

THE UNITED REPUBLIC OF TANZANIA



MINISTRY OF ENERGY AND MINERALS

**THE SUSTAINABLE MANAGEMENT OF
MINERAL RESOURCES PROJECT (SMMRP)
PHASE II**

**THE ENVIRONMENTAL AND SOCIAL
MANAGEMENT FRAMEWORK**

DRAFT

FEBRUARY, 2015

EXECUTIVE SUMMARY

1. The *Sustainable Management of Mineral Resources Project (SMMRP)* was implemented from 2009 and is expected to close in June 30, 2015 . Its Project Development Objective (PDO) was “to strengthen Tanzania’s capacity to manage the mineral sector, to improve benefits for Tanzania and Tanzanians, and to enhance private investment.” The project was successful in completing a number of important legislative reviews, resulting in the update of the regulatory framework (revised Mining Act of 2010 and the associated Mining Regulations). It also successfully implemented a subcomponent for **strengthening environmental and social management**, resulting in a stronger safeguard framework for the mining sector.
2. Following the success of the original project, the Government of Tanzania requested the World Bank for an Additional Financing (AF) to extend the project by another 3 years. The AF, renamed as *Sustainable Management of Mineral Resources Project II (SMMRP II)* aims to finance the costs associated with scaling up the developmental effectiveness by further strengthening the socio-economic component of the original Project to ensure greater shared growth and poverty reduction. To this end, the AF would still aim “to strengthen Tanzania’s capacity to manage the mineral sector, to improve benefits for Tanzania and Tanzanians, and to enhance private investment” but would scale up the second aspect of the project development objective which aims to “improve benefits for Tanzania and Tanzanians.” The scale up would address the following challenges: difficulty in identifying suitable geological environment for artisanal miners, inadequate training and demonstration centers for ASM, and lack of knowledge in value addition (faceting, carving and jewelry), marketing and financial access.
3. The key activities under the SMMRP II which will have environmental and social impacts are detailed below:
 - i. Support through the Project to the ZMOs will include: (i) the extension of existing office facilities to create space for classrooms, conference rooms, information centers, workshops; (ii) the provision of demonstration materials; (iii) the preparation and dissemination of training manuals; and (iv) the training of trainers. All activities will be within the foot print of the existing Zonal Mining Offices (ZMO) in the urban areas, or mines established already and run by STAMICO. No new land is needed for the activities.
 - ii. The establishment of 7 Centers of Excellence in mining hot spots throughout the country. These demonstrating sites will benefit from the Project with upgrading of existing processing technology, as follows: mercury-free processing; mercury abatement treatments; and carbon separation for VAT leaching.
 - iii. Scaling up the current Small Grants Program under the Project, extending geographic eligibility to all seven zones. Small grant activities allow miners to upgrade technology on sites, to undergo training on specific mine skills, and to undertake organizational and business development training.
4. The World Bank has categorized SMMRP II as "**Category B**" in its environmental and social rating. The project triggers two World Bank Operational policies:
 - i. Environmental Assessment (OP/BP 4.01) : The policy is triggered since SMMRP-II is likely to have potential adverse environmental risks and impacts in its area of influence, albeit localized and site-specific. The rehabilitation of infrastructure

under the SMMRP II may have environmental impacts, which require mitigation. Some of the activities funded under the Small Grants program also may have impacts such as localized land degradation, tree cutting etc, which also will be site-specific and manageable.

- ii. Involuntary Resettlement (OP/BP 4.12): This policy is triggered as there could any loss of land resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not the affected people must move to another location.
5. The SMMRP II has developed an ***Environmental and Social Management Framework (ESMF)*** that identifies the various adverse and favorable impacts that may result during and after implementation of the SMMRP and includes screening procedures, steps for designing and implementing mitigation plans and assigns responsibilities for monitoring.
 6. The objective of the ESMF is to ensure that the implementation of the SMMRP II will be carried out in an environmentally and socially sustainable manner. This ESMF provides the project implementers with an environmental and social screening process that will enable them to identify, assess and mitigate potential environmental and social impacts of the project. This ESMF builds on the earlier document, prepared for SMMRP, and includes the environmental and social aspects of the new proposed activities and their mitigation measures. This ESMF outlines the following :
 - i. Potential Environment and social impacts of proposed activities and proposed generic mitigatory measures
 - ii. steps of the screening process from identification to approval of an infrastructure investment;
 - iii. environmental and social mitigation measures that can be applied and adopted;
 - iv. summary guidelines for conducting an EIA;
 - v. Grievance Redressal;
 - vi. Capacity building and awareness; and
 - vii. procedures for monitoring and reporting
 7. The Government has prepared a ***Resettlement Framework***. The Project will not finance any land acquisition or any activity which requires new land to be acquired. While no resettlement is envisaged or planned under the project, the Resettlement Framework will be available should a resettlement situation arise. The World Bank or the appropriate financial agencies will be consulted prior to action taken on this issue.
 8. Tanzania law does not allow for groups to be singled out by ethnicity. While there are several vulnerable groups in the project area, there are no known groups that meet the requirements of World Bank Policy 4.10 in the 7 sites selected under the SMMRP II. In addition, the activities are confined to the existing mines and there will not be any new mines funded under this project. If during the project implementation, it becomes clear that there are groups that meet the policy criteria, World Bank and the Government of Tanzania will address the issue and submit a Tier-1 Restructuring to the Bank's Board of Executive Directors for their approval. The ESMF seeks to institute a consistent and effective environmental and social screening process for application in all SMMRP II funded activities.
 9. A detailed Grievance Redressal Mechanism has been developed under the SMMRP-II project to address potential issues related to land acquisition and resettlement and the small grants investments or any other project associated activities. Communities and

individuals who believe that they are adversely affected by the project can also submit complaints directly to the World Bank's attention through its Grievance Redress Service (GRS)¹.

10. In terms of required mitigatory actions for the investments under this project:

- i. The selected beneficiaries of the Small Grants Program will need to complete a simplified ***Environmental Protection Plan (EPP)*** which will define clear and feasible mitigation measures. The EPP Template includes potential impacts, risk assessment and mitigation measures. The Zonal and regional Mining Officers will support the beneficiaries in completing the EPP, which will be reviewed and approved by Environmental Management Unit of the Ministry of Mining.
- ii. ***Environmental Impact Assessments*** will be undertaken for construction works at Zonal Offices based on the Guidelines for small civil works. The ESMPs will detail comprehensive environmental safeguard standards and mitigation measures, which will be incorporated in all contracts under the project.
- iii. ***Environmental Impact Assessments*** will be undertaken for the establishment of Centers of Excellence (on-site processing centers /ASM demonstration Facilities) followed by preparation of ***detailed Environmental and Social management Plans***. The ESIA/ESMPs will be prepared by independent consultants hired by the MEM/EMU. As per Government of Tanzania legal requirements, these ESIA and ESMPs will be approved by the local government Authority (LGAs). These ESMPs will **need to be approved by the World Bank** before they are contracted out.

11. The Ministry of Energy and Minerals (MEM) will perform a monitoring oversight function for the entire SMMRP II. The responsibilities for monitoring and evaluation of the mitigation measures are assigned at different institutional levels. The MEM will each year contract an Independent Monitoring Consultant(s) which will undertake overall assessment of compliance with the safeguard plans. Holders of mining Licenses (SSM/LSM) are responsible for conducting Environmental and Social Impacts Assessment and resettlement of project affected people. Beneficiaries who do not comply with safeguards requirements even after the corrective action was agreed will be excluded from the future SMMRP Small Grants. Agents/consultants will be appointed by MEM to implement the various components of the Project. These agents will be provided with the necessary financial resources to implement the ESMF and will provide significant additional managerial and technical expertise.

12. The National Environment Management Council (NEMC) will perform an enforcement-monitoring role supported by the MEM, and the Local Government Authorities and Regional Secretariat (LGARS) based on submissions and recommendations from the Environmental Management Officers at the different LGRA levels. NEMC would primarily achieve this objective through periodic field visits, supporting the Training Program and through technical assistance and backup services to the Local Governments. An **independent assessment of the ESMF implementation under SMMRP II** will be commissioned by MEM and undertaken 6 months before project closure.

¹ For information on submitting complaints to the World Bank's corporate Grievance Redress Service (GRS), <http://www.worldbank.org/GRS>.

For information on submitting complaints to the World Bank Inspection Panel : www.inspectionpanel.org.

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LIST OF ABBREVIATIONS

AMD	Acid Mine Drainage
ASM	Artisanal and Small Scale Mining/Miners
CBO	Community Based Organisation
DC	District Commissioner
DED	District Executive Director
DEMC	District Environment Management Committee
DEMO	District Education Officer
DFID	Departmental For International Development
EIA	Environmental Impact Assessment
EMA	Environmental Management Act of 2004
EMC	Environmental Management Committee
EMO	Environmental Management Officer
EMP	Environmental Management Plan
EMU	Environmental Management Unit (MEM)
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
GGM	Geita Gold Mine
GoT	Government of Tanzania
GST	Geological Survey of Tanzania
HQ	Headquarters
LGARSs	Local Government Authorities and Regional Secretariat
LSM	Large Scale Mining
LSMs	Large Scale Miners
MCIMS	Mining Cadastral Information Management System
MDG	Millennium Development Goals
MEM	Ministry of Energy and Minerals
ML	Mining License
MLHHS	Ministry of Lands, Housing and Human Settlements
MoF	Ministry of Finance
NEMC	National Environmental Management Council
NEP	National Environmental Policy
NGOs	Non Government Organizations
NSSF	National Social Security Fund
PMLs	Primary Mining Licenses
PMO-RALG	Prime Minister's Office - Regional Administration and Local Government
PSIA	Poverty and Social Impact Assessment
RAP	Resettlement Action Plan
RMO	Resident Mines Officer
SACCOS	Savings and Credit Cooperatives Society
SEA	Strategic Environmental Assessment
SESA	Strategic Environmental and Social Assessment
SHE	Safety, Health and Environment
SMAP	Small Miners Assistance Program
SMEs	Small and Medium Entrepreneurs
SML	Special Mining License
SMMRP II	Sustainable Management of Mineral Resources Project Phase II
SSM	Small Scale Mining

SSMs	Small Scale Miners
STAMICO	State Mining Corporation
TACAIDS	Tanzania Commission for Aids
TGC	Tanzania Geomological Centre
UCC	University Computing Centre
UNIDO	United Nations Industrial Development Organization
URT	United Republic of Tanzania
VMAC	Village Management Aids Council
VPO – DoE	Vice President's Office - Department of Environment
WB	World Bank
WMAC	Ward Management Aids Council
ZMO	Zonal Mines Officer

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DEFINITIONS

Environmental Impact

An effect (both positive and negative) on an environmental resource or value resulting from infrastructure development projects.

Environmental and Social Impact Assessment (ESIA)

A systematic procedure for enabling the possible environmental and social impacts of development projects to be considered before a decision is made as to whether the project should be given approval to proceed.

Strategic Environmental and Social Assessment (SEA/SESA)

The process of managing the environmental and social aspects at the level of policies, plans and programs or projects from the earliest stages. It involves identifying the potential activities to their completion and evaluation with their associated potential impacts. The process also proposes mitigation measures to avoid minimize, mitigate or compensate for adverse impacts; and develop appropriate management and monitoring plans.

Environmental Impact Assessment

An environmental assessment instrument to identify and assess major potential environmental impacts of proposed sub-projects, evaluate alternatives and design appropriate mitigation, management and monitoring measures.

Environmental Management Plan

An instrument that details the measures to be taken during and after implementation of a project to eliminate or offset adverse environmental impacts or to reduce them to acceptable levels; and the actions needed to implement these measures.

Environmental Monitoring

Monitoring is the systematic measuring and recording of physical, social and economic variables associated with project impacts. The objective of monitoring is to provide information on the characteristics and functioning of the occurrence and magnitude of impacts, and whether mitigation measures have been carried out.

Environmental Review

An environmental assessment instrument in which the sub-projects are likely to have minimal impacts, but are to be reviewed using a standardized checklist to identify possible impacts and appropriate mitigation measures.

Environmental Screening

A process of identifying the potential adverse environmental and social impacts of proposed sub-projects and, based on the level of impact anticipated, the corresponding level of environmental assessment required (*i.e.*, the most appropriate environmental assessment instrument needed to address potential impacts and environmental issues associated with sub-projects). The screening process indicates whether an environmental assessment is required for a particular sub-project and, if it is required, which of the three environmental instruments (Environmental Review, Limited Environmental Assessment, or Environmental Impact Assessment) should be applied.

Limited Environmental Assessment

An environmental assessment instrument used to assess whether a sub-project is likely to cause environmental impacts that merit consideration by an environmental specialist, and which mitigation measures should be incorporated into the sub-project design. Detailed checklists, customized for different types of sub-projects, would normally be used and supplemented on a case-by-case basis.

Resettlement Policy Framework

The Process Framework is an instrument of the United Republic of Tanzania prepared in compliance with the World Bank Safeguard Policy on Involuntary Resettlement (OP4.12). The purpose of the Process Framework is to clarify principles, organizational arrangements and design criteria to be applied to the implementation of SMMRP II.

Environmental and Social Management Framework

Is the document that sets out the conditions under which Environmental and Social Management will be developed. This is usually a contextual document that defines the parameters, principles, organizational arrangements and design criteria to be applied to the implementation of SMMRP II.

Public Consultation

The process of engaging affected people and other interested parties in an open dialogue through which a range of views and concerns can be expressed in order to inform decision-making and help build consensus.

