The Project For Promoting Youth Employment Through Construction Equipment Operating Skills Training

(Project ID 200069)

November 4, 2021-November 3, 2025

Environmental and Social Management Plan (ESMP)

January, 2023

Belinda Zimba
Environmental and Social Safeguards Specialist-Consultant
Vwalengi@yahoo.com

Executive Summary

This Environmental and Social Management Plan (ESMP) has been prepared for the "The Project for Promoting Youth Employment through Construction Equipment Operating Skills Training". The project is being implemented as a joint effort of the Embassy of Japan, Hitachi Construction Machinery (HCM), the Ministry of Technology and Science (MoTS), and the United Nations Industrial Development Organization (UNIDO). The project aims at closing the gap that exists between the demand and supply of skills in heavy equipment operations, thereby contributing to decent employment opportunities for youths in Zambia.

The project is implemented through three interrelated sub-components; 1) Developing and accrediting a competency-based and demand-driven modern curriculum for construction equipment operators and formalizing the workforce; 2) Establishing a regional centre of excellence for construction equipment operator training; and 3) Providing vocational training and career services to unemployed and underemployed youths and women.

As this project is supported by UNIDO in its role as a technical expert provider, the project has been screened against UNIDO's Environmental and Social Safeguards Policies and Procedures (ESSPP). Risk assessment identified some moderate risks within the project, therefore, the project has been determined to be a Category B (Moderate Risk) project. As such, an ESMP has been prepared for the project. The Operational Safeguards (OS) triggered by the project include OS 1: Assessment and Management of Environmental and Social Risks and Impacts OS2: Protection of Natural Habitats and Biodiversity; OS 8: Labour and Working Conditions; OS 9: Resource Efficiency and Pollution Prevention; and OS 10: Community Health, Safety and Security.

This ESMP has been prepared to comply with both UNIDO's ESSPP, and the Zambian National Environmental and social safeguard legal framework. This ESMP intends to ensure that environmental and social concerns are integrated into the project. It further suggests ways of preventing, minimizing, mitigating and/or compensating possible adverse environmental and social impacts which may arise due to the project activities. This ESMP also provides monitoring actions to ensure effective implementation of the mitigation measures of the identified risks.

This ESMP has been structured so that it can be reviewed and updated annualy as the project is implemented.

Document Control

Contact Person	Project Manager-Project Management Unit
Date Approved	May, 2023
Signed	
Planned Date of next Update	June, 2024

Table of Contents

Acronym

CBD: Central Business District
CEO: Construction Equipment Operator
CO_2: Carbon Dioxide
ECZ: Environmental Council of Zambia
EDSCP: Erosion, Drainage and Sediment Control Plan
ESSPP: Environmental and Social Safeguards, Policies and Procedures
EHS: Environmental Health and Safety
EMA: Environmental Management Act
ESMP: Environmental and Social Management Plan
GRM: Grievance Redress Mechanism
GHG: Green House Gases
GIIP: Good International Industry Practice
HCM: Hitachi Construction Machinery
IFC: International Finance Corporation
ILO: International Labour Organisation
KVTC: Kitwe Vocational Training Centre
MoTS: Ministry of Technology and Science
NEAP: National Environmental Action Plan
NCS: National Conservation Strategy
OHS: Occupation Health and Safety
OS: Operational Safeguards
PSC: Project Steering Committee
TEVETA: Technical Education, Vocational, and Entrepreneurship Training Authority
TVET: Technical and Vocational Education and Training
ToT: Training of Trainers
UNIDO: United Nations Industrial Development Organisation
VTC: Vocational Training Centre
WC: Working Committee
ZEMA: Zambia Environmental Management Agency

1. Introduction

This Environmental and Social Management Plan (ESMP) has been prepared for "The Project for Promoting Youth Employment Through Construction Equipment Operating Skills Training" being implemented with support from the Embassy of Japan, the Government of Zambia, (Ministry of Ministry of Technology and Science (MoTS), Hitachi Construction Machinery (HCM), and the United Nations Industrial Development Organisation (UNIDO). The project aims to contribute to closing the gap that exist in the demand-supply of skills in construction equipment operations in Zambia.

1.1 Objectives of the ESMP

The project by its nature is likely to have less adverse impacts on human populations and the environment. Likely negative impacts will be few, site-specific, and few if any will be irreversible. The project major Environmental and Social risks will primarily be from construction works involved in the establishment of a centre of excellence, and during the practical training of the equipment operators. As such, this ESMP has been developed to;

- **i.** Ensure the project is compliant with applicable national (Zambian) environmental and social legal requirements, and UNIDO's Environmental and Social Policies and Procedures
- **ii.** Identify the required mitigation measures that are needed to prevent, and minimise the negative environmental and social impacts.
- **iii.** Ensure that all mitigation measures for the project impacts are incorporated into project implementation design during the various phases of the project.
- **iv.** Outline the mitigating, monitoring, consultative and institutional measures required to prevent, minimize, mitigate, or compensate for adverse environmental and social impacts and/or to enhance project related beneficial impacts.
- **v.** Address human resource requirements to ensure implementation of the ESMP is possible.

1.2 Project Environmental and Social Risks Screening Outcome

As this project is supported by UNIDO in its role as a development partner providing technical expertise, the project has been screened against UNIDO's Environmental and Social Safeguards, Policies and Procedures (ESSPP) and has been deemed as a "Moderate Risk" (Category B) project.

UNIDO requires its development projects to apply its Environmental and Social Safeguards in order to manage the environmental and social risks in ensuring that development opportunities are enhanced. UNIDO's Operational Safeguards (OS) represent a set of twelve principles for assessing environmental and social impacts of projects. Based upon the assessment, Table 1-1 highlights the applicable OS to the project.

Table 1-1: Operational Safeguards Trigger Screening

OS Triggered at Screening	Reasoning for triggering OS at E&S Screening	Reasoning on Whether OS Remains relevant through the project Implementation	Confirmation of the Applicability of OS
OS1: Assessment and Management of Environmental and Social Risks and Impacts	The Project implemented will have environmental and/or social risks that needs to be assessed, and managed.	The PMU will need to ensure mitigation measures are developed, implemented, monitored throughout the project.	Yes
OS2: Protection of Natural Habitats and Biodiversity	Despite the prosed site for the Construction of workshop and classrooms is in the brown field, the site had some vegetation that will need to be conserved.	The project will need to conserve vegetation. Protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources are fundamental to sustainable development.	Yes
OS 8: Labour and Working Conditions	This project will employ a number of people to work on the project. These workers will either be direct, contracted or supply chain workers	PMU will have to ensure that the all workers contracted under the project have their workers' rights respected. The project contractor will implement a Grievance Redress Mechanism (GRM) where all complaints from workers will be received and resolved	Yes
OS 9: Resource Efficiency and Pollution Prevention	The Project will involve the utilization of resources (fuels, construction materials), and generation of waste (construction related waste, and hydrocarbons)	There will have to ensure efficient utilisation of the resources and air, soil pollution is minimised during construction, and training of CEO	Yes
OS 10: Community Health, Safety and Security	The project will involve construction works, and training of heavy equipment operation within the training institution which is open to other students. These activities, have the potential increasing community exposure to risks and impacts	PMU will need to ensure that the project infrastructure and equipment is designed, constructed, and operated, in accordance with good international industry practice (GIIP), taking into consideration safety risks to third parties, or affected communities.	Yes

1.3 Assessment Scope and Approach

The development of this ESMP involved Environmental and Social risk assessments which involved a combination of tools aimed at drawing out information to formulate environmental and social mitigation and control measures. Primary data was collected using a combination of multiple and complementary interviews with cooperating partners. The interviews complemented the document review of project documents, and relevant national, international, and corporate regulatory framework. Site inspections for the construction activities were also done to understand the impact the project will have on the environment and the people.

