediately notify a supervisor who will then inform the HSE Supervisors/HSE Manager.
3. Record details in Incident Report and take photos of the find;
4. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be arranged until the responsible local authorities takes over;
5. Request the appointed Cultural Heritage Specialist to perform a preliminary evaluation in order to determine whether the Chance Find is cultural heritage and if so, whether it is an isolated find or part of a larger site or feature. In conformance with international standards, the Cultural Heritage Specialist should determine whether the Chance Find is replicable, non-replicable or critical. If the cultural heritage is critical, the Cultural Heritage Specialist should not remove, significantly alter, or damage critical cultural heritage. The following information must be recorded and then the appropriate authority informed:
  - General description of find
  - Location
  - Date of Find
  - Person who identified find

- Description of Initial Find
  - Was work stopped in the immediate vicinity of the find
  - Was an archaeologist contacted
  - Archaeological Detail
  - Date of inspection
  - Reporting Archaeologist
  - GPS coordinates
  - Photo Record
  - Signature
6. The appropriate authority will then conduct investigations and then take decisions on how to handle the finding and communicate the decision to the contractor. This could include changes in the layout (such as when finding an irremovable remain of cultural or archaeological importance) conservation, preservation, restoration and salvage;
  7. Resume construction works after permission is granted by the appropriate authority;
  8. In case no response is received from the appropriate authority, and upon two more follow ups without response, it is considered as authorisation to proceed with suspended construction works;
  9. Register all finds with photolog, correspondence with decision making authorities, conclusions and recommendations/guidance and implementation reports kept.