Scoping

The process for identifying the key issues of concern associated with project that will be considered during detailed studies of SEA/SESA/EIA development. The process also identifies potential environmental and social impacts of the project to be evaluated. In the process, consultations with principal stakeholders are required in order to inform them about the proposed project activities, and to solicit their views.

Stakeholders

Stakeholders are those affected by the outcomes (negatively or positively) or those who can affect the outcome of a proposed intervention. Stakeholders can include: borrowers; directly affected groups including the poor and disadvantaged; indirectly affected groups such as NGOs and private sector organizations; and the World Bank management staff, and shareholders.

Sub-Projects

Sub-projects are initiatives undertaken as supported by the WB. Sub-projects are aimed at supporting income generation within communities in mining regions. Initiatives may include the demand of technical, physical or social services, including Alternative Income Generating Activities (AIGAs).

Artisanal and Small-Scale Miners (ASMs)

In the context of this framework, and as most people involved in the mineral sector imply, small-scale miners are those working in Primary Mining License areas and Artisanal miners are those individuals mining haphazardly without having any legal mineral rights.

CHAPTER 1: INTRODUCTION AND PROJECT BACKGROUND

1. OVERVIEW OF THE MINERAL SECTOR

Tanzania's mining industry has experienced a boom in the past 15 years. Notable developments during the boom period include the commissioning of Six large-scale gold mines, increase in the country's annual gold production from less than one tonne per annum in 1998 to about 40 tonnes in year 2013; rapid growth of the mineral sector making the mineral sector the second fastest growing sector after tourism, and increasing contribution to the GDP from 2.0% in 1998 to 3.5 % in 2007 based on 2001 prices. The cumulative total direct foreign investment (FDI) in the mining sector in Tanzania in the past fifteen years now exceeds US\$ 406.5 million and employs around 1% of wage earners.

Factors that led to the achievements in the mineral sector in Tanzania include geological environment; major economic reforms which have been undertaken since mid 1980's; a new mineral policy (2009); enactment of internationally competitive fiscal and legal regimes for the mineral sector (2010); and political stability of the country. This achievement poses a challenge to Tanzania as more goods and services are needed to support this fast growing sector. Capacity building is thus essential to meet the demands in the country for essential services such as reliable power supply, mining equipment and other consumables for the mining industry.

1.1. Small-Scale Mining

Artisanal and small-scale mining (ASM) has been a source of livelihood for a significant number of people in Tanzania for centuries. There are an estimated 500,000 to 1 million artisanal miners currently active, according to the Tanzanian Chamber of Minerals and Energy², with a more specific number of 680,000 being estimated in a recent World Bank study.³ Artisanal and small-scale miners in Tanzania mostly mine gold, gemstones and diamonds.⁴ Small scale gold mining areas are located in many parts of Tanzania, some being in the well known greenstone belts of the Lake Victoria zone north of Tanzania, Singida – Sekenke in the central part and some in other parts of the country in Proterozoic system such as Mpanda goldfields in the western part ; Lupa goldfields in the South-western highlands. Some of the recent discoveries include Mbinga areas in the southern part bordering Mozambique; Sambaru and Londoni areas in the central-part, and Morogoro, Kilindi and Handeni in the eastern part of the Country.

Almost all of the newly discovered areas have been pioneered by small scale miners. With the favorable price of gold worldwide, SSM have continued to exploit gold from the traditionally gold mining areas of the Lake Victoria goldfields, Mpanda goldfields, Lupa goldfield, Sekenke goldfields, etc. Small Scale gold mining is undertaken using rudimentary

² As cited in Anglo Gold Ashanti (n.d.). Case Study: Tanzania. Available online at: http://www.anglogold.com/subwebs/InformationForInvestors/reporttosociety04/values_bus_principles/community/c_cs_tzn_7_11.htm (Accessed January 2014)

³ IFC (2013) Multi-stakeholder Partnership (MS) to improve ASM-LSM cohabitation in Tanzania. IFC Sustainability Summit. June 20, 2013

⁴ UNEP, 2012. Analysis of formalization approaches in the artisanal and small-scale gold mining sector based on experiences in Ecuador, Mongolia, Peru, Tanzania and Uganda: Tanzania Case Study. Available online: http://www.unep.org/hazardoussubstances/Portals/9/Mercury/Documents/ASGM/Formalization_ARM/Case%20Study%20Tanzania%20June%202012.pdf (Accessed January 2014)

methods due to lack of capital to acquire new and modern equipment to mine the minerals. Mining activities usually flourish in the initial periods as mining is undertaken to recover easily accessible sub-surface deposits; benefitting most of the miners. However, as gold reefs/veins get deeper, the water problem becomes serious requiring heavy pumps to drain mine workings to allow mining to continue. However, as gold reefs/veins get deeper, mining becomes difficult, expensive and slower, requiring significant capital which is beyond reach for the majority of SSM to purchase powerful generators and submersible water pumps

Communities surrounding the mine sites have been and will continue to benefit through: improved social services, employment opportunities, supply of local goods and services, which in turn has improved their livelihood. The Government also benefits from formalized ASM through collection of revenues. However, formalization of the activities of ASM has been a challenge to the Government of Tanzania. These challenges include issues of illegal mining and land conflicts, as well as low levels of efficiency and transparency, coupled with poor practices and negative social and environmental impacts. Timely collection and management of data on ASM is also a challenge and, where data is collected, accuracy and reliability of data is an issue.

Artisanal and Small-scale Mining (ASM) is characterized by the use of rudimentary tools and techniques, with high levels of manual labor, to extract, transport, process and trade minerals. It is often carried out under poor working conditions and precarious security causing negative social and environmental impacts. Lack of technical resources and knowledge often result in a poor capture rate for benefits and low levels of production efficiency. However, despite these challenges, it is also an important livelihood for millions of men and women providing either a primary, supplementary, seasonal or emergency income source which may be much higher than that gained from other occupations and, importantly, is an immediate source of cash compared to other longer-term income-generating activities. ASM was the major producer of minerals in Tanzania between 1987 and 1997 and, despite the increase in industrial Large-Scale Mining (LSM), the artisanal sector continues to provide an important livelihood for some 680,000 people. ASM occurs throughout Tanzania, producing gold, diamonds, gemstones, tin, salt, limestone, dimension stone, gypsum, sand and gravel.

The Government of Tanzania is continuously working to address the formalization of ASM and ensuring that the sector is beneficial to the miners and well as the nation as a whole. Among other things, SMMRP aims at improving ASM through ensuring access to grants for miners to help improve mining practice and increase productivity. The project is also ensuring that miners are supported to have alternative livelihoods alongside or outside mining as well as maximizing opportunities for synergies in improving ASM.

1.2. Participation of women and children in the mining sector

Mining is historically a male- dominated industry. The under representation of women reflects social and economic inequalities between men and women. Apart from these, cultural beliefs and traditions do not allow women in mining pits as they are considered by male miners to be unclean. However in Tanzania women seclusion was partly restricted to poor tools that require masculine power. Typically women were engaged as labourers carrying and crushing ore, using hand hammers or pestle and mortars and sieving as was observed at Sambaru gold mines and Chunya mines.

The percentage of women in small scale mining is highest in Africa (40 -150%) as compared to Asia. For example about 137,1500 women are engaged in SSM as compared to 1500 in S.

Africa.(ILO, 1999), Amutabi et-al, 2002), Onu (2002). Dreschler,(2001) reports that 215% of Tanzania's 1500,000 artisanal and small scale miners are women and notes that Gemstone mining is the most important sectors for women although gold and other minerals are also important. A study of gender issues in Small Scale mining in Mukibiri, Kenya(Amutabi et-al (2001) indicated that women play a central part in Artisanal mining and that women tend to spend their proceeds from mining on their families and that women pass down their expertise to younger generations.

The process of mining underground produces fine dust that was reported to cause respiratory problems including diseases such as chronic bronchitis, asthma and tuberculosis. Women were also reported to sieve mud, old tailings and crushed rock that is often is contaminated with Mercury in search of left over gold and trash gemstones. Women and children are rendered vulnerable by spending too much time and energy for no or little returns while at the same time they are exposed to health hazards. Women were mostly engaged in non-mining activities as providers of goods and services ranging from food vending, barmaids, and domestic chores. Participation of women in the mining sector in Tanzania is presented in Table 1.

Table 1: Participation of Women in Mining by Mineral Type

Commodity	Direct	Indirect	Total
Gold	8,400	41,810	150216
Diamond	1523	15015	1028
Gemstone	17866	150430	74296
Salt	9876	715815	17464
Aggregates	14	37	62
Dimension stones	9920	7699	17619
Total	461599	114066	1606815

Source: Dreschler,2001

2. SUSTAINABLE MANAGEMENT OF MINERAL RESOURCES PROJECT (SMMRP)

The Government of the United Republic of Tanzania through the Ministry of Energy and Minerals has been implementing the Sustainable Management of Mineral Resources Project (SMMRP) since 2009, whereas phase one of the project is due to end in June, 2015. The project aims at:

- (i) Improving small-scale and artisanal mining and the associated social, economic and environmental impacts;
- (ii) Strengthening of good governance, transparency and operational capacity within the mineral sector;
- (iii) Improving the economic and social benefits of the sector, including initiatives for local and regional developments and private sector developments; and

- (iv) Strengthening of sector management and coordination including inter-agency linkages.

Formulation of the Project was in line with the Government drive to improve overall management of the Mineral Sector to maximize benefits to the investors and the nation as a whole.

The project was designed to have four (4) components, as detailed below:

2.1. Component A: – Improving the Benefits of the Mineral Sector for Tanzania: Artisanal and Small-Scale Mining, Local Economic Development and Skills Development

Main objective of this component was to support the implementation of the national strategy to develop artisanal and small-scale mining⁵ (ASM) which aims at improving sustainability of small-scale mining and addressing technical, environmental and social conditions of small-scale mining operations. The component also addressed the skills development required for the mineral sector. The project under this component supported activities aimed at:

- (a) Improving the information about small-scale and artisanal mining through baseline studies;
- (b) Providing the improved extension services for artisanal and small-scale miners;
- (c) Stimulating development of industrial minerals and value added activities;
- (d) Improving small-scale miners' access to credit facilities;
- (e) Ensuring that local governments integrate mining issues into district economic and administration planning; and
- (f) Deploying the human resources development for the mineral sector.

2.2. Component B: - Strengthening Governance and Transparency in Mining

The main objective of this component was to strengthen governance and transparency in mining by:

- (a) Reforming the legal, regulatory and fiscal regimes for the Mineral sector in Tanzania;
- (b) Building institutional capacity for the Ministry of Energy & Minerals particularly strengthening the auditing and inspection functions of MEM and strengthening linkages and co-ordination with other government institutions that take part in the administration of the mineral sector;
- (c) Improving the Mining Cadastre Information Management System (MCIMS), which manages processing and administration of mineral rights. This will strengthen good governance and transparency in mineral rights administration;
- (d) Conducting an Environmental and Social Management of the project to support proactive and reactive activities aimed at addressing environmental and social aspects of mining, based on the findings and recommendations of a baseline survey for ASM and PSIA studies;

⁵ Mikakati ya Kuwaendeleza Wachimbaji Wadogo, 2006 (rev. 2009)

- (e) Strengthening Environmental monitoring capacity in the HQ, RMO, ZMO and LGARS through training and technical support and improving work environment;

2.3. Component C. – Stimulating Mineral Sector Investment

The main objective of this component was to improve geo-scientific information by acquiring new information and updating existing data and information. The upgraded information was to be used to facilitate promotion of private investment in exploration and mining and to support adequate planning of the mineral development. The project supported the following:

- (a) Strengthening of the Geological Survey of Tanzania (GST) to make it a geological centre of excellence in Africa. The project backed the GST to:
 - i. Complete high resolution airborne geophysical survey, ground follow-up through geophysical and geochemical surveys, and geological mapping;
 - ii. Update and publish existing geological maps for selected areas at scale of 1:100,000;
 - iii. Digitize and upgrade the existing Geological and Mineral Information System (MIS);
 - iv. Strengthen the GST;
 - v. Update and maintain map library, rock and core-archives; and
 - vi. Make geo-scientific data and information readily accessible to the stakeholders.
- (b) Future Role of State Mining Corporation (STAMICO): This sub-component financed a strategic assessment of STAMICO, exploring existing institutional capacity and options for self-financing, as a pre-condition for its future role with the private sector for both, large-scale and small-scale opportunities.
- (c) Strengthening of the Mineral Sector Investment Information and Promotion of mineral resources of Tanzania. The project will link up the Geological Survey of Tanzania and the Mineral Rights Registry databases.

2.4. Component D: Project Coordination and Management.

This component supported the Project implementation, including coordination, procurement, financial management and disbursement, which were managed by the Ministry of Energy and Minerals (MEM).

3. PROGRESS UNDER SMMRP

The Progress of the original Project can be summarized as follows:

3.1. Component 1

The project successfully delivered on key activities, including: completion of baseline and design of an database for ASM; roll-out of a Small Grants Program for ASM operators with a total of US\$1 million in grants committed as of November 15th 2014 to 20 grantees; initiation of participatory planning processes in 3 Districts with the intention to integrate mining communities into the service delivery plans of Local Government Authorities (LGA); development of a local content policy that is now under draft review and public consultation; and on-going support to value-addition activities at the Tanzania Gemological Centre (TGC).

The initial success of these activities provides the rationale for scale-up through this present Additional Financing.