An impact risk assessment was done using the international best practice (ref: International Finance Corporation (IFC)). The Environmental and social risk screening procedure assessed the risk likelihood (expected, highly likely, moderately likely, not likely, slight) in **Table 1-2**; and the impact of the risk (critical, severe, moderate, minor, negligible) in **Table 1-3**. From this, a significance value was attributed to the potential impact (high, medium, and low) in **Table 1-4.**

Table 1-2: Rating of Risk Likelihood

Score	Rating
5	Expected
4	Highly Likely
3	Moderately Likely
2	Not Likely
1	Slight

Table 1-3: Rating of Impact

Score	Rating	Description
5	Critical	• Significant adverse impacts on human environment and population; • Adverse impacts high in magnitude and/or spatial extent; • Duration of impact is long term, permanent and /or irreversible; • Areas impacted include areas of high value and sensitivity (e.g. valuable ecosystems, critical habitats); • Adverse impacts to rights, lands, resources and territories of indigenous peoples; • Involve significant displacement or resettlement; • Generates significant quantities of greenhouse gas emissions; • Impacts may give rise to significant social conflict.
4	Severe	• Adverse impacts on environment and communities of medium to large magnitude, spatial extent, and duration more limited than critical (predictable, mostly temporary, and reversible); • The potential risk impacts of project activities that may affect human rights, the lands, natural resources, territories; • Impact on indigenous peoples are to be considered at a minimum potentially severe
3	Moderate	• Impacts of low magnitude, limited in scale (site-specific) and duration (temporary), • Impacts can be avoided, managed and/or mitigated with relatively uncomplicated accepted measures
2	Minor	• Very limited impacts in terms of magnitude (e.g. small affected area, very low number of people affected) • Short duration of impact and may be easily avoided, managed, mitigated
1	Negligible	• Negligible or no adverse impacts on communities, individuals, and/or environment

Table 1-4 Risk Assessment Matrix

Risk Rating						
Impact	5	5	10	15	20	25
	4	4	8	12	16	20
	3	3	6	9	12	15
	2	2	4	6	8	10
	1	1	2	3	4	5
		1	2	3	4	5
	Likelihood					
Key:	**Green**: Low; **Orange**: Moderate; **Red:** High					

2. Project Description

The Copperbelt province in Zambia, has been a key contributor to the country's economy due to its vast reserves of copper and other minerals. In the recent years, the country has seen economic growth which however, has not translated to benefit so much the vulnerable population. The Country also experiences lack of productive employment and income opportunities which significantly contributes to the country's high poverty levels. To address this situation, there is a critical need to create employment opportunities, particularly for the youth and vulnerable, through skills enhancement programs. This can be achieved by investing in vocational training, entrepreneurship programs, and initiatives that promote innovation and technology transfer.

2.1 Project Scope and Activities

The project will achieve its objective this through three interrelated outputs: 1) Developing and accrediting a competency-based and demand-driven modern curriculum for construction equipment operators and formalizing the workforce; 2) Establishing a regional centre of excellence for construction equipment operator training; and 3) Providing vocational training and career services to unemployed and underemployed youths, with a particular focus on female and disadvantaged students. Each of the outputs have interrelated activities as highlighted below;

Output 1. Development and accreditation of demand-driven construction equipment operator curriculum supported;

1.1 Conduct labour market study and training needs assessment
1.2 Establish Construction Equipment Operator (CEO) qualification framework
1.3 Develop CEO curricula
1.4 Validate the CEO curricula
1.5 Obtain national accreditation for the new curricula

Output 2: Establishment of regional centre of excellence for construction equipment operators supported

2.1 Upgrade infrastructure of host institution (Kitwe Vocational Training Centre – KVTC)
2.2 Supply modern equipment to KVTC
2.3 Develop a staff development plan and learning materials for all trainers in teaching methodologies, technical and soft skills, including gender-sensitive approaches
2.4 Provide Training of Trainers (ToT) to KVTC trainers for technical and pedagogical skills necessary to deliver CEO curricula.

Output 3. Demand-driven construction equipment operator training and career services provided to Zambian youth, with a particular focus on female and disadvantaged students

3.1 Plan and conduct awareness raising campaigns for young men and women to attract their interest in the CEO sector and the training programme, with a targeted approach for women.
3.2 Provide CEO training to 250 youths at KVTC
3.3 Establish a career service centre at KVTC and facilitate linkages with the private sector for internships, apprentice programs, and job placements
3.4 Establish a feedback mechanism to collect data from trainees participating in company internships, from recent graduates, and from employers hiring graduates

or customers in case of self-employment to ensure the graduates' qualifications meet industry needs.

2.2 Project Location

The project will be implemented at KVTC in Kitwe, Copperbelt province. KVTC is situated in light industrial area (-12.7608515; 28.1940146) about 8.7KM from Kitwe Central Business District (CBD) along government road, off Kitwe-Chingola road. Neighboring KVTC, are mining supplying industries and companies (**Figure 2-1**). The immediate nearby residential areas include Chimwemwe Township on south-east, and Kawama Township on the north-east side, and Garneton on the western side which are within a radius of about 800 meters from KVTC.

Figure 2-1 Location of KVTC, Kitwe

Mining industry characterize the mainstay of Kitwe's population. According to the 2022 Central Statistic's Census survey, Chimwemwe is one of the densely populated constituencies in Kitwe with total population of 166,283.

The project will involve the establishment of the centre of excellence at KVTC. The establishment of the centre will involve the construction of workshops, classrooms, and field site for CEO practical trainings. The proposed area for the infrastructure and practical training field is marked X, in **Figure 2-2.**

Figure 2-2 Project Site Plan

The site earmarked for infrastructure is in an already disturbed state with very fragmented regeneration of the miombo woodland. The site was observed with patches of the regeneration of *Brachystegia species*, which is a non-endemic specie to the site. Non-native and invasive plant species associated with human settlement such as *Tonna ciliata,* and *Tithonia diversifolia* were also observed in the area. These have been mainly planted for ornamental and fencing purposes. The flora in the area is also dominated by *Mangifera indica and grass.*

2.3 Expected Project Benefits and Beneficiaries

Promoting youth employment through construction equipment operating skills training project is a promising strategy to create employment opportunities that will support economic development on the Copperbelt and in Zambia at large. By providing training in the operation and maintenance of construction equipment, young people and women will acquire valuable skills that are on high demand in the country's construction and mining industries. This type of training program has been structured to meet the needs of both the construction and mining industries, as well as the youths and women. The program will provide opportunities for internships and job placements with construction and mining companies, which can help to create a pipeline of skilled workers.