3.2. Component 2

The project has successfully completed a number of important legislative reviews, resulting in the update of the regulatory framework (revised Mining Act of 2010 and the associated Mining Regulations). To improve the ability of mine officials to enforce the revised Act and its regulations, zonal and regional mine offices in select areas were refurbished and supplied with modern inspection equipment and field gears, including motor vehicles for more regular site monitoring visits. The upgrade of the mining cadastre system resulted in clearing backlogs related to the issuance of mining licenses. As of November 2014, the new system had registered a total of 14,880 primary mining licenses.

3.3. Component 3

The component focused on generating new geological data capable of attracting new mining investment from the private sector. Airborne geophysical surveys increased the country's data coverage from 3.1% to 15.8% and increased the digitization of Tanzania's past mineral data from 39% to 60%.

3.4. Sub-Component for strengthening environmental and social management

The subcomponent was successfully implemented, resulting in a much stronger safeguard framework for the mining sector. Recognizing the nature and sensitivity of the mining and environmental impacts associated with it, MEM established an Environmental Management Unit (EMU). Since its inception, EMU has been working with NEMC to make sure that social and environmental impacts of mining activities in the country are minimized. The goal was to support efforts to address environmental and social aspects of mining based on the baseline survey's findings and recommendations for artisanal and small-scale mining and the SESA studies. Activities supported by this sub-component included (a) strengthening the EMU (training and equipment) so it was able to execute its functions effectively; (b) conduct a Strategic Environmental and Social Assessment (SESA); (c) conducting a Poverty and Social Impact Analysis (PSIA) ; (d) establishing an environmental database linked to Mining Cadastral and Geological and Mineral Information System (MIS); (e) preparing and updating environmental and social guidelines and codes of practice (based on results of SESA) on issues such as mine closure, small-scale mining and mercury, consultation and gender, community complaint mechanisms and resettlement framework based on internationally accepted best practices; (f) environmental and social awareness programs in small- and large-scale mining areas; (g) development of a framework for abandoned mines; and (h) strengthening environmental monitoring capacity at MEM headquarters, RMOs, ZMOs, and LGAs through training and technical support and improving work.

4. PROPOSED NEW ADDITIONAL FINANCING: SMMRP-II

On January 22, 2014, the GoT requested the Bank to consider additional financing (AF) to expand some activities to scale-up the project's poverty reduction impact and development effectiveness. The rationale for the request was to support ASM as a means of widening the socio-economic benefits of mining to the population, especially in rural areas. In the request letter, the client identified the following challenges to the sustainable development of ASM:

- difficulty in identifying suitable geological environment for artisanal miners;

- inadequate training and demonstration centers for artisanal and small scale mining (ASM);
- lack of knowledge in value addition (faceting, carving and jewelry); and
- marketing and financial access.

4.1. Component A: Improve the Benefits of the Mineral Sector for Tanzania by addressing Small-scale and Artisanal Mining, linkage of the mineral sector with local economies and development of human resource for the mineral sector. Activities under this component focus on capacity building, whether to government or small-scale miners as the beneficiaries.

4.1.1. Component A.1 : Centers of Excellence

The establishment of Centers of Excellence in mining hot spots throughout the country serves to catalyze the technical, financial, environmental and social transformation of ASM. Seven centers have been identified based on the importance of ASM operations, their potential to become viable and environmental sound growth poles for local small- and medium-scale mining enterprises, and the degree to which environmental and social risks could be managed. All activities will be within the foot print of the existing Zonal Mining Offices (ZMO) in the urban areas, or mines established already and run by STAMICO. No new land is needed for the activities under this component as a result. This sub-component combines on-site training in existing ZMO with on-site demonstration activities in established mines owned by the government agency, STAMICO. The Demonstration sites will model environmentally-sound processing techniques, with emphasis on alternatives to mercury use. It has been determined that the World Bank's Indigenous People's Operational Policy is not triggered in the areas proposed. (See Chapter 4, section 2.2)

- i. The ZMOs are in: Musoma, Songea, Mbeya, Geita, Mwanza, Kahama, Mtwara, and Mpanda. Support through the Project to the ZMOs will include: (i) the extension of existing office facilities to create space for classrooms, conference rooms, information centers, workshops; (ii) the provision of demonstration materials; (iii) the preparation and dissemination of training manuals; and (iv) the training of trainers.
- ii. ASM demonstration Facilities are in: Buhemba, Mbesa (Tunduru), Chunya (Itumbi), Rwangasa, Keyrwa, Katente, Nachingweya, and Kaparamsenga. These demonstrating sites will benefit from the Project with upgrading of existing processing technology, as follows: mercury-free processing; mercury abatement treatments; and carbon separation for VAT leaching. The purpose of the demonstrating site is to provide small-scale miners, who benefit from training conducted in the ZMO, with hands-on experience in technology use.

4.1.2 Component A.2: Geological Ground Works

No further airborne survey work is to be conducted. Rather, the requested AF will support targeted geological ground works in ASM areas that benefited from airborne surveys under the original Project. These are on government lands that are unoccupied. The purpose is to provide small-scale miners with geological information that will guide improved mine development on the existing Primary Mining Licenses. By further confirming geological prospectivity, the government can better assist Primary Mining License (PML) holders to develop model small-scale mines conforming to international best practice and national ASM

regulations. The Geological Survey of Tanzania (GST) will work directly on sampling and testing in this target area, and will provide the PML holders with basic training on data interpretation. The Geological Survey of Tanzania (GST) will perform works under this sub-component. Areas targeted correspond with the seven mining zones under Component A.1.

4.1.3 Component A.3: Small Grants to Small-Scale Miners

The requested AF scales up the current Small Grants Program under the Project, extending geographic eligibility to all seven zones mentioned in Component A.1. Small grant activities allow miners to upgrade technology on sites, to undergo training on specific mine skills, and to undertake organizational and business development training. A 30% quota for women beneficiaries in the Small Grants Program is retained, as was in the original Project. The management of the Small Grant Program will draw on the financial services of the Tanzania Investment Bank Ltd. who handles procurement and fiduciary aspects of the Small Grants Program under a contract with the Ministry of Energy and Minerals. Annex V shows a detailed description of the Small Grants Program.

4.1.4 Component A.4: Value Addition

The main beneficiary of this sub-component is the Tanzania Gemological Center (TGC). The aim is to support the transformation of TGC into a regional hub for training and marketing of gemstones. The activities supported include: (i) training and support to enable Tanzanians to work independently in value added activities and become investors in this sector; (ii) piloting initiatives for “fair trade” in ASM products; (iii) financing some costs related to the Tanzania International Gem Show which draws together gemstone traders and international buyers to showcase Tanzanian products for export into the world's gem markets; and (iv) assisting to TGC to build strategic partnership for capacity building and marketing with world-class gem training and marketing centers in Asia and America.

4.1.5 Component A.5: Integrating Mining Community Development Priorities into Local Government Planning

The main beneficiary is local government in the seven districts covered by the Additional Financing. The objective is to scale up of the linkages program between mining and the local economy through the following activities: (i) assessing budgetary structures in certain districts, and piloting the mainstreaming of mining into strategic planning at district level in the areas covered by the project; (ii) developing policies and procedures for local government provision of social services in ASM areas; (iii) assistance in the design of community-driven development projects; and (iv) assessment of local content opportunities and preparation of local procurement strategies aimed at enabling entrepreneurs to provide goods and services to large and medium scale mines.

4.2. Component B (US\$5 million): Strengthening Governance and Transparency in Mining

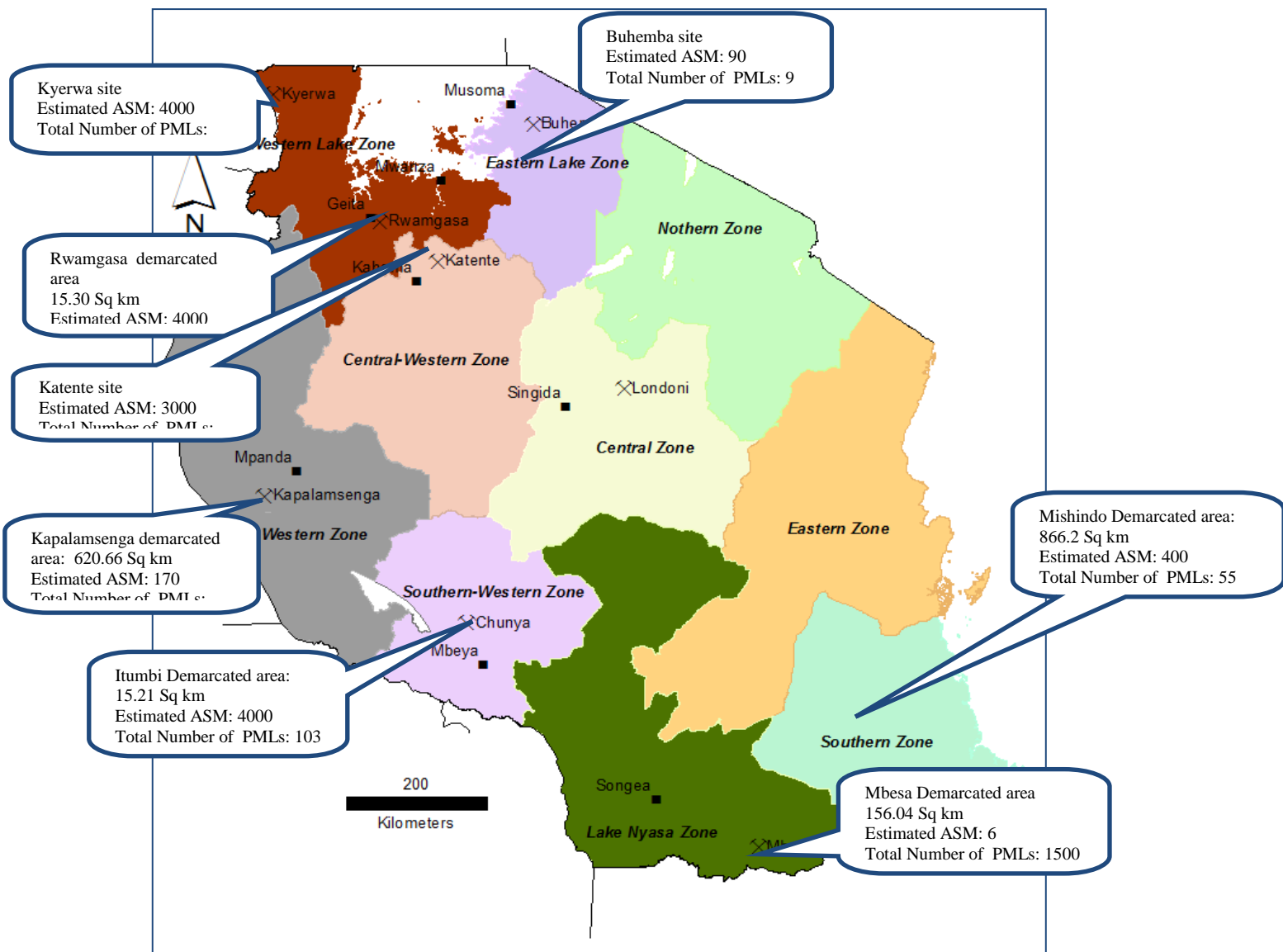
4.2.1 Component B.1: Several institutions will benefit from this sub-component aimed at addressing regulatory gaps and strengthen the legal framework. The Tanzania Mineral Audit Agency (TMAA) and Tanzania Revenue Authority (TRA) will work to integrate ASM operations into the tax revenue collection model. The Ministry of Energy and Minerals will complete a number of outstanding regulatory gaps, namely: (i) its mine closure policy and Environmental Protection Plan for ASM; (ii) data integration using the platform of the the new online licensing system, (iii) strengthening the mine inspection procedures; (iv)

preparing the implementation regulations of the the new Explosives Act, and (iv) preparing the implementation of the regulations of the new Value Addition Act/Bill. The Tanzanian EITI National Committee will conduct a value chain audit on ASM in order to mainstream ASM into the revenue reporting procedures of the EITI process.

4.3. Component C (US\$ 0 million): Stimulate Mineral Sector Investment. No new activities are anticipated under this Component.

4.4. Component D (US\$1.2 million): Project Coordination

Figure 1: Map of Project sites and their description



CHAPTER 2 POLICY FRAMEWORK

1. WORLD BANK OPERATIONAL POLICIES

The World Bank has given increasing attention to the assessment of environmental impact of investment projects and requires environmental assessments for all projects it is to finance. Its ten safeguards policies, aimed at preventing and mitigating undue harm to people and their environment in the development process, also provide a platform for the participation of stakeholders in project design and implementation.

Environmental consequences should be recognized early in the project cycle and taken into account in project selection, siting, planning, and design by preventing, minimizing, mitigating or compensating for adverse environmental impacts and enhancing positive impacts. Environmental Assessment (EA) includes the process of mitigating and managing environmental impacts throughout project implementation. The World Bank Group's Environmental Assessment Sourcebook (1993) and its updates (1996, 1997), IFC's Environmental and Social Performance Standards and Guidance Notes, Environmental, Health and Safety Guidelines for Mining; IFC's Environmental, Health, and Safety Guidelines all provide technical guidance on these issues. The objectives of the gainful use of these guidelines, wherever relevant and necessary, are to provide for a sustainable stream of direct or indirect benefits to alleviate poverty and to enhance community income and environmental protection.

The SMMRP-II is expected to have positive environmental and social impacts by improving environmental and social management in the mining sector, promoting modern technologies and enhancing environmental and social management capacity in the Ministry of Energy and Minerals (MEM). The Project triggers OP 4.01 on Environmental Assessment and OP 4.12 on Involuntary Resettlement, and is classified as Category B since the project impacts are site-specific and well identified and have established mitigatory measures which can be designed and implemented.