Project Objective:-Overall, the project is aiming at providing decent employment opportunities for youths in Zambia.

Project Outcome:-The expected outcome is that Zambian youths are professionally qualified to fulfil the human resource demands for skilled construction equipment operators in the construction and mining sectors.

Project Target Beneficiaries:-The project targets to achieve the following;

i Train 5 KVTC trainers whose capacity would be sufficiently built
ii Deliver construction equipment operator training to students of KVTC at the rate of 125 students/year until at least 2 years after the end of the project;
iii At least have 250 unemployed and underemployed youths in Zambia, including females, whose capacity would be sufficiently built in the operation of construction equipment by the end of the project;
iv At least 250 unemployed and underemployed youths in Zambia, including females, whose work readiness capacity would be built through the career service centre by the end of the project;
v Have 3 KVTC management staff whose capacity would be built in sustainable Vocation Training Centre (VTC) management;
vi The Zambian Technical and Vocational Education and Training (TVET) system which will have its first formally accredited construction equipment operator curriculum, which will enable MoTS through Technical Education, Vocational, and Entrepreneurship Training Authority (TEVETA), to scale it for use in other VTCs in the country as demanded.

Moreover, the project is envisaged to have positive spillover effects on the broader economy by supporting the growth of the construction and mining industries and generating additional job opportunities in related sectors. By investing in youth employment through skills training programs, the Copperbelt in Zambia will be in a position to support long-term economic growth and provide young people with a pathway to a more prosperous future.

2.4 **Potential Environmental, and Social Adverse Impacts**

The risks associated with the project activities are limited, reversible and site specific. Major Environmental and Social (E&S) risks of the project identified during the screening as highlighted in Section 1.2 of this EMSP, emanates from; **Activity 2.1**-Upgrading of

infrastructure of host institution; **Activity 2.2** Supplying of modern equipment to KVTC; **Activity 2.4** Provide Training of Trainers (ToT) to KVTC trainers for technical and pedagogical skills; **Activity 3.2** Provision of Construction Equipment Operator (training) to youths; and **Activity 3.3** Establish a career service center. **Table 2-1** highlights the identified E&S impacts of the project activities with the specific triggered Operational safeguards.

Table 2-1: Potential Environmental and Social Adverse Impacts

Activity	Identified Risk	Risk Level	Triggered (Operational Safeguards (OS)
1.1 Conduct labour market study and training needs assessment	No E& S Risk	**N/A**	**N/A**
1.2 Establish Construction Equipment Operator (CEO) qualification framework	No E& S Risk	**N/A**	**N/A**
1.3 Develop CEO curricula	No E& S Risk	**N/A**	**N/A**
1.4 Validate the CEO curricula	No E& S Risk	**N/A**	**N/A**
1.5 Obtain national accreditation for the new curricula	No E& S Risk	**N/A**	**N/A**
2.1 Upgrade infrastructure of host institution (Kitwe Vocational Training Centre – KVTC)	**Design**: Poorly designed infrastructure that may not be appropriate for users. Users may also not be aware of appropriate operational techniques	Likelihood 2;Impact:2;Risk Low	
	Land Clearing: Potential to increase surface water run-offs from the construction and practical training sites.	Likelihood 3;Impact:2; Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Land Clearing: loss of flora and avian species thereby causing Ecological disturbance	Likelihood 3;Impact:2; Risk Moderate	OS2: Protection of Natural Habitats and Biodiversity
	Soil Erosion: Construction risks associated with sediment/erosion control	Likelihood 3;Impact:3; Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Generation of waste: Production of construction wastes and excessive use of resources for construction	Likelihood 3;Impact:3;Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Soil Contamination from use of hydrocarbons and fuels during construction works that can pollute soils at the site	Likelihood 3: Impact 3: Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention

Activity	Identified Risk	Risk Level	Triggered (Operational Safeguards (OS)
	Air Quality: Increase in dust levels affecting the neighborhood	Likelihood 4;Impact:3;Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
		Likelihood 3;Impact:2;Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Poor labor conditions (poor wages for casual workers) for the Contractor's employees	Likelihood 2;Impact:3;Risk Moderate	OS 8: Labour and Working Conditions
2.2 Supply modern equipment to KVTC	Selection of inappropriate equipment that can cause injuries to operators	Likelihood 2;Impact:3;Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	New modern equipment that has high fuel consumption or not sustainably serviced or maintained that can lead to high emissions of air pollutants (Carbon dioxide), and GHG	Likelihood 3;Impact:3;Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Equipment that does not address the needs of women sufficiently	Likelihood 2;Impact:2;Risk: :Low	
	Risk of fire due to electrical faults at workshops or from vehicles that can harm the propel and the equipment	Likelihood 3; Impact:3;Risk Moderate	OS 10: Community Health, Safety and Security
2.3 Develop a staff development plan and learning materials for all trainers in teaching methodologies, technical and soft skills, including gender-sensitive approaches.	No E& S Risk	**N/A**	N/A

Activity	Identified Risk	Risk Level	Triggered (Operational Safeguards (OS)
2.4 Provide Training of Trainers (ToT) to KVTC trainers for technical and pedagogical skills.	Operations of equipment during training will make use of fuel and oils which need to be utilized with efficiency, and has the potential of polluting air (Emission) and the soils(leakages)	Likelihood:3; Impact:3; Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Health risks due to air pollution from dust generation during the practical trainings. Safety risks associated with the operation of equipment during practical trainings that can cause accidents/injuries.	Likelihood:4; Impact:3; Risk Moderate	OS 10: Community Health, Safety and Security
3.1 Plan and conduct awareness raising campaigns for young men and women to attract their interest in the CEO sector	No E& S Risk	**N/A**	**N/A**
3.2 Provide CEO training to 250 youths at KVTC	Operations of equipment during training will make use of fuel and oils (fuel) which need to be utilized with efficiency and had the potential of polluting air (Emission) and the soils(leakages)	Likelihood:3; Impact:3; Risk Moderate	OS 9: Resource Efficiency and Pollution Prevention
	Health risks due to air pollution from dust generation during the practical trainings. Safety risks associated with the operation of equipment during practical trainings that can cause accidents/injuries.	Likelihood:3; Impact:4; Risk Moderate	OS 10: Community Health, Safety and Security
3.3 Establish a career service centre at KVTC and facilitate linkages with the private sector	**Incidences of Communicable** infectious diseases: Increase of population at KVTC due to the introduction of a new course services offered at the Centre of excellence leading to high prevalence of communicable diseases (Covid-19, HIVAIDS)	Likelihood:2;Impact:3;Risk Moderate	OS 10: Community Health, Safety and Security
3.4 Establish a feedback mechanism to collect data from trainees	No E& S Risk	**N/A**	**N/A**

2.5 Climate Change Risk

The project areas falls within agro-ecological region III with highest rainfall in Zambia. This region is vulnerable to climate variability and change with potential occurrences of occasional flash-floods during the months of rain season (December-March). However, the specific project site has not experienced any form of floods in the past years. To prepare for unforeseen incidences, the project will endeavor to select a suitable site, design and building materials that will withstand any future potential storms and floods.