As a technical assistance operation, most of the activities have limited physical "footprint," and focus on policy and regulatory strengthening. Project activities, namely stationary and mobile demonstration units promoting progressive mining technologies for small-scale mining, and airborne geophysical survey and geological survey, may have localized and limited adverse environmental and social impacts (such as noise, dust, mining waste disposal, water pollution, and occupational health and safety impacts). The small grants program will support Artisanal gold miners to acquire appropriate equipment, tools and consumables that will increase production and add mineral value. Improvement of the policy and regulatory framework under the project may also lead to future increases in commercial scale mining, ASM activities, and associated environmental and social impacts. The alternative livelihood activities such as agriculture and petty trade and small business and community-driven development initiatives funded under the Small Grant Program can have potential environmental footprint, if not appropriately managed.

The following two Operational Policies are applicable to the project, as detailed in Table 2 below:

Policy	Summary of Core Requirements	Public Consultation	Relevance to SMMRP
Environmental Assessment (OP/BP 4.01)	Screen early for potential impacts and select appropriate instruments to assess, minimize, and mitigate Potentially adverse impacts.	Consult affected groups and non-governmental organizations (NGOs) as early as possible (for Category A and B projects)	The policy is being triggered since SMMRP-II is likely to have potential adverse environmental risks and impacts in its area of influence. The rehabilitation of infrastructure under the SMMRP II may have environmental impacts, which require mitigation. Some of the activities funded under the Small Grants program also may have impacts such as localized land degradation, tree cutting etc. The potential impacts are detailed in Chapter 4
Involuntary Resettlement (OP/BP 4.12)	The objective of Involuntary Resettlement is to avoid or minimize involuntary resettlement where feasible, exploring all viable alternative project designs. Assist displaced persons in their efforts to improve or at least restore their standards of living.	Consult project affected persons and host community; incorporate expressed views in resettlement plans; list choices made by project affected persons.	This policy is being triggered as there could any loss of land resulting in: relocation or loss of shelter; loss of assets or access to assets; loss of income sources or means of livelihood, whether or not the affected people must move to another location. The Government has prepared a Resettlement Framework. The Project will not finance any land acquisition or any activity which requires new land to be acquired. While no resettlement is envisaged or planned under the project, the Resettlement Framework will be available should a resettlement situation arise. The World Bank or the appropriate financial agencies will be consulted prior to action taken on this issue
Natural Habitats (OP/BP 4.04) Forests (OP/BP 4.36)			The project activities will neither support promotion or expansion of mining sites nor does it increase the numbers of miners. Existing small-scale mines with authorized licenses will be assisted to promote better environmental practices on existing sites. Therefore this project will not result in expansion of mining activities into natural habitats or infringement into forests and therefore the policies is not being triggered
Indigenous Peoples (OP 4.10) 1	Identify adverse impacts and develop a plan to address them. Design benefits to reflect the cultural preferences of indigenous peoples.	Consult indigenous people throughout the project cycle.	Tanzania law does not allow for groups to be singled out by ethnicity. While there are several vulnerable groups in the project area, there are no known groups that meet the requirements of World Bank Policy 4.10 in the 7 sites selected under the SMMRP II. In addition, the activities are confined to the existing mines and there will not be any new mines funded under this project. If during the project implementation, it becomes clear that there are groups that meet the policy criteria, World Bank and the Government of Tanzania will address the issue and submit a Tier-1 Restructuring to the Bank's Board of Executive Directors for their approval.

Source: WB, Simplifying Safeguards: Addressing Environmental & Social Issues in Education Projects, SMART, Feb. 1, 2004.

As a technical assistance project, the SMMRP II is expected to have minimal direct environmental and social impacts. However, some of the proposed Project activities (e.g., related to artisanal and small-scale mining) may have direct or indirect impacts that need to be identified and mitigated.

2. INTERNATIONAL INSTRUMENTS AND AGREEMENTS

Table 3 lists the international agreements relevant to management of mineral resources, identifying those on which the URT is a signatory country. All government-supported projects should be consistent with these international obligations. In some cases, there are clear linkages to SMMRP activities in support of the fulfillment of the international agreements.

Table 3: International Agreements Applicable to Mineral Resources

Level	International Agreements Relevant to Management of Mineral Resources	Role and Responsibility
International Level	Multilateral Investment Guarantee Agency (MIGA)	<ul style="list-style-type: none"> • Review client assessment • Assist the client to manage an Environmental and social risks and impacts for their project. • Review in any new business activities that are being considered for MIGA guarantee Support. • Support client in anticipating and addressing specific risk, impacts and opportunities and help to build its/client capacity to manage these throughout the life of the project.
	EITI	<ul style="list-style-type: none"> • Builds capacity • Enhances international credibility • Creates a more attractive investment climate • Increases prosperity and economic well-being • Advances democracy and accountability • Affirms commitment to fighting corruption • Reduces conflict.
	Kimberly Process (Diamond)	<ul style="list-style-type: none"> • Ensures that Diamond trade take action to eliminate the trade in blood diamonds. • Establishment of an international diamond certification scheme. • Set up control systems for the import and export of rough diamonds.
	Tucson Protocols for Tanzanite	<ul style="list-style-type: none"> • Increase transparency and accountability in the tanzanite trade. • Maintenance of Accurate data base system. • Establishing stable relation between SSM and LSM. • Improved Methods of Tanzanite Mining.

	<p>International conference on the great lakes (ICGLR Certification Mechanism</p>	<ul style="list-style-type: none"> • Enable the issuance of the ICGLR Certificate of Origin for Tungsten, Tantalite and Tin (3t's) • Fight against Illegal Exploitation of Natural Resources in the Great Lake Region. • Obligated under the Lusaka Declaration • To meet the standards of the international market, • To control extraction and flow of 'conflict' minerals, • To eradicate the link between mineral revenues and the financing of illegal armed groups that cause insecurity and instability in the Region and promote the role of the mining sector in the economic and social development of the Member States.
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3. NATIONAL LEGAL REGIME

Tanzania has a globally competitive and investor-friendly Mining Act, which was enacted in 2010. The Act guarantees investors' security of tenure, repatriation of capital and profits, and transparency in the issuance and administration of mineral rights. It also addresses environmental and social concerns adequately.

3.1. The Mining Act (1998 and 2010)

Principal legislations in the Mineral sector are the Mining Act, 2010, and the Explosives Act, 1963. The following regulations are made under Mining Act: also apply:-

- The Mining (Mineral Rights) Regulations, 2010
- The Mining (Environmental Protection for Small Scale Mining) Regulations, 2010
- The Mining (Safety, Occupational, Health and Environmental protection) Regulations, 2010
- The Mining (Mineral Beneficiation) Regulations, 2010
- The Mining (Mineral Trading) Regulations, 2010
- The Mining (Radioactive Minerals) Regulations, 2010
- The Explosives Regulations, 1964

The Mining Act (1998), which is the primary mining law, required any minerals project to have a **detailed Environmental Impact Statement (EIS)** and Section 10(c) of the Mining Act, 1998 clearly stated that development agreements may contain binding provisions relating to, "environmental matters, including in respect of matters which are project specific and not covered by regulations of general application, provisions intended to define the scope, and as may be appropriate in any particular case, limit the extent of the obligations or liabilities of the holder of a special mining license"

The Mineral Policy (2009) recognizes the need to ensure sustainability in mining and the importance of **integrating environmental and social concerns** into mineral development programs. The policy highlights the need to balance the protection of flora and fauna and the natural environment with the need for social and economic development.

The Mining Act (2010) together with the national environmental legislation governs the environmental management of mining projects. The Act has been amended to include prospecting activities for small-scale miners and addresses licensing barriers by increasing

Primary Mining License (PML) tenure to be processed at regional zonal offices. The Act widens the playing field considerably for artisanal and small-scale miners. Specific regulations were made under the Act requires holders of PMLs to conduct **baseline environmental investigation and social studies** with regard to human settlement, burial sites, cultural heritage sites, water, vegetation, animals and soil, and **prepare an Environmental Protection Plan** to mitigate the environmental impacts in the licensed area. PMLs are required to pay all liabilities, including employees' entitlement, **mine closure and environmental rehabilitation costs** as may be necessary for the termination of mining operations.

3.2. The Environmental Management Act No. 20 (2004):

This is a framework legislation governing environmental aspects in Tanzania. It includes provisions for sustainable management of the environment, prevention and control of pollution, environmental quality standards, public participation, and the basis for the implementation of international environmental agreements. The Act sets out the mandates of various actors to undertake enforcement and exercise general supervision and coordination matters relating to the environment. The EMA has established **environment units in all ministries and environmental committees** at the regional, district and village levels. Within each ministry, it is the Environmental Section's responsibility to ensure that environmental concerns are integrated into the ministry's developmental planning and project implementation in a way that protects the environment. It requires project developers to develop and implement Environmental Management Plans (EMP) as well as monitor any identified environmental issues associated with their project.

3.3. The National Environmental Policy (1997):

The NEP provides the framework for incorporating and mainstreaming environmental and social considerations into decision-making in Tanzania. It is a comprehensive attempt to guide the conservation and management of natural resources and the environment and provides for cross-sectoral and sectoral policy guidelines, instruments for environmental policy, and the institutional arrangements for environmental management for determining priority actions and monitoring.

3.4. Environmental Impact Assessment and Audit Regulations (2005)

The Mandatory List of Projects requiring EIA includes extractive industry including mining. An in-depth study is required to determine the scale, extent and significance of the impacts and to identify appropriate mitigation if the project is deemed likely to have significant adverse environmental impacts. ASM is included in the schedule of small scale industries that require a Preliminary Environmental Assessment. This preliminary assessment decides whether the Project needs a full environmental impact assessment as the Project is likely to have some significant adverse environmental impacts but that the magnitude of the impacts are not well-known.

3.5. The Occupational Health and Safety Act No. 5 of 2003.

The role of OSHA is to improve health, safety, and general wellbeing of workers and workplaces by promoting occupational health and safe practices in order to eliminate occupational accidents and diseases, hence achieve better productivity in the workplaces.

3.6. The Employment and Labour Relations Act

This Act sets out provisions for fundamental rights and protections, which include forced labor, child labor, discrimination, and freedom of association. It also sets out employment standards, wage parameters, working hours, and dispute regulations, among others. Tanzania overhauled its employment and labor laws in 2004 when it enacted the **Employment and Labour Relations Act, Act No. 6 of 2004** and the **Labour Institutions Act, Act No. 7 of 2004**. While the Employment Act provides for labor standards, rights and duties, the Labour Institutions Act constitutes the governmental organs charged with the task of administering the labor laws. Subsequently, in 2007 several pieces of subsidiary legislation were promulgated to facilitate the enforcement of labor rights and standards stipulated in the Employment Act. The new laws further enact employment and labor standards which, by and large, conform to the labor standards set by the International Labour Organization.

There are a number of **policies positively impacting gender**. Important among them include the following: (i) Gender Policy, (ii) Affirmative Action Policy, (iii) Sexual Offenses Act (1998), and (iv) Action Plan against Gender Based Violence (since 2010). Tanzania is a signatory to the Convention on the **Rights of the Child**.

3.7. The Land Policy (1997):

The Policy and laws emanating from it, addresses issues of: land tenure, promotion of equitable distribution of land access to land by all citizens; improvement of land delivery systems; fair and prompt compensation when land rights are taken over or interfered with by the government; promotion of sound land information management; recognition of rights in unplanned areas; establishment of cost effective mechanisms of land survey and housing for low income families; improvement of efficiency in land management and administration and land disputes resolution, and protection of land resources from degradation for sustainable development.

The Land Act No 4 of 1999: Private property is given either through Granted Rights in General and Reserved Land (Land Act, Section 19) or through Customary Rights in Village land (Village Land Act , Section 22). Provision is also made for holding land by joint occupancy or occupancy in common (Land Act, Part XIII). This is under the Ministry of Lands and Human settlements. **The Village Lands Act, No. 5 of 1999** requires each village to identify and register all communal land, and obtain the approval of all members of the village for identification and registration (Village Assembly, Section 13). A Register of communal land (section 13(6) is to be maintained by each village land council, and land cannot be allocated to individuals, families or groups for private ownership (section 12(1) (a)). This is also under the Ministry of Lands and Human Settlements.

Land Act, Cap.113 R.E. 2002: The major function of the Land Act is to promote the fundamentals of the National Land Policy by giving clear classification and tenure of land, land administration procedures, rights and incidents of land occupation, granted rights of occupancy, conversion of interests in land, dispositions affecting land, land leases, mortgaging of land, easements and analogous rights, co-occupation and partitioning and settlement of land disputes. Section 1(4) classifies Tanzanian land into three categories: Tanzanian land falls into three categories, namely:

1. Reserved Land: set aside for wildlife, forests, marine parks, etc. Specific legal regimes govern these lands under the laws which established them e.g. Wildlife Conservation Act, Cap 283, National Parks Ordinance, Marine Parks and Reserves Act, etc.

2. Village Land includes all land inside the boundaries of registered villages, with Village Councils and Village Assemblies given power to manage them. The Village Land Act, Cap 114 governs the land and gives details of how this is to be done.
3. General Land is neither reserved land nor village land and is therefore governed by the Land Act and managed by the Commissioner.

3.8. Land Acquisition Act Cap118, 1967 R.E. 2002:

The Land Acquisition Act is the principal legislation governing the compulsory acquisition of land in Tanzania. Sections 3-18 of the Act empower the President to acquire land, and provide the procedures to be followed when doing so. The President is empowered to acquire land in any locality provided that such land is required for public purposes, and those who will be adversely affected to the acquiring of land by the government are eligible for the payment of compensation.

3.9. Environmental Action Plan

The Ministry of Energy and Minerals (MEM), the Vice President's Office and DANIDA produced an **Environmental Action Plan 2011 – 2016** for the Minerals Sector in August 2011. The Environmental Action Plan aims to mainstream environmental management activities into the Ministries Policies, Strategies and Plans. Eight key issues/challenges are identified by the Action Plan, as detailed below, and 17 priority actions were identified to tackle these issues, along with targets, indicators and budgets:

- Water and Soil Pollution
- Land Degradation
- Air Pollution
- Disturbance of Biodiversity
- Climate change
- Earthquakes, Flooding and Landslides
- Radioactive Minerals
- Unsecured Mine Closure Liabilities.

3.10. Mining Cadastral Information Management System [MCIMS]

Tanzania decided to follow the modern worldwide trends to reform the Mining Act and set up a Mining Cadastre Information Management System. The regulations starting from Mining Act 1998 and 2010 recognized ASM as an activity which could be recognized legally if environmental and social due diligences requirements are met. This allows small miners to get PMLs which then get registered in the cadaster system. The MCIMS allows for improved transparency in the sector along with integration of an Environmental and social database

CHAPTER 3 INSTITUTIONAL POLICY FRAMEWORK

1. PROJECT PRINCIPLES

1.1. Ministry of Energy and Minerals (MEM):

The MEM is the primary agency responsible for the satisfactory implementation and monitoring of the ESMF. In doing this, MEM will work in close association with relevant district or local level – the Local Government and Regional Authorities (LGARS). The responsibilities of the MEM include:

- Issuing Licenses (prospecting, mining, etc.) including renewals;
- Overseeing implementation of the Mining Policy;
- Enforcement of laws and regulations for mining and protection of environment in the SMMRP project areas;
- Environmental monitoring and auditing of the various SMMRP project activities;
- Mining projects EIS & EMP approvals (through a multi-sectoral committee under the VPO - DOE);
- Managing resettlements in Mining areas (through the Ministry of Lands and Housing Settlements); and
- Mining conflict resolutions.

The *Environmental Management Unit (EMU)* within the MEM works closely with NEMC to make sure that the social and environmental impacts of mining activities in the country are minimized.

1.2. State Mining Corporation (STAMICO)

The main role of STAMICO is the provision of professional mineral services, which include drilling (for mineral and water), land and mine surveying, mineral exploration and investment promotion, promotion and modernization of the small-scale mining sub-sector, promotion of industrial minerals development and mineral consultancy. Its capacity could be strengthened to improve consultation and involvement with stakeholders.

1.3. Occupational Safety and Health Authority

OSHA was set up in 2001 under the Ministry of Labour and Employment to administer occupational health and safety at workplaces in the country. The Ministry of Labor and Employment is the main actor with the oversight role of ensuring that decent work is practiced and maintained in Tanzania. It provides directives, technical advice, enforces legislations, proposes amendments, allocates resources, oversees all activities carried out by OSHA and ensures that OHS rules and regulations are adhered to and maintained at workplaces.

1.4. National Environment Management Council (NEMC):

Environmental Management Act No. 20 of 2004 re-established NEMC as the responsible authority for the enforcement, compliance, review and monitoring of Environmental Impact Assessments (EIA), including facilitation of public participation processes in environmental decision-making. NEMC undertakes the following activities:

- Performs environmental surveys and advises the government on all relevant matters;
- Enforces pollution control, ensures compliance of the national environmental quality standards and performs the technical arbitration role in the undertaking of EIAs;
- Identifies projects and programs or types of projects and programs for which environmental audit or environmental monitoring must be conducted under this Act;
- Initiates and evolves procedures and safeguards for the prevention of accidents which may cause environmental degradation and remedial measures where accidents occur;
- Publishes and disseminates manuals, codes or guidelines relating to environmental management and prevention or abatement of environmental degradation;

1.5. Vice President’s Office (Division of Environment)

This Department has overall responsible for planning and implementation on all environmental matters, including approvals of SESA and EIA certificates. It is responsible for formulation and articulation of policy guidelines necessary for promotion & protection of the environment. It advises the Government on legislative measures related to management of the environment and on international agreements in the field of environment and issues general guidelines to sector Ministries and monitors and assesses activities being carried out by relevant agencies in order to ensure that the environment is not degraded. It also coordinates issues relating to articulation and implementation of environmental management aspects of other sector policies.

1.6. NGOs and Miners Associations

The Governments’ drive to formalise prospecting and Primary Mining Licenses and to stimulate formation of associations of small scale miners has been effective in giving the small-scale sector a stronger voice and further influence over policy, legislation and implementation procedures. The influence of individual societies, associations, faith groups and other organisations is recognised by government and the mining sector and some bodies, like the Lawyers Environmental Action Team and Policy Forum have played key roles in advocating changes to recent draft legislation. Other groups (TAWOMA, AFWIMM) have lobbied for fairer treatment of women miners and processors.

The roles and responsibilities of the various stakeholders at national, institutional, and local levels for SMMRP with regard to the Environmental and Social Management Framework is shown in Table 4

Table 4: Roles and Responsibilities of stakeholders with Regard to ESMF Implementation

Level	Sector Ministry/ Institution	Role and Responsibility	Remarks
National level	Ministry of Water	<ul style="list-style-type: none"> ➤ Enforces laws and regulations for water quality and utilization; ➤ Issues and regulates water rights; ➤ Enforces water and effluent discharge laws (standards, monitoring & regulation). 	Water Resources Management Act, 2009

Level	Sector Ministry/ Institution	Role and Responsibility	Remarks
	Tanzania Bureau standards	Preparation of environmental guidelines and standards;	TBS Act, 2009
	Ministry of Land, Housing and Human settlement Development	<ul style="list-style-type: none"> ➤ Issuing of Right of Occupancy; ➤ Land use planning; ➤ Valuation and compensation 	Land Act 1999 and Village land Act, 1999
	Ministry of Natural Resources and Tourism (Forestry Division)	<ul style="list-style-type: none"> ➤ Implements the Forestry Policy; ➤ Enforce laws and regulations for forestry resources management; ➤ Issues permits to conduct activities in the forest reserved areas; 	Forest Act, 2002
	SSM/LSM	<ul style="list-style-type: none"> ➤ Conducting an Environmental and Social Assessment ➤ Compensation of land & properties ➤ Project implementation ➤ Implementation of the Environmental and Social Management Plan ➤ Project Monitoring, internal and external environmental auditing and reporting 	Environmental Management Act, 2004
	NGOs/CBO's	<ul style="list-style-type: none"> ➤ National Environmental watchdogs. ➤ Initiating dialogue on national environmental concerns among stakeholders 	According to Civil Society rights and responsibilities
Regional Level	Regional Secretariat	<ul style="list-style-type: none"> ➤ Responsible for coordination of all advises on environmental management in their respective regions; ➤ Responsible for advising the local authorities on matters relating to implementation and enforcement of the Act. ➤ Link between the Region and Director of Environment in the VPO as well as Director General for NEMC. 	According to Environmental Management Act.2004
	NGOs/CBOs	<ul style="list-style-type: none"> ➤ Regional environmental watchdog. ➤ Education and awareness raising on environmental management ➤ Stakeholders' platform for voice. 	According to Civil society rights and responsibilities
District /local level	Land Allocation Committee	<ul style="list-style-type: none"> ➤ Land allocation and approvals 	Land Act, 1999
	District/Ward Functional Departments – Planning, Water, Health, Natural Resources, Community Development , etc.	<ul style="list-style-type: none"> ➤ Extension Services ➤ Advice Committees, Departments on environmental matters ➤ Promote environmental awareness ➤ Gather and manage information on environment and utilization of resources ➤ Prepare periodic reports on the state of the environment ➤ Monitor the preparation, review, and approval of Environmental Impact Assessment of local investments ➤ Review By-laws on environmental management and on sector specific activities related to the environment. 	According to Environmental Management Act, 2004

Level	Sector Ministry/ Institution	Role and Responsibility	Remarks
	Environmental Committees (District, Ward & Village)	<ul style="list-style-type: none"> ➤ Coordinating and advising on environmental policies and implementation obstacles. ➤ Promoting environmental awareness. ➤ Information generation, assembly and dissemination from any person. ➤ Initiate inquiries and investigation on any environmental disputes or violation of the Act ➤ Resolve conflict among individual persons, companies, agencies, NGOs, Government Departments. ➤ Inspect any source of pollution in the area. ➤ Initiate proceedings of civil nature against any person, company, and agency for failing or refusing action under the Act. 	According to Environmental Management Act. 2004
	Local Stakeholders	<ul style="list-style-type: none"> ➤ Local environmental watchdog. 	
	Councils (District, Ward & Village)	<ul style="list-style-type: none"> ➤ To oversee performance of the Environmental Committees (within their jurisdictions). 	

2. MANAGEMENT AND IMPLEMENTATION STRUCTURE

A three tier mechanism has been established to ensure smooth management and coordination of project implementation as follows:

- i. Project Steering Committee - which is an inter-ministerial body, will oversee Project implementation and be responsible for timely decision making. The presentation in the PSC is defined to ensure participation from all the key ministries and agencies responsible for one or more aspects of Project implementation The PSC will be chaired by the Permanent Secretary for MEM.
- ii. Project Technical Committee - will ensure execution of decisions taken by the PSC and coordinate implementation of Project activities in respective areas of responsibility. The PTC will be chaired by the Commissioner for Minerals.
- iii. Project Management Team (PMT) will be responsible for day-to-day project coordination procurement, management, and reporting. Decision-making on implementation of activities, contracting, preparation of Terms of References, will also be handled by PMT with clearance and approval from the Technical Committee as needed. PMT will be led by a Project Manager who reports to the Commissioner for Minerals. (figure 3.1)

MEM will continue to be the main institution with key responsibilities for environmental and social management during the implementation stage of the phase II of SMMRP, through its Mineral Department and the Environmental Management Unit. The project will also be implemented in close collaboration with Local Government Authorities and Regional Secretariat (LGARS) from targeted mining zones/areas, small scale miners and mining companies in selected areas where the project will be implemented. MEM and EMU will ensure that both national and Bank environmental requirements and safeguards are adhered to

by all stakeholders, i.e. small scale miners, local government authorities and other sector ministries such as Lands, Water and Natural Resources.

Agents/consultants will be appointed by MEM to implement the various components of the Project. Agents appointed will be suitably qualified, with credible record of experience to undertake the tasks for which they have been appointed. These agents will be provided with the necessary financial resources to implement the ESMF and will provide significant additional managerial and technical expertise. Holders of mining Licenses (SSM/LSM) are responsible for conducting Environmental and Social Impacts Assessment and resettlement of project affected people.

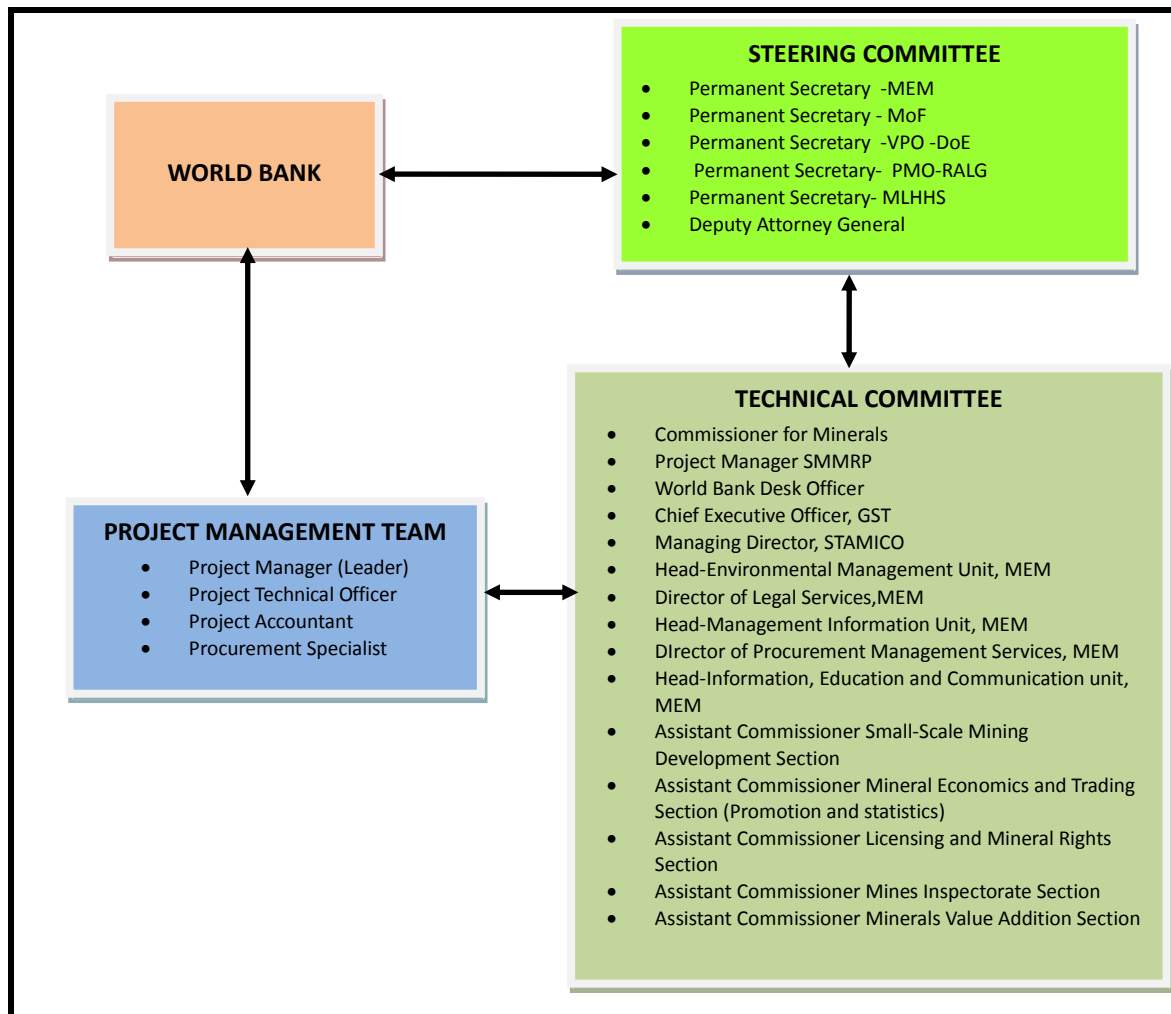


Figure 3.1: Diagrammatical representation of the SMMRP II administration framework

CHAPTER 4 ENVIRONMENTAL AND SOCIAL ASPECTS

1. ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

As a prerequisite for the World Bank funded projects, screening for environmental and social impacts needs to be carried out to identify any adverse impacts that might be associated with the project so as to avoid minimize and mitigate such impacts. The SMMRP II has developed an *Environmental and Social Management Framework (ESMF)* that identifies the various adverse and favorable impacts that may result during and after implementation of the SMMRP and includes screening procedures, steps for designing and implementing mitigation plans and assigns responsibilities for monitoring. The World Bank has categorized SMMRP as "Category B" in its environmental and social rating.