Further, the project involve use of heavy construction equipment that will emit Green House Gases (GHG) such as carbon dioxide (CO_2) due to fuel combustion. Other anticipated pollutants from the equipments will include Oxides of Sulfur, and Nitrogen. To promote climate resilient practices, the project has selected construction equipment (i.e. the New ZAXIS) which is a fuel-thrifty and has the ability to reduce fuel consumption by 9 percent compared to the conventional (i.e. ZX200-3/ZX200-3F) equipment. The efficient use of fuel is due to the efficiency of the hydraulic system (HIOS III hydraulics), and engine control system in the selected equipments, thereby reducing CO_2 emissions and other pollutants.

3. Policy, legal and Institution Framework

For the purpose of this ESMP, the Zambia's national environmental and social safeguards legal and policy framework that provides for the regulatory requirements related to the Operational Safeguards triggered by the Environmental and Social Safeguards screening outcome. The information provided in this section depicts current Statutory Instruments (SIs).

3.1. National Legal Framework

On the premise of achieving sustainable development, thus meeting economic needs without compromising environmental and social needs, the Government of the Republic of Zambia (GRZ) adopted the National Conservation Strategy (NCS) in 1985, which facilitated establishment of the principles of sustainable development in Zambia. The NCS was upgraded to the National Environmental Action Plan (NEAP) in 1990 and had the same aim of fostering sustainable development in the country. The NCS and NEAP facilitated the development of the Environmental Protection and Pollution Control Act (EPPCA) in 1990. Through the EPPCA, the Environmental Council of Zambia (ECZ), currently called Zambia Environmental Management Agency (ZEMA) was established in 1992. ZEMA is the main national regulatory authority in charge of environmental management issues.

In 2011, the Environmental Management Act (EMA) No. 12 of 2011 was developed to repeal the EPPCA. The EMA is the current overall environmental management law that guides the implementation of environmental matters. Implementation of national statutes and regulations on environmental conservation prescribes that a project developer has a legal obligation to ensure that development is implemented without compromising the status of the environment, natural resources, public health, and safety. This stance manifests the significance of this ESMP.

This project will to comply with the key national laws, regulations, and policies highlighted in **Table 3-1**.

Table 3-1: Relevant National Legal Framework

Law/Regulation	Compliance Type	Description	Relevance to ESMP	Project Compliance
Environmental Management Act No 12 of 2011	Law	Provides for the sustainable management of natural resources and protection of the environment, and the prevention and control of pollution.	The construction of project infrastructure at KVTC will cause distraction to the environment and social impacts. The Act empowers stakeholders to take legal action against the developer for any negative environmental and social consequences	Project construction activities will have mitigation measures that will be implemented fully to ensure protection of the environment and the people.
The Environmental Management (Licensing) Regulations, 2013	Regulation	Provides for the regulation of Water Pollution; waste Management; and Toxic Substances	The project will generate waste, emissions that can pollute the air, soil, and water from construction and equipment operating activities which will need to be monitored according to the statutory limits	The Project contractors and managers will ensure all emissions/discharges are within statutory limits
Lands Acquisition Act 1994	Law	Section 12 (b) of the Lands Acquisition Act 1994 provides that any person whose property is affected by a public project is entitled to compensation.	Due to construction activities the project may affect public pipelines such as water and sewerage lines, or any other public property	Safeguards will be in place to limit destruction of property. The project shall put in place a Grievance Redress Mechanism
Forests Act 1999	Law	The Act provides for the implementation of the Convention on International Trade in Endangered Species of Wild Flora and Fauna.	The project will involve land clearing to pave way for the infrastructure to be developed	The project area does not have any rare tree species. However, trees with canopy will be conserved through selective land clearing.
Occupational Health and Safety Act No. 36 of 2010	Law	Section 16 of the Act provides the duties of employers at workplaces in respect of health and safety at workplaces.	The project involves construction of infrastructure and operation of heavy equipment that can cause Occupation Health and Safety (OHS) risks to workers and equipment operators	The project will ensure induction, training and supervision on prevention of OHS risk
Workers compensation Act, No. 10 of 1999	Law	The Act provides for employee compensation in case of injury or death of an employee whilst at work.	During the construction of the proposed project infrastructure and operation of the heavy equipment, accidents may occur that may injure the workers or trainers/CEO students	The project will ensure that contractors and KVTC have a valid Workers Compensation Certificate.
Employment Act No. 3 of 2019	Law	The Act provides the minimum conditions of service for permanent as well as casual workers.	The setting up of the centre of excellence under the project will involve the hiring of workers by the contractor who will need to be paid in line with the Act	PMU will monitor the contractors to ensure that the contractor adheres to labour conditions as stipulated in the Employment Act.
Public Health Act 1930	Law	Section III of the Act provides for the prevention and suppression of	The project is implemented in the era of covid-19. The influx of people to the KVTC can lead to the spread of other infectious diseases	The project will ensure all covid-19 and other infectious diseases control

Law/Regulation	Compliance Type	Description	Relevance to ESMP	Project Compliance
		diseases and the general regulation of all matters connected with public health in Zambia.		guidelines as set by the Ministry of Health are followed
Roads and Traffic Control Act No. 11 of 2002	Law	Parts V to XIV CAP 464 of the Act provides for a system of roads safety and traffic management of the Roads and Traffic Control in Zambia.	The project will use different construction vehicles for construction of the centre of excellence and during practical training.	Contractors will ensure that all vehicles used during construction are road worthy and drivers obey road and traffic rules
Energy Regulation Act No. 12 of 2019	Law	The Petroleum Act regulates use, conveyance, storage, and retail of petroleum products such as diesel and petrol.	During the construction and training, the vehicles, and equipment will require fuel.	The project will ensure that the contractor follows measures for utilization and storage of fuel to ensure efficiency and avoid pollution.
National Gender Policy 2014	Policy	Guides the Country's Gender Mainstreaming which seeks gender equality mainstreamed in all developmental projects.	The Project aims at improving gender balance in technical and vocational training and employment opportunities.	The project will align with the national Gender policy which is in line with the Southern African Development Community protocol on Gender and Development
National Council for Construction Act no 10 of 2020	Law	Provides for the promotion, development and regulation of the construction industry so as to promote economic growth and competitiveness and create sustainable employment; continue the existence of the National Council for Construction and provide for its functions; enhance contractor capacity development and technical compliance in the construction industry	The project involves infrastructure development for the Centre of excellence at KVTC	The project will ensure that a contractor hired has the capacity and technical expertise for the upgrading of the infrastructure