The objective of the ESMF is to ensure that the implementation of the SMMRP II will be carried out in an environmentally and socially sustainable manner. This ESMF provides the project implementers with an environmental and social screening process that will enable them to identify, assess and mitigate potential environmental and social impacts of the project. This ESMF builds on the earlier document, prepared for SMMRP, and includes the environmental and social aspects of the new proposed activities and their mitigation measures

This ESMF outlines among others the:

- a.) Potential Environment and social impacts of proposed activities and proposed generic mitigatory measures
- b.) steps of the screening process from identification to approval of an infrastructure investment;
- c.) environmental and social mitigation measures that can be applied and adopted;
- d.) summary guidelines for conducting an EIA;
- e.) Grievance redressal;
- f.) Capacity building and awareness; and
- g.) procedures for monitoring and reporting

2. FINDINGS OF SESA REPORT

A Strategic Environmental and Social Assessment (SESA) of the Minerals Sector in Tanzania was undertaken in 2013 under the SMMRP. One of its objectives was to provide recommendations and guidance on improving environmental and social performance within the minerals sector.

2.1. Potential Environmental Concerns and Impacts

The SESA recognized that mining by its very nature causes significant changes to occur to the natural environment. However, the type and level of that change and the severity of negative effects on the environment is dependent on a number of factors, including what mineral is being extracted, the method of extraction, the scale of the operation and the safeguards that are put in place as well as what stage in the mining process the mining operation is at (i.e. exploration, exploitation, processing and closure). The report compiled the following list of effects and level of severity on the natural environment.

Table 5.:Land Degradation Impacts

Land degradation can occur during all project phases. The scale and form of degradation differ from project type and level to another. The forms of degradation can be physical or chemical or biological or both.			
Immediate Causes	Root Cause	Impacts	Severity
Cutting of trees for strengthening of mine pits, construction of shelters and sources of energy.	Inadequate financial resources to afford modern mining technology; construction materials and energy sources	<ul style="list-style-type: none"> • Soil erosion and loss of soil fertility • Loss of flora and fauna • Carbon foot print • 	HIGH
Spillage of chemicals and hydrocarbons on unprotected land	Inadequate awareness on legal requirements and best practices on handling of hazardous materials such as chemicals and hydrocarbons	<ul style="list-style-type: none"> • Soil pollution • Surface and ground water pollution 	HIGH
Abandonment of mine sites	<ul style="list-style-type: none"> • Inadequate awareness on legal requirements and best practices on environmental restorations • Non-compliance 	<ul style="list-style-type: none"> • Accidents to people and animals • Visual impacts • Degraded aesthetic value of the land 	HIGH

Table 6: Environmental Pollution Issues

Environmental pollution refers to destruction of environmental component such as water, air and soil. The pollutants can be from natural land formation or induced by virtual of existence of a particular project.			
Immediate Causes	Root Cause	Impacts	Severity
Discharge of tailings and contaminated effluents to the environment.	<ul style="list-style-type: none"> • Inadequate financial resources for mine wastes management; • Inadequate awareness on handling of effluents. • Non-compliance 	Impaired surface and ground water quality	HIGH
Emission of air pollutants	<ul style="list-style-type: none"> • Inadequate financial resources for management and control of air pollutants • Non-compliance • Inadequate awareness on air pollution prevention and control. 	Air pollution	MEDIUM
Improper handling of mined materials (ore and waste rocks)	<ul style="list-style-type: none"> • Poor mine design and planning • Insufficient baseline information on geo-chemical nature of the materials to be mined. 	<ul style="list-style-type: none"> • Surface and ground water pollution • Acid rock drainage (ARD) • Impaired soil fertility • Air pollution 	HIGH
Improper handling of chemicals	<ul style="list-style-type: none"> • Non compliance • Inadequate awareness on 	<ul style="list-style-type: none"> • Surface and ground water pollution 	HIGH

(transport, storage and use)	chemicals handling and use	<ul style="list-style-type: none"> • Air pollution by fumes • Soil degradation 	
Improper handling of Mercury in gold processing	<ul style="list-style-type: none"> • Non compliance • Inadequate awareness on chemicals handling and use 	<ul style="list-style-type: none"> • Water pollution • Air pollution by fumes • Health impacts 	HIGH
Mining and mineral processing within/near water sources	<ul style="list-style-type: none"> • Non compliance • Inadequate awareness on water sources protection 	<ul style="list-style-type: none"> • Surface and ground water pollution • Deterioration of aquatic system 	HIGH

Table 7: Potential Social Concerns and Impacts

Major common socio-economic problems in the mining sector include conflicts on land ownership, compensation, resettlement and child labors.			
Immediate Causes	Root Cause	Impacts	Severity
Overpopulation at ASM sites	Employment opportunity	<ul style="list-style-type: none"> • Increased pressure on natural resources • Limited access to social services • Impaired customs/culture of locals • Communicable diseases and HIV/AIDS • Insecurity 	HIGH
Health and safety concerns in the mining sector result from child labor, silicosis and TB control, unsafe working environment and handling of chemicals.			
Immediate Causes	Root Cause	Impacts	Severity
Child Labor	<ul style="list-style-type: none"> • Non-compliance • Poverty 	<ul style="list-style-type: none"> • Exposure to Accidents • Injuries • Increased rate of illiteracy 	HIGH
Improper handling of chemicals	<ul style="list-style-type: none"> • Inadequate awareness on chemicals handling • Non-compliance. 	Chemicals accidents and injuries.	HIGH
Poor ventilation at the mine sites	<ul style="list-style-type: none"> • Lack of awareness among miners on air borne diseases • Inadequate health services/outreach at the mining communities 	<ul style="list-style-type: none"> • Exposure to diseases (TB and Silicosis) • Loss of manpower 	HIGH
Flying of planes at low level during Aeromagnetic surveys	Inadequate consultations to people within the survey area	<ul style="list-style-type: none"> • Noise disturbance to people • Social unrest 	HIGH
Licensing of mineral lease and land ownership	Inadequate consultation to other land users on licensing and mining plans	Conflicts and competition for land ownership	HIGH
Population explosion	Improvement on mining technology in line with SMMRP implementation	Competition/pressure on available natural resources	HIGH

Involvement of Women in Mining	<ul style="list-style-type: none"> • Non use of Proper PPE • Inadequate awareness on occupational health and safety practices • Gender Related Issues 	<ul style="list-style-type: none"> • Increased epidemiology • Blasting accidents • Respiratory illness, tuberculosis • Unstable marriages due to separation with spouses • Women discrimination 	HIV/AIDS silicosis	HIGH
Local communities	<ul style="list-style-type: none"> • Close proximity to mining and processing activities 	<ul style="list-style-type: none"> • Vibration impacts from blasting • Pneumonic diseases caused by dust and exhaust emissions 		MEDIUM

2.2. Vulnerable Groups

The proposed SMMRP II sites (Annex A) include a number of vulnerable groups, who have the following characteristics and occupations: Artisan miners usually live in rural areas with little infrastructure services. Their livelihood mainly depends on land and since most have customary land rights, vulnerable to eviction in case the land needed for development or even large mining. According to the SESA, these vulnerable communities often lack any information about their rights to compensation and how to calculate it, making them even more vulnerable., as was the case in Bulyanhulu, where there was a long history of artisanal mining, but artisanal miners were forcibly removed to make way for a large scale mine. Unable to farm and secure land for other economic activities, thousands of the ‘[landless], jobless and unemployed’, had resorted to artisanal mining for subsistence

According to SESA. four main issues often arise if the land where mines are located is needed:

- Firstly, only a limited range of physical assets are compensated, and valuation methods do not capture either market value or the true costs of replacing lost assets;
- Secondly, land users without legal title are usually not compensated;
- Thirdly, compensation may be poorly implemented by central and local governments – in the worst cases corrupt practices mean that compensation never reaches entitled groups.

As a result, it is important that under SMMRP II if land is need RAPs to be prepared based on the RPF prepared for the project.

Moreover, as noted in SESA, the level of infrastructural development and social service facilities in ASM communities is also generally low, but varies according to the organization of the settlements, and the availability of power (electricity). The Baseline Study on ASM activities, though, shows that each of the communities surveyed now has access to a Primary school, which also run pre-school classes as required by education policy. However, there is still a shortage of secondary schools, and other institutions for skills training are not often found in many communities.

Other vulnerable groups in addition to poor farmers with little formal land titles and limited access to social and physical infrastructure include women and children. According to SESA, women are largely only to be found as either wives or service providers in ASM. The culture surrounding the mining sector can be off putting to women as it is a particularly male dominated industry and is viewed by many as not a suitable industry for women to be

involved in. Some men actively bar their spouses from engaging in mining (owning a mining plot) and the politics surrounding it. Women may also be deterred by being subjected to malicious acts and threats. Women being actively involved in exercises such as actual gemstone digging is considered particularly culturally unacceptable in Tanzanian society.

Child labour in ASM is still an issue and is common throughout the minerals sector in the country. It is propagated by poverty but also by the itinerant tendency of parents who shift with children from community to community, and often to mineral rushes. Some children also engage in ASM after being abandoned by parents or guardians. These make children in the mining communities especially vulnerable.

There could be other vulnerable groups who live in the 7 mining areas under SMMRP II. The socio-economic studies which will be undertaken for the site specific EIA and RAPs will further explore the vulnerable groups in the area.

The project will also address social and economic vulnerability by instituting an ongoing process of consultations and community participation in the project area, mitigating adverse impacts, and ensuring that local communities benefit from the project, for example through direct employment and skills development/training and indirect economic activities, such as providing services to the artisanal miners.

Table 8: Summary of SMMRP II Activities, Impacts and proposed Mitigation measures

Description and Scope of Activities	Impacts/ Risks	Proposed Mitigation Measures
<p>Small Grant Program</p> <p>Extension Services for Artisanal and Small-scale Mining</p>	<p>Small-scale mines, if poorly run can cause great damage, particularly if they're located in ecologically sensitive areas. The main potential impacts of existing and planned mine development include:</p> <p><i>Land Degradation:</i></p> <ul style="list-style-type: none"> • land degradation, is a common phenomenon at many uncontrolled, unmonitored small-scale mining sites. Miners leave behind “moonlike” landscapes consisting of unstable piles of waste, abandoned excavations and vast stretches of barren land. • Excavated pits are typically left unfilled and abandoned to become receptacles for water. Such areas become breeding grounds for mosquitoes and potential dangers. (<i>High, adverse and long term</i>) • Large tracts of agricultural lands are also destroyed as a result of excessive vegetation removal and disturbance of soil structure. Growth supporting topsoil is usually removed during mining, and the land is rendered virtually incapable of supporting plant growth, in addition to being left exposed to erosion. (<i>medium, adverse and short term</i>) 	<ul style="list-style-type: none"> • Ensure that excavated pits are closed and vegetated after mining is complete • Mining is to be restricted to areas demarcated by law • Implement the mine closure requirements as detailed in the Licenses, the EMP and the EPP • Encourage use of steel instead of tree logs in pit support • Build in tree replacement requirements in EMPs and EPPs • Any proposed infringement into designated forested land and natural habitats must follow the EPP procedures regarding national clearances and must be informed to the Bank • In case of chance archeological finds or impact on cultural properties (churches, graveyards etc), specific management plans will be prepared and approved by Bank and MEM before start of work. <p>All the above are policy requirements of the Government of Tanzania and need to be implemented and monitored:</p>
	<p><i>Pollution of Land and Water</i></p> <ul style="list-style-type: none"> • The drainage system in many small-scale mining areas is adversely affected by such operations. Rivers and streams are polluted by solid suspensions and mercury, which are commonly discharged into resident water bodies during the sluicing process and amalgamation respectively. This in turn leads to siltation and coloration of such waters (<i>high, adverse and long term</i>). • Improperly disposed tailings also find their way into streams and rivers during rains, creating sedimentation problems and rendering streams unusable for both domestic and industrial purposes (<i>high, adverse and long term</i>). • Removal of vegetation also causes soil erosion, which in turn increases the turbidity of runoff surface waters. • Drainage of lubricants and other oils into streams causes problems such as de-oxygenation of water, which threatens aquatic life (<i>medium, moderate and short term</i>). • ASM can pollute waterways through mercury use, dam construction, a build-up of silt, poor sanitation, and effluent dumped in rivers (<i>medium, adverse and short-term</i>) <p><i>Emissions</i></p>	<ul style="list-style-type: none"> • improved processing techniques • Institute monitoring program for water sources around mining sites • Environmental monitoring • Technical support in respect of exploring for minerals will help SSM adapt new technical methods • Promote and enhance pavement of sluicing areas and containment of effluents from such areas. • Promote and facilitate wet mining technologies to reduce dust emissions • Raise awareness to restrict the pollution of traditional norms; • Encourage and facilitate conducting of baseline studies to the proposed rocks to be mined in order to know its geo-chemical nature that will lead to proper