Law/Regulation	Compliance Type	Description	Relevance to ESMP	Project Compliance
Solid waste Management Act of 2018	Law	Provides for management of waste	The project will generate construction related that will need to be managed	All waste generated will be treated and disposed of according to the prescription of the Act

4. General Project Management Structure

The project is being implemented with support from different stakeholders serving as cooperating partners on the project. Each partner has a different role and offers different support on the project. Key among these partners are;

- The Embassy of Japan as main project funder with cash contribution on the project
- UNIDO providing support in terms of project implementation and coordination
- The HCM providing technical expertise providing in-kind contribution in the form of staff time, travel, training manual development, license for training material, ToTs (at overseas HCM Centre and at KVTC), study tours for KVTC management staff, and equipment,
- MoTS will provide in-kind contribution in the form of land to accommodate the new workshop at KVTC, bursary (especially for vulnerable youths), and facilitate validation and approval of the curriculum to be developed through project support

4.1. Project Steering Committee

The Project has strong coordination approach of key stakeholders. The Project Steering Committee (PSC) is comprised of representation from MoTS, KVTC, UNIDO Zambia, and Embassy of Japan in Zambia, HCM, and Project Management Unit (PMU - secretariat). The Steering Committee will be updated on the progress made towards addressing the project's environmental and social risks when a meeting is called upon.

4.2 Project Working Committee

The project has a Working committee (WC) that is comprised of a cross-functional mix of KVTC and UNIDO staff members at different hierarchy levels. The WC has been established to support the coordination of the project implementation on ground. The WC is established and tasked by the PMU to make recommendations on the procurement decisions and suitable localization of the various change processes that the PMU is recommending throughout its six-step strategy. The WC will work to attain the necessary stakeholder willingness and remove internal resistance for change. The committee is responsible for providing regular and weekly guidance and implementation support to project implementation.

4.3 Project Management Unit

The PMU is comprised of staff members from UNIDO Head Quarters (HQ) and field office at KVTC in Kitwe. The PMU leads the implementation of the project with staff with specific roles in achieving project objectives. The PMU Field office has a Project Coordinator whose responsibilities focus on running the project on a day-to-day basis and decision-making for the project. The Project Coordinator is supported with three other supporting staff, the Monitoring and Evaluation Expert, Career Service Expert, and an Office Assistant. These support the project in implementing the necessary monitoring & evaluation, career services and publicity activity processes acting as change agents and work in line with KVTC staff to create synergies.

The PMU staff from UNIDO HQ include a UNIDO Output Manager (Industrial Development Expert - IDE), a Senior Chief Technical Advisor (SCTA) and Project Assistant. As part of PMU, UNIDO Headquarters provides assurance to the project management unit by carrying out project oversight and monitoring functions. The quality assurance is provided by the IDE

as a backstopping officer and guides overall managerial and financial administration of the project and work in close coordination with the SCTA. The SCTA on the project will conduct regular meetings and frequent missions to the project site to provide technical advice necessary to ensure quality outcome in line with the project document (**Figure 4-1**).

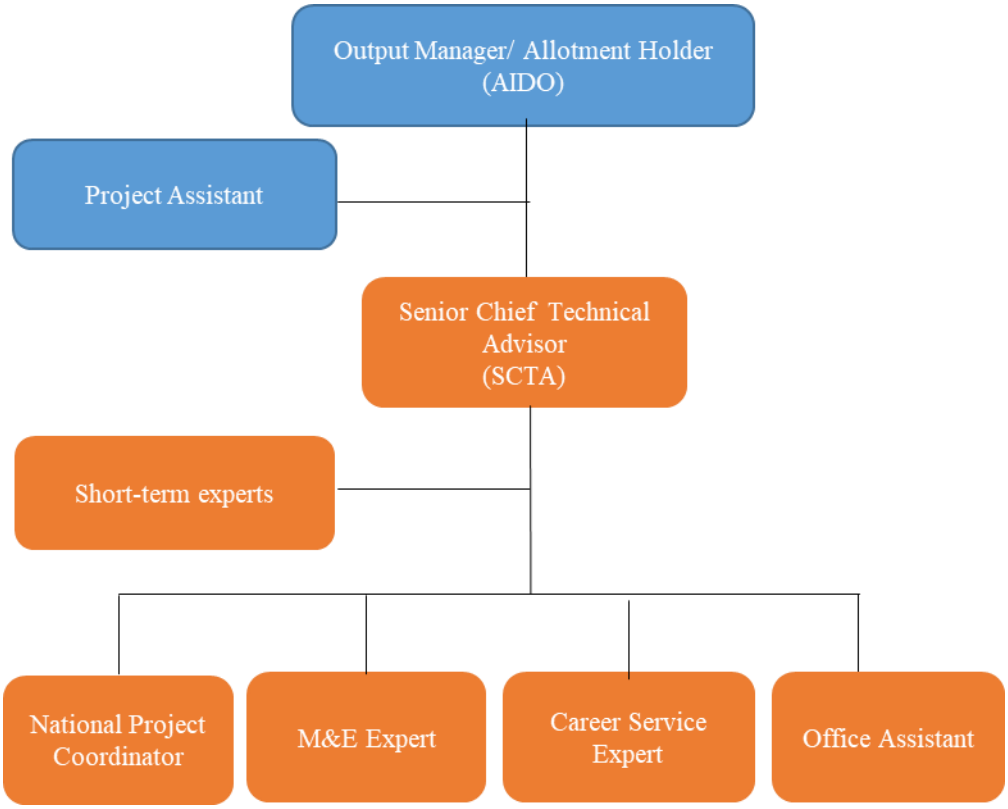

Figure 4-1: General Project Management Structure

5. ESMP Implementation-Roles and Responsibilities

PMU Kitwe field office will be responsible for the implementation of the ESMP through project contractors and cooperating partners. Any construction work will follow the actions stipulated in the ESMP. A compliance report of the ESMP will be part of the report to be submitted to the PSC. PMU will be responsible for the revision and updates of this document during the course of Project.

The UNIDO Head Quarters office will provide specialist advice and oversight on the implementation of the ESMP to address environmental and social risks.

Project Management Unit

As the implementing unit, PMU will be responsible for the implementation of the ESMP. The ESMP will be part of project activities and any tender action. It is the responsibility of the Project Coordinator to ensure the ESMP is up to date. PMU will also perform the following specific roles;

- Induct contractors on ESMP
- Ensure that contractors implement E& S risk mitigation actions
- Monitor work of contractors

- Review mitigation measures and recommend corrective action
- Reports on ESMP implementation to the PSC

Project Contractors and Cooperating Partners

Contractors and KVTC as a cooperating partners will assume the following responsibilities in the implementing the ESMP:

- Hiring of an Environmental, Health and Safety (EHS) Officer responsible for the implementation of ESMP during construction;
- Undertaking of site-specific actions to mitigate risk associated with construction;
- Training of workers on OHS risks;
- Undertaking of regular inspections of civil works.

5.1 Environmental procedures

All constructions of the project infrastructure will follow Occupational, Healthy and Safety actions guidelines as contained in this ESMP. The contractors will assume the full responsibility to ensure that environmental actions are followed. The Project Coordinator will monitor the contractor monthly to ensure compliance with this ESMP. The ESMP will be part of the tender process for all projects construction activities.

5.2 Incident reporting

All incidents, inclusive of non-compliances will be recorded using an incident register to be kept by the contractor. For any incidents that cause or has the potential to cause serious environmental and social harm, the contractor through its EHS Officer shall notify the Project Coordinator as soon as possible. In such instances, the contractor will cease work until remediation has been completed as per the approval of Project Coordinator.

5.3 Daily and weekly environmental inspection checklists

During construction of the project infrastructure, a daily environmental and social checklist is to be completed at each work site by the contractor's supervisor and maintained within contractor's records. The completed checklist will be forwarded to PMU for review and follow-up if any issues are identified.

5.4 Corrective Action Plans

Any non-conformances to the ESMP are to be noted in weekly environmental inspections and logged into the register by the contractor. Depending on the severity of the non- conformance, the contractors' sites supervisor will specify a corrective action on the weekly site inspection report. The progress of all corrective actions will be tracked using the weekly reports. Any non-conformances and corrective actions are to be advised by PMU.

5.5 Review and auditing

The objective of the review is to update the document and reflect knowledge gained during project construction and delivery. The ESMP and its procedures are to be reviewed at least annually by the PMU. The ESMP will be reviewed, and amendments made if the following occurs:

- There are relevant changes to environmental conditions or generally accepted environmental practices.
- New or previously unidentified environmental risks are identified.

- Information from the project monitoring and surveillance methods indicate that current control measures require amendment to be effective.
- There are changes to environmental legislation that are relevant to the project.
- There is a request made by a relevant regulatory authority (ZEMA).

When an update is made, all project partners and contractors are to be made aware of the revision as soon as possible through meeting, and/or an official written notification.

6. Training and Capacity Building

PMU has the responsibility for ensuring systems are in place so that relevant partners, employees, contractors, and other workers are aware of the environmental and social requirements for construction. All project personnel (field PMU team), and partners will be made aware of the ESMP and how it will be implemented by the ESMP National Consultant/UNIDO. The training will be done to raise awareness on the integration of the ESMP in the project activities and ESMP monitoring requirements.

Further training of the contractors' staff both casual and permanent, and the equipment operators on OHS, environment, and cultural requirements will be done by the project coordinator. All workers engaged in any activity with the potential to cause serious harm will receive task specific training as needed.

Table 6-1 outlines the type of training/capacity building that should be provided, along with those responsible and the approximated costs.

Table 6-1: Training Needs and Responsibilities

Training Requirement	Attendees	Timeline	Responsibility	Costs
One day training to raise awareness to PMU and cooperating partners on Regulatory requirements - impart awareness on essential regulatory requirements (UNIDOs and National) of the ESMP -importance of environmental and social management from design stage through to implementation - requirements for monitoring and reporting	Representatives from PMU,KVTC,HCM	Once off. After approval of project ESMP	ESMP Consultant/UNIDO	Insignificant costs, covered
Contractors induction - Raise awareness of ESMP to contractors highlighting the health, safety, environment and cultural requirements	All project personnel involved with construction	Once off-(at initiation of site works). After signing of construction contract	Project Coordinator Manager	No additional costs
Site management - to create awareness on specific social and environmental risks and management measures - build capacity to carry out monitoring and supervision activities at the construction site	Site engineers/site supervisors/contractor s EHS officer	Every shift during construction works	Contractor EHS Officer	No additional costs
Induction of OHS	All workers involved in construction and CEOs trainings	-Every shift -Part of the CEO practical trainings	Contractor EHS Officer and KVTC project focal person	No additional costs

7. Environmental and Social Risk Mitigation Measures

This section highlights the relevant environmental and social risk identified during the design phase of the project. As the ESMP serves as a living and active document, additional risks that will be identified during the project implementation will be included as and when they are identified.

Table 7-1: Mitigation of Environmental and Social Risks

E&S risks	Mitigating Measure	Technical details of the mitigation technology, process, equipment, design, and operating procedures	Location Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by project financing)
Land Clearing :Potential to increase surface run-off	Avoid water surface runoffs from the construction sites	Clearing will be restricted to work sites only.	Once off during site preparation for construction at KVTC.	Contractor-Site Engineer	Cost to be covered by the contractor
		Develop and implement a site-specific Erosion, Drainage and Sediment Control Plan (EDSCP) to address drainage control, sediment, and erosion controls	Once off before site preparation for construction at KVTC	Contractor-Site Engineer	Cost to be covered by the contractor
Land Clearing: loss of flora and possible bird species due to land clearing	Minimize cutting down of all the trees on site	Limit vegetation clearing and Minimize disturbance to mature remnant vegetation, particularly canopy trees on site	Once off during site preparation for construction at KVTC	Contractor-EHS Officer	No costs
Occupation Health: Occupation and Safety Risk associated with construction of the infrastructure and Practical trainings	Minimize injuries during construction and practical trainings of equipment operators	Ensure all machinery procured are fit for use	At the time of procurement	HCM/UNIDO PMU	No costs
		Provide First Aid kits on site at all times. Barricade the construction site, and place warning signs to restrict entry.	During construction, and practical trainings on site	Contractor-EHS Officer; and KVTC-Project Focal person	Less than $100 to be covered by the contractor

E&S risks	Mitigating Measure	Technical details of the mitigation technology, process, equipment, design, and operating procedures	Location Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by project financing)
		Train/induct all staff in emergency preparedness and response and safety talks (covering health and safety at the work site)	Before each shift during construction, and practical sessions	Contractor-EHS Officer; and KVTC-Project Focal person	No significant costs
		All workers at the construction and practical training site to have full PPE gear	All the time construction works	Contractor-EHS Officer; and KVTC-Project Focal person	Cost of PPE to be covered by the contractor
		Contractors to have valid Workers Compensation certificate to cover up workers in case of serious injuries	During construction. Certificate should be valid for a year and/or beyond	Contractor-EHS Officer; and KVTC-Project Focal person	Cost to be covered by the contractor
Noise Generation: Noise and vibration from construction equipment and during training affecting neighboring residents	Minimise noise within 85decibels	Ensure construction vehicles and machinery on site are in sound mechanical condition	During construction works and practical trainings	Contractor-EHS Officer.	Cost to be covered by the contractor
		Workers working in high noise environmental will be provided with ear plugs	All staff found at construction site	Contractor-EHS Officer; and KVTC-Project Focal person	Cost to be covered by the contractor
		Construction works, and training of operation of construction equipment are to be carried out within the working hours between 7:00 Am -5.30 PM	During construction and practical trainings	Contractor-EHS Officer; and KVTC-Project Focal person	No costs
Soil Erosion: Construction risks associated with sediment/erosion control	Implement measures to control soil erosion	Mulching and re-vegetating bare areas on sites as part of the EDSCP	Upon completion of construction works	Contractor-EHS Officer	Cost to be covered by contractor $0.50/ m2