	<ul style="list-style-type: none"> • Emissions of gaseous pollutants (<i>medium, moderate and short term</i>) • Small-scale mining operations generate some dust that could be hazardous to human health since the particles generated from such sources fall within the respirable dust range and are capable of causing dust-related diseases (<i>high, adverse and short term</i>). <p><i>Mercury pollution</i></p> <ul style="list-style-type: none"> • Burning of gold amalgam in the open air produces mercury fumes, which are released into the atmosphere. In some instances, burning of amalgam is conducted in poorly ventilated rooms, exposing miners to the dangers of mercury contamination (<i>adverse, high, short-term</i>) • Waste Dumps – potential for generation of acidic leachate with elevated metals concentrations (<i>Medium, adverse and short-term</i>). • potential for migration of saline and/or acidic water from pit lakes; potential for seepage of tailings liquors with elevated cyanide and other process chemicals; potential leachate generated from old mine workings and tailings pile (<i>Medium, adverse and short-term</i>). • Improved investment in mining may lead to growth of unit operations that may involve use of mechanized equipments. These equipments may have impacts to existing infrastructure such as roads 	<p>development of waste rock dumping strategies to minimize acid rock formation impacts.</p> <ul style="list-style-type: none"> • Promote and enhance use of Retort for Mercury-gold mixture to reduce air pollution and health impacts. • Increased awareness of impacts of mercury pollution • Promote mercury free technologies and provide training
	<p><i>Health</i></p> <ul style="list-style-type: none"> • Sanitation and basic health care are often lacking in ASM areas (<i>high, moderate and long term</i>) • Change of behaviors and pollution of traditional norms like drunkenness, drug abuse, etc (<i>High, adverse, long-term, reversible</i>) • ASM can lead to an influx of workers and create conflict with existing miners, communities, and indigenous populations ; substance abuse, alcoholism and communicable diseases often increase (<i>medium, adverse and short-term</i>) • Women and children are also frequently involved in ASM activities creating specific health, physical and psychological concerns (<i>high, adverse and long-term</i>) • Health Problems (STDs and reproductive health problems (<i>High, adverse, long-term, irreversible</i>)) • Inadequate social services (health, education, water, household food and land) due to remoteness of small scale mining sites (<i>High, Adverse, Medium-term, irreversible</i>) <p><i>Child labor</i></p> <ul style="list-style-type: none"> • Involvement of under-age children along with their parents, in informal ASM activities <p><i>Occupational Health and Safety Issues</i></p> <ul style="list-style-type: none"> • Dangers in the workplace include lack of training, poor ventilation, lack of safety 	<p>Formalization of the ASM Sector in Tanzania and the revised policy framework and regulations include the following:</p> <ul style="list-style-type: none"> • Environmental protection plans and EMPs should include medical services and emergency preparedness plans. • Use of protective equipment when undertaking mining activities and also use of mercury • Mining to be restricted to designated areas • Child labor is illegal – implement stringent enforcement • Introduce gender and user friendly technologies that are related to existing technologies and tools • Strengthen the existing traditional security systems and where necessary erect new police posts. • Strengthen the traditional structures and enforce the by-laws • Ensure that thorough consultation is made to stakeholders before implementation of any project related to SMMRP

	<p>equipment, improper use of chemicals, and obsolete equipment (<i>high, adverse and long-term</i>)</p> <ul style="list-style-type: none"> • The lack of formality (legality) in the ASM sector also affects worker safety (<i>high, adverse and long-term</i>). • Lack of emergency services and easily accessible medical support • Monitoring and enforcement of environmental regulations is hampered by informality, the remote location of mine operations, and a lack of resources (<i>medium, moderate and short-term</i>) • Increased community and household insecurity (<i>High, Adverse, long-term, reversible</i>) • Displacement/ Replacement of community inhabitants due to expansion of mining activities (<i>High, Adverse, Long-term Irreversible</i>) • Disturbance in social structure, social capital and networks resulting from resettlements 	<p>II</p> <ul style="list-style-type: none"> • In case of resettlement, implement the RPF of the project and obtain prior approvals before proceeding with project activities • Ensure that thorough consultation is made to stakeholders before implementation of any project related to SMMRP II
Geological work aimed at identifying and demarcating areas suitable for ASM	<ul style="list-style-type: none"> • Improved geologic infrastructure of the country; • Inadequate public consultation and awareness may lead to delays in project implementation. • Flying planes during Mapping Aeromagnetic Survey may lead to disturbance to local community 	<ul style="list-style-type: none"> • Carry out adequate public consultations prior to project implementation • Ensure that all flying are done during day time to minimize noise impacts
Establishment of ASM capacity building centers, including on-site processing facility	<ul style="list-style-type: none"> • Construction related waste, dust noise • Pollution of land and water from indiscriminately dumped oils and waste • Occupational health and safety of workers • No child labour • Availability of land, which is not in forested area or natural habitats • Noise pollution due to operation of different types of equipment and machinery during construction activities may disturb the surrounding premises • Wastewater and waste related to processing facility • Poor chemical management resulting in pollution • Community dissatisfaction with Centers of Excellence 	<ul style="list-style-type: none"> • periodic watering should be done to reduce dust emissions • Construction should be carried out only during the daytime and as per permitted timings. • Appropriate and safe facilities for workers • Construction waste generated should be properly stored on site and disposed • Temporary fencing around the project site to regulate the entry and exit of material, personnel and equipment • Liquid spills of lubricant, fuel and oil should be attended in order to minimize land & groundwater contamination. • Construction workers should use personnel protective equipment • Land should be within premises of existing buildings • EMPs for processing units should be cleared by Bank before contracting

CHAPTER 5

ESMF IMPLEMENTATION ARRANGEMENTS

1. *Environmental and Social Management Framework (ESMF)*

The ESMF seeks to institute a consistent and effective environmental and social screening process for application in all SMMRP II funded activities. Specifically, the following are the objectives of the ESMF:

- To ensure that all sub-projects are screened for potential negative and positive environmental and social impacts and appropriate mitigation and monitoring measures, including cost estimates, are identified and implemented.
- To build capacity in mainstreaming environmental and social due diligence and monitoring into ASM sector.

An independent assessment of the ESMF implementation will be commissioned by MEM and undertaken 6 months before SMMRP II closure. The following sub-sections detail the steps to be completed for the different sub-component activities under SMMRP II

2. *Specific Requirements for Sub-Components*

2.1. *Small Grants Program*

The SMMRP has prepared a Small Grants Manual which clearly defines the processes to be followed for ensuring environmental and social due diligence related to the implementation of this program. These include:

- i. The potential beneficiary for the Small grants will prepare a technical proposal which includes a **completed screening checklist**. The ZMO is expected to support the small-scale miners in completing this checklist. The checklist template is attached as Annex XX
- ii. The selected beneficiaries will need to complete a **simplified Environmental Protection Plan** (EPP) which will define clear and feasible mitigation measures. The EPP Template includes potential impacts, risk assessment and mitigation measures. The ZMO or RMO will support the beneficiaries in completing the EPP, which will be reviewed and approved by Environmental Management Unit of the MEM. The EPP Template is attached as Annex
- iii. Monitoring of the EPP will be done by focal point at ZMO and Environmental officer at the respective LGA.
- iv. New methods and technologies should be selected with a view to how it may affect current division of labour at sites. Such considerations not only related to gender division of labour but also adverse social and environmental impacts of new technologies should be outlined as part of the applicant's proposal.
- v. The SGP Screening Committee is required to assess the significance of the technical, environmental, social or financial risks risk and the measures for their mitigation put forth in the application.
- vi. Funds need to be allocated to training in operation *and* maintenance in proper, environmentally responsible and safe use of any equipment, tools or supplies introduced.

- vii. There is requirement for separate training of women and men to ensure women are sufficiently empowered to manage any technology introduced and share in its benefits.
- viii. A part of each small grant will need to be allocated to mitigate any environmental and social impacts of SGP Projects. Environmental examples may include: construction of basic sedimentation ponds to prevent siltation of rivers (and support recycling of water); small tree planting activities (to offset degradation of ASM areas); or requirements to backfill abandoned pits. Applicants should take on much of the responsibility for undertaking such works (and receive sufficient guidance/training to do so) as a means of cost-sharing and to increase ownership of the SGP projects.
- ix. Health and safety repercussions (e.g. risks with increased mining rate or use of semi-mechanized equipment) must also be considered in the scope of activities. All mitigation measures must be included in the simplified EPP and completion of all activities will be monitored during the Project by the Ministry.
- x. The Inspection Checklist for Small-scale mining includes indicators for environmental and pollution management and occupational health and safety measures
- xi. Compliance with these environmental and social management processes will constitute part of the evaluation methodology for proposals from potential operators leading to award of a license/permit and funding to operate the subproject. Developers will have the overall responsibility for implementation of the ESMF and RPF and NEMC will be responsible for review and clearance of ESIA/ESMPs and resettlement action plans (RAP) under the Tanzania law.

The process of approvals and clearances is detailed in Figure **XX** below, which includes the Environmental and Social mitigation measures and requirements.

2.2. Centres of Excellence

These activities will involve rehabilitation of infrastructure and some small-scale civil works to create space for classrooms, conference rooms, information centers, workshops within extend existing ZMO office facilities. The project will also finance establishment of environmentally sound on-site processing centers /ASM demonstration Facilities to promote environmentally sound and technically efficient processing techniques.

Environmental Impact Assessments will be undertaken for this set of activities, followed by preparation of detailed Environmental and Social management Plans. The ESMPs will detail comprehensive environmental safeguard standards and mitigation measures, which will be incorporated in all contracts under the project. For all the ASM demonstration facilities, the ESMPs will need to be approved by the World Bank before they are contracted out.

The ESIA/ESMPs will be prepared by independent consultants hired by the MEM/EMU. As per Government of Tanzania legal requirements, these ESIA/ESMPs will be approved by the local government Authority (LGAs). An Environmental and social management checklist for rehabilitation of small civil works and template of Environmental Management Plan are attached in Annex XX

3. Monitoring Arrangements:

Environmental monitoring needs to be carried out during the implementation as well as operation, maintenance and decommissioning phases of the projects in order to measure the success of the mitigation measures detailed above. MEM will perform a monitoring oversight function for the entire SMMRP. The monitoring guidelines developed by the Environment Management Unit (EMU) of the Ministry to monitor performance and progress will include parameters for compliance to proposed measures safeguarding against environmental and social impacts. Regular program audits and independent evaluation will be undertaken. Under SMMRP II, the responsibilities for monitoring and evaluation of the mitigation measures are assigned at different institutional levels as follows:

3.1. Small Grants

During implementation of the subprojects financed under Small Grants, compliance with the safeguard plans will be monitored by MEM. Each Beneficiary will prepare quarterly progress reports. The quarterly progress reports will contain a section on safeguard monitoring. The developers will submit their reports to the MEM and copied to TIB. The MEM will each year contract an Independent Monitoring Consultant(s) (IMC) which will undertake overall assessment of compliance with the safeguard plans. The IMC visits will occur annually, except during the early start-up period when bi-annual visits may be more appropriate. Non-compliance with the safeguard frameworks is taken seriously. Non-compliance must be reported by the MEM to NEMC and the WB immediately. The TIB and MEM, in consultation with the WB will take required action on a case by case basis. Grantee will be required to take corrective actions to comply with the safeguards requirements. Grantees that do not comply with safeguards requirements even after the corrective action was agreed would be excluded from the future SMMRP Small Grants.

The National Environment Management Council (NEMC) will perform an enforcement-monitoring role supported by the MEM, and the LGARS based on submissions and recommendations from the Environmental Management Officers at the different LGRA levels. NEMC would primarily achieve this objective through periodic field visits, supporting the Training Program and through technical assistance and backup services to the Local Governments.

3.2. Centers of Excellence

The District Environmental Management Committee (DEMC) and the District Environmental Management Officer (DEMO) will oversee compliance of ESIA's and ESMP's of Centers of Excellence and Civil works. They will be responsible for the day to day monitoring and reporting of feedback throughout the life of the project, specifically the monitoring of (i) the environmental and social assessment work; (ii) the implementation of the Resettlement Action Plans; (iii) monitoring of environmental issues and the supervision of the civil works contractors with respect to environmental matters during the Implementation process (iv) monitoring of environmental issues during operations and during maintenance of the infrastructure and facilities; (iv) consolidate the project specific monitoring reports into one common report for eventual submission to central government — NEMC and MEM. Consultation and disclosure will be undertaken before construction starts. Also, grievance redress mechanisms and consultations prior to sub-project specific ESIA's/ESMP's and physical interventions will be undertaken, documented, monitored and included in project activity reports.