E&S risks	Mitigating Measure	Technical details of the mitigation technology, process, equipment, design, and operating procedures	Location Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by project financing)
		to minimize erosion controls			
Soil Contamination from machinery/equipment oil spill on site	Implement measures to minimize and contain spillages on site	Undertake refueling and servicing of vehicles and equipment at designated filling stations	During construction works	Contractor-EHS Officer	No costs
		Minimize storage of vehicle/equipment lubricants or fuel on site. If any are stored, they will be stored in contained areas with spill kits on site.	During construction works	Contractor-EHS Officer	No Costs
		Check all vehicles, equipment and material storage areas daily for possible fuel, oil and chemical leaks.	During construction works	Contractor-EHS Officer.	Cost to be covered by contractor
Generation of waste: Production of wastes and excessive use of resources	Reduce the direct and indirect waste generated	Preference shall be given to materials that can be recycled	During Construction	Contractor-EHS Officer	No costs
	Waste generated on construction sites will be segregated according to streams	Waste will be separated using color coded waste receptors. Contaminated waste will be disposed at an approved landfill. Oil contaminated wasted will be disposed of with licensed company	During Construction	Contractor-EHS Officer	Costs to be covered by the contractor
Air Quality: Increase in vehicle / Machinery emissions and dust	Minimize the generation of dust	Drivers for construction vehicles and training operators will observe	During construction and practical trainings	Contractor-EHS Officer and KVTC	No cost

E&S risks	Mitigating Measure	Technical details of the mitigation technology, process, equipment, design, and operating procedures	Location Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by project financing)
		speed limits of less than 20km/hr. on site (grave roads and within the construction/ training site areas)			
		Use dust suppression measures e.g. water bowsers for the unpaved sites	During construction and practical trainings	Contractor-EHS Officer	Costs to be covered by the contractor and KVTC
		Establish dust trappers through planting of fast growing trees (e.g. Eucalyptus) in the peripheral of the training site	During construction and practical trainings	PMU	Costs to be covered in site preparations
		Cover loads on trucks carrying construction materials e.g. building sand	During transportation of construction materials	Contractor-EHS Officer	Costs to be covered by the contractor
	Limit the amount of emission from vehicles on site	Ensure that routine checks for CEO equipment is compliant with the Original Equipment Manufacturers' (OEM) maintenance checklist	During construction and practical trainings	Contractor-EHS Officer	Costs to be covered by the contractor
		Ensure vehicles/machines are switched off when not in use	During construction and practical trainings	Contractor-EHS Officer and KVTC	No cost
Poor labor conditions (non-payments of wages,) for the Contractor's employees	Ensure treating of workers according the employment conditions	The contractors' workers will be paid according to the minimum wage conditions	During construction	Contractor-Site Supervisor	Cost to be covered by the contractor

E&S risks	Mitigating Measure	Technical details of the mitigation technology, process, equipment, design, and operating procedures	Location Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by project financing)
	Employment Act No. 3 of 2019				
Risk of fire due to electrical faults at workshops or from vehicles	Put in place firefighting measures at workshop and in the training equipment	Train employees in firefighting techniques and undertake regular fire drills.	During Construction and practical trainings	Contractor-EHS Officer; and KVTC-Project Focal person	No costs
		Provide fire extinguishers at workshops and for the construction equipments	During Construction and practical trainings	Contractor-EHS Officer; and KVTC-Project Focal person	Costs to be covered by the contractor and KVTC
		No burning should be done at the construction or near operation of equipment's	During Construction and practical trainings	Contractor-EHS Officer; and KVTC-Project Focal person	No costs
Incidences of Communicable infectious diseases: Increase of population at KVTC due to introduction of a new course leading to high prevalence of communicable diseases (Covid-19, HIVAIDS)	Provide interventions to minimize the spread of diseases	• Provide male and female condoms at the institution • Educate workers on how to avoid Sexually Transmitted Infections, Covid-19 to recognize common symptoms, and seek treatment via confidential referral systems • Publicize to workers the existence of anonymous VCT services (testing, pre-	During Construction and practical trainings	Contractor-EHS Officer;; and KVTC-Project Focal person	Costs to be covered by Contractor and KVTC

E&S risks	Mitigating Measure	Technical details of the mitigation technology, process, equipment, design, and operating procedures	Location Timeline, including frequency, start and end date	Responsibility	Cost of Mitigation (If Substantial; to be covered by project financing)
		test, and post-test counselling) • Conduct Covid-19, HIV/AIDS awareness programmes • Frequently fumigate workshops and classrooms to prevent to prevent Covid-19 transmission			

8. Environmental and Social Sustainability Monitoring

The environmental and social monitoring (**Table 8-1**) highlights the relevant parameters to be checked and assessed during project implementation to compliance. Additional parameters will be added when addition risks are identified during the project implementation. In this monitoring plan, the threshold value limit is considered as the permissible level of exposure of parameter without causing significant negative impacts. While the detection limit is considered as the lowest value of the parameter to trigger formulation, and implementation of robust corrective actions.

Table 8-1: Monitoring pf Environmental and Social Sustainability

E&S Risk	Parameters to be measured	Monitoring methods and procedures used (e.g. sampling)	Timing/Frequency of measurement	Detection limit	Definition of thresholds	Sampling/ monitoring location	Responsibility
Increase in surface run-offs from site	Checking runoffs from the site discharged to the outside environment.	Visual site inspection	Quarterly	Discharge from site to the outside environment	Runoffs contained within the site	Construction, and practical training site	Contractor-Site Engineer
Land Clearing: loss of flora and possible bird species due to clearing of vegetation	Recording number of trees and extent of vegetation preserved on site	Visual site inspection	During site clearing	No vegetation cover around the site	Clearing of trees on site	Construction, and practical training site	Contractor-EHS Officer
Occupation Health, and Safety: Occupation and Safety Risk associated with construction of the infrastructure and Practical trainings	Checking the number of injury incidences. Checking number staff inducted in Occupation health and safety (OHS)	Incidents register/ and Safety in induction records	Quarterly	One recorded fire incident resulting into fatal injury recorded within a quarter	Zero record of fire incident resulting into fatal injury in a quarter.	Construction, and practical training site	Contractor-EHS Officer;KVTC
Noise Generation: Noise and vibration from construction	Assess noise levels within the site	Noise records	Daily	$\geq$110 Decibels	$\geq$65 Decibels	Construction and practical training site	Contractor-Safety officer/KVTC

E&S Risk	Parameters to be measured	Monitoring methods and procedures used (e.g. sampling)	Timing/Frequency of measurement	Detection limit	Definition of thresholds	Sampling/ monitoring location	Responsibility
equipment and during training affecting neighboring residents							
Soil Erosion: Construction risks associated with sediment/erosion control	Assess the quality of surface run offs, and created gullies on the site	Visual inspection	yearly	Run off with high turbidity and, presence of gullies on the site	Erosion contained within the site	Construction and practical training site	Contractor
Soil Contamination from machinery/equipment oil spill on site	Assess presence of uncleaned hydrocarbons spills in the soil	Visual site inspection	Daily	Presence of hydrocarbons in the sub layers of soil	Presence of hydrocarbons in the top soils	Construction and practical training site	Contractor-EHS Officer
Generation of waste: Production of wastes and excessive use of resources	Amount of waste generated, recycled on site.	Waste records collected by a licensed waste collection service provider Visual inspection	Daily	Presence of undisposed and indiscriminate disposal of waste on site	Minimal undisposed waste found on site	Around the construction and practical training site	Contractor-EHS Officer
Air Quality: Increase dust and vehicle / equipment	Assess the amount of fall out dust around the site	Monitoring of fall out dust.	Daily	≥250mg/m2/day of fall out dust	≥70mg/m2/day of fall out dust	Around the construction and practical training site.	Contractor-EHS Officer

E&S Risk	Parameters to be measured	Monitoring methods and procedures used (e.g. sampling)	Timing/Frequency of measurement	Detection limit	Definition of thresholds	Sampling/ monitoring location	Responsibility
	Check record of complaints regarding dust from the neighboring communities	Number of complaints about dust from the site received	Daily	Increased dust-related complaints from neighboring communities in a month	No record of complaints of dust affecting the neighboring communities	Around the construction and practical training site.	Contractor-EHS Officer
	Conditions of vehicles and equipment on site	Visual inspection of vehicles, and record of vehicle/equipment servicing	Monthly	Visible emission of exhaust from equipment	No recorded emissions observed from site equipments in a month	Construction equipment at the project site	Contractor-site supervisor
Poor employment conditions (breach of employment conditions such as none payment of wages) for workers	Assess the minimum wages paid to workers	Number of complaints about wages received from workers	Monthly	Single breach of employment conditions by the contractor	Provision of minimal requirements for employment conditions (i.e. Minimum wage of ZMW 1300/month paid to casual workers) by contractors	Construction site	Contractor-Site Supervisor
Risk of fire due to electrical faults at workshops or from vehicles	Number of fire incidences	Incidence register	Annually	Increase of fatal fire incidences in a year	Zero occurrence of fire incidence from the site in a year	At construction and practical training site	Contractor KVTC
Incidences of Communicable infectious diseases: Increase of population at KVTC due to	Checking number of Covid-19 cases	Incidence Reports	Daily	Increase in the number of covid case on site	Project site has one or two measures (such as upholding of hygiene standards) to prevent	At construction and practical training site	Contractor KVTC

E&S Risk	Parameters to be measured	Monitoring methods and procedures used (e.g. sampling)	Timing/Frequency of measurement	Detection limit	Definition of thresholds	Sampling/ monitoring location	Responsibility
introduction of a new course leading to high prevalence of communicable diseases (Covid-19, HIVAIDS)					transmission of the Covid 19		
	Number of talks on HIV/AIDs done/ strategies put in prevent to prevent the transmission of HIV/AIDS	Incidence Reports	Quarterly	-	Strategies (provision of condoms, monthly talks on HIV/AIDS) done to prevent disease transmission	At construction and practical training site	Contractor KVTC

9. Communication

Communication and disclosure of project progress and performance to stakeholders forms an integral part of project management. From the inception, the project was discussed with a wide range of stakeholders which include MoTS, companies in mining and construction industries, civic leaders, equipment manufacturers and project funders. It is therefore envisaged that communication with project stakeholders will continue throughout the project implementation and possibly beyond the project tenure. The progress on the implementation of management actions to address the project's Environmental and Social risks, and grievances will be disclosed annually in stakeholder meetings with cooperating partners, and on UNIDOs Website (https://open.unido.org/index.htm).

Guided by the communication and visibility plan, the PMU will develop and release updates on the project on a regular basis to provide interested stakeholders with information on measures taken to address E&S risk and grievances. Updates will be through a wide range of media such as formal reports, and meetings in English and local language

Table 9-1 Stakeholder Engagement Plan

Consultation	Purpose	participants	Chair	Reporting Schedule
Initial	**Project Start up:** • Project Overview Project • Organization Project Schedule • Identification of project Environmental and Social risks and impacts • Raising Awareness of ESMP for the project	UNIDO PMU Embassy of Japan HCM MoTS	PMU	Year one
Public consultation & site visit	• Present compliance report of ESMP to PSC • Receive any feedback to include any changes on the mitigation measures • Receive suggestions for any corrective actions • Review the implementation of Corrective action Plan and mitigation measures to ensure effectiveness of mitigation measures.	KVTC PMU ZEMA Kitwe City Council HCM UNIDO	PMU-Project Coordinator	Yearly
Addressing Community Concerns	Consultation on Grievances received and Procedure	Civic leaders Kitwe City Council ZEMA KVTC PMU	PMU-Project Coordinator	As and when need arise

9.2 Grievance Redress Mechanism

During the construction, and CEO trainings, the community or personnel could be adversely affected, either directly or indirectly. The complaints may be due to the lack of transparency of the project beneficiary selection (selection of students to be trained), disruption of services such as water or road network, and other social and cultural issues. Grievances may also be related or contractor's workers who may be dissatisfied with certain aspects of their working conditions of employment. Other grievances can be related to environmental issues such as excessive dust generation, damages to infrastructure due to construction related vibrations or transportation of raw material, noise, and traffic congestions.

In such instances, the project will use a mechanism through which affected parties can resolve such issues in an amicable way with the project personnel in an efficient, unbiased, transparent, timely and cost-effective manner. In this regard, the project will implement a procedure which will accord complainants a platform to air their grievances. The grievance procedure adopted by the project will involve;

1. Receiving complaints through email, phone, letter or meetings
2. Registering complaints in the grievance register at PMU or contractor's site or KVTC offices
3. Acknowledge receipt and outline how grievance will be processed, screen for eligibility, and assign responsibility for response within an agreed period
4. Assess complaint, plan and propose response to complainant
5. Agree on response with complainant
6. Implement agreed response
7. Grievance resolved successfully, closed and documented

In instances where the response is not agreed or grievance is not resolved, PMU will consider whether to revise the approach, or refer the complaint to UNIDO Head Quarters.

Grievance Register

A key part of the grievance redress mechanism is maintenance of a complaints register for all complaints for all grievances received. The complaints can include grievances from workers, or community members. For all the complaints, the following information will be recorded:

- time, date and nature of complaints or grievances;
- type of communication (e.g. telephone, letter, email, personal contact);
- name, contact address and contact number;
- response and review undertaken as a result of the complaints and/or grievances;
- Actions taken and name of the person taking action.

Table 9-2: Grievance Redress Register

S/N	Name of Complainant	Phone #	Details of Complaint (Location, Event)	Date Complaint received	Complaint received By:	Action Taken	Feedback on the Complaint

Contractors will make aware of GRM to its workers to enable them report grievances related to working conditions. The workplace GRMs will be required in the Terms of Reference for contractors. PMU will ensure that all concerns are addressed promptly through dialogue and engagement, using an understandable and transparent process that is culturally appropriate, rights-compatible, and readily accessible to all stakeholders at no cost, and without retribution.