The communities will use NGOs and CBOs in the monitoring activities and will be enabled to pass on their observations and concerns through acceptable mechanisms to the local government/council and higher authorities.

Table 9: Approval and Monitoring Plan

Approval Criteria During Preparation	Supervisory Activities During Implementation	Monitoring Criteria after Implementation	Responsibility
Presence of plans to mitigate social and environmental impacts	<ul style="list-style-type: none"> • Timely inspection to sub-project areas • Requirement for periodic reporting 	<ul style="list-style-type: none"> • Compliance with mitigation measures on social and environmental impacts 	DEMO, MEM-EMU
Presence of valid mineral rights (Primary Mining License or Processing License)	<ul style="list-style-type: none"> • Requirement for periodic reporting 	<ul style="list-style-type: none"> • Compliance with Mining Act, 2010 and it's Regulation. 	ZMO/RMO, COMMISSIONER FOR MINERALS
Presence of mine plans and designs which take into account minimization of use of trees	<ul style="list-style-type: none"> • Timely inspection to sub-project 	<ul style="list-style-type: none"> • Compliance with mitigation measures on social and environmental impacts 	ZMO/RMO, CHIEF INSPECTOR OF MINES, EMU
Presence of baseline data on geochemical information of the parent rocks	<ul style="list-style-type: none"> • Timely inspection to sub-project • Requirement for periodic reporting 	<ul style="list-style-type: none"> • Production in relation to baseline geochemical information 	GST, STAMICO, ZMO/RMO
Evidence-based information on stakeholders consultation	<ul style="list-style-type: none"> • Requirement for periodic reporting 	<ul style="list-style-type: none"> • Activities oriented to address concerns raised by stakeholders during consultations 	LGA's, ZMO/RMO
Plan to involve women in capacity building on value addition activities	Continue supporting of value addition centers	<ul style="list-style-type: none"> • Number of training conducted • % of women miners receiving grants 	COMMISSIONER FOR MINERALS, ZMO/RMO, TGC
Evidence-based information on consultations among stakeholders	Ensure well established communication mechanism among ASM and other Land users.	<ul style="list-style-type: none"> • Compliance with land ownership Acts and Regulations • Reduced conflicts on land ownership and use 	LGA's, ZMO/RMO
<ul style="list-style-type: none"> • Presence of sound training needs assessment. • Availability of competent trainers 	Continued support on capacity building	<ul style="list-style-type: none"> • Number of Officials trained 	SMMRP

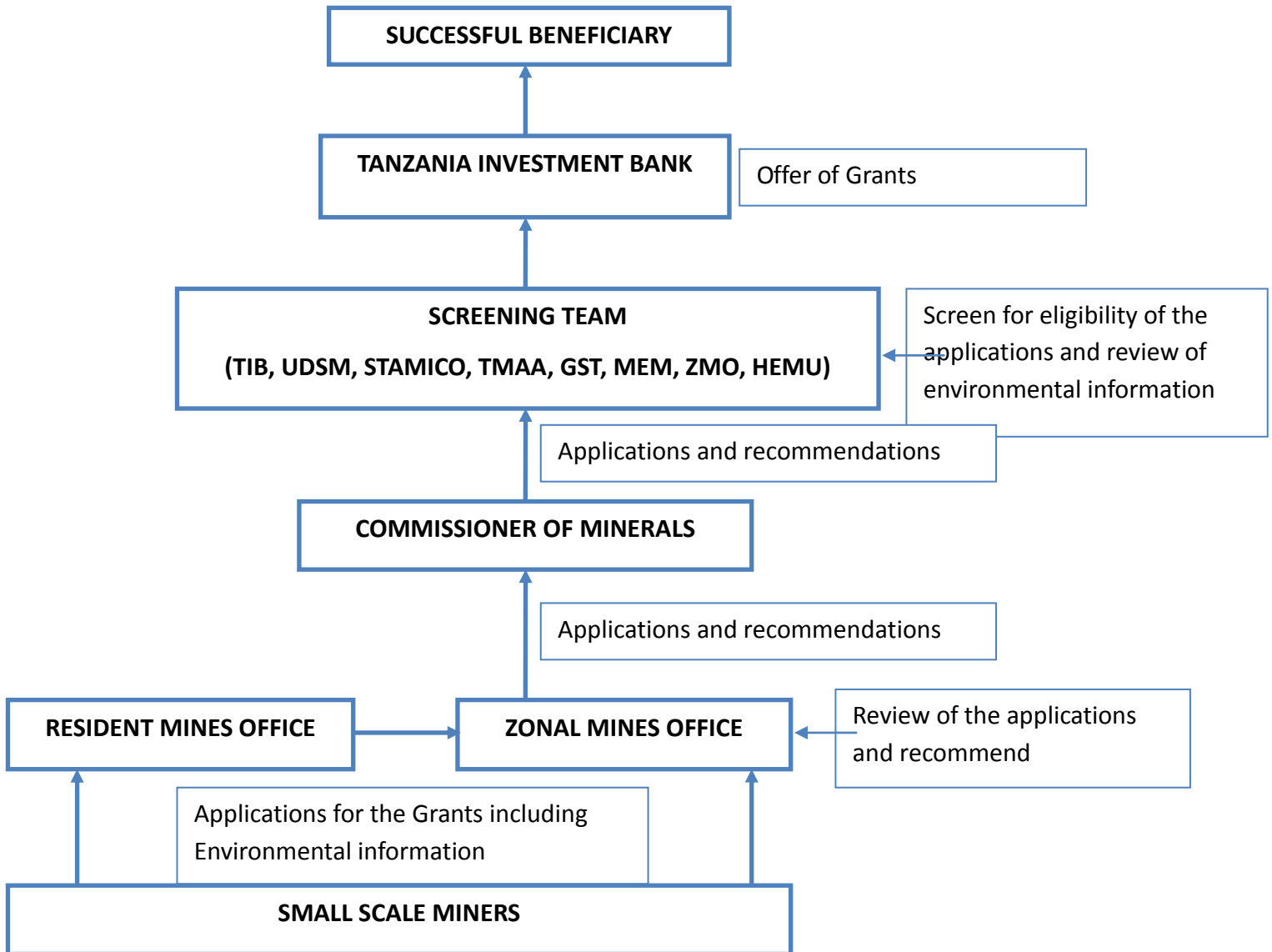
4. Capacity Building

The SMMRP II includes training activities for improved environmental and social due diligence in ASM activities. The Project Management Team will develop a Training Plan to include the following types of training to be provided over the project period.

Topic	Responsibility
Training of small grant beneficiaries in proper use, operation and maintenance of equipment and related environmental, health and safety and management issues	Zonal Mine Officers or Resident Mine Officers
Training of EMU-MEM staff in environmental management and monitoring	Consultant, SMMRP
Training of District Environmental Management Officer (DEMO) in environmental management in mining and reviewing of ESIA's and ESMPs	EMU-MEM, SMMRP
Training on business skills for women miners	Consultant, ZMO/RMO, SMMRP
Training of ASM on occupational health, safety and Environmental Management in Mining	Chief Inspector of Mines, EMU-MEM, ZMO/RMO, SMMRP
Training of ASM on legal and institutional framework	Directorate of Legal Services - MEM, ZMO/RMO, SMMRP
Training of ASM on mining and Processing and Mercury use in Mining	ACSSM, ZMO/RMO, SMMRP
Training of ASM on crosscutting issues (Gender, HIV/AIDS)	Consultant, SMMRP,

5. Budget

The ESMF will be implemented over the period of proposed extension of SMMRP II and the expected budget is US\$ 30million, of which the Government of Tanzania will contribute US\$ 5million.



CHAPTER 6

CONSULTATIONS AND GRIEVANCE REDRESSAL

1 STAKEHOLDERS CONSULTATIONS

Stakeholder consultation is an inclusive and culturally appropriate process for sharing information and knowledge that seeks to understand the concerns of the stakeholders, and to provide them with an opportunity to extend express their views.

During SMMRP II implementation, consultation processes is built into the various sub-components, including Small Grants and construction related activities. The procedures are based on guidelines provided in the Environmental Impacts Assessment and Audit Regulations, 2005 on public participations. Primary stakeholders to be involved in the dialogue on environmental and social issues include:

- communities in ASM neighborhoods,
- land-owners,
- PMLs,
- communities near Zonal offices where Centers of excellence are to be established,
- NGOs,
- Miners Associations
- industry representatives

2 GRIEVANCE REDRESSAL

Even with robust consultation and stakeholder, there may still be individuals and groups who will have grievances with respect to the process. Grievance redress mechanisms are ways in which individuals or groups who feel there have been an act of violation or omission of their rights can follow in order to get compensated. Since these projects have strong interaction with local communities, then there is a need to have effective redress mechanisms to deal with cases where project activities hamper community's rights or fail to deliver on promises. The land laws of 1999 introduced dispute settlement mechanisms for land matters that are independent of standard litigation processes. The Environment Management Act (EMA Cap 191) do also have clarified the rights of individuals to bring an action on the environment where anyone feels that there has been an act of violation or omission which is likely to cause harm to human health or the environment.

However, there is no specific redress mechanism for investment related disputes that arise between investors and local communities. Hence SMMRP II will establish the process for settle of grievances basing on the general principles of EMA Cap 191.

For small grants:

1. Report the activity or omission that is likely to cause harm to human health or environment to public officer, i.e. Village Executive Officer (VEO)
2. Public officer will receive and register a complaint, he/she my take measure to resolve the complaint, or report it to the District Environment Management Officer (DEMO) for further action

3. DEMO will assess the complaint, take measure to resolve the it, or report it to the ZMO or RMO for further action.
4. ZMO or RMO will assess the complaint take measure to resolve it, require an omission be subjected to environmental audit or monitoring or report it to NEMC for further action.
5. NEMC will assess the complaint take measure to resolve it, require an omission be subjected to environmental audit or monitoring or take it to court.
6. The court shall exercise its power in resolving the complaint guided by the principles of environment and sustainable development

The RPF also details a more formal procedure for potential issues related to land acquisition and resettlement. With respect to the disputes related to land acquisition or impact on livelihood if the affected person is not satisfied with the package offered or resettlement process, he or she can:

- Initiate a grievance process at the local level. The aggrieved person will first report his/her case to the Village and Ward Executive Committees who have a direct link with Zonal Mining Offices. All attempts shall be made to settle grievances.
- If the grievance is not resolved at this level within one week at this level,, the complainant will be referred to the Grievance Committee comprising one representative each from the Ward and Village Administrations, the Zonal Mining Office, one representative from the affected persons, and a community or religious leader from the community of the affected person. The following process is observed:
 - i) The affected person should file his/her grievance in writing, to the ward leader. The grievance note should be signed and dated by the aggrieved person. If the person cannot write, assistance must be provided.
 - (ii) The ward leader should notify the Grievance Committee and respond to the aggrieved persons within 14 days.
 - (iii) If the aggrieved person does not receive a response or is not satisfied with the outcome within the agreed time, s/he may lodge his/her grievance to the District Administration.
 - (iv) If no agreement is reached at this stage within 14 days, then the complaint can be taken through the formal court process. The maximum time between the time the complaint is initiated at the local village office and when the District Administration review and make a final decision should not exceed 40 days. In other words, if the complaint is not resolved within 40 days or any time in between the grieved person can continue through formal court process.
- The court shall exercise its power in resolving the complaint guided by the principles of the land laws and village act

The GRM will be widely disseminated to all stakeholders.

Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the World Bank’s independent

Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond⁶.

3 CONSULTATIONS

A Stakeholder consultation workshop was held on 29th December, 2014 at the Mwalimu Nyerere International Conference Center in Dar es Salaam. The workshop involved wide range of stakeholders from Local governments, government ministries and its agencies linked with mining industry, civil society organizations (women and children), mining organizations, NGOs and private sector. List of stakeholders involved and their comments raised as well as minutes of the workshop are attached in **Annex 2**. Issues or concerns raised by the stakeholders have been responded and incorporated in the ESMF.

⁶ For information on submitting complaints to the World Bank's corporate Grievance Redress Service (GRS), <http://www.worldbank.org/GRS>.
For information on submitting complaints to the World Bank Inspection Panel : www.inspectionpanel.org.

ANNEX I

DESCRIPTION OF THE SITES COVERED BY SMMRP II

1. KAPALAMSENGA COPPER MINERALIZATION AREA IN MPANDA RURAL

Location Description:

1. Nearest Village: Kapalamsenga; (other nearby are Songambebe and Itunya);
2. District: Mpanda Rural;
3. Zone: Western Zone;
4. Population: about 8,939 people from one Ward known as Kapalamsenga composed of three villages (Kapalamsenga, Songambebe and Itunya);
5. Traditional Tribes: Bende and Fipa with intruders of Waha and Sukuma.

Socio-Economic Factors:

1. Level of Poverty: low income;
2. Type of Livelihood: mainly farming;
3. Ethnic Mix: see above;
4. Level of Services: 2 primary schools; 1 secondary school located nearby Ward – Karema Ward; 2 dispensaries; water – several shallow boreholes.

Current Land Use:

1. Land owner: Kapalamsenga village;
2. Existing ML in the area: 1 and 2 under process;
3. Existing ASM in the area: 6 active PMLs for copper;
4. Existing ASM: 60 licences (PML) about 300 PML application recommended.

Habitat Description:

1. Nearby lake/rivers: Lake Tanganyika, *about 15km to the lake*;
2. Nearby Cultivated Land: small area under cultivation, while large area is not arable land (forest and hilly).

Environmental Sensitivity:

1. Deforestation: mostly through farming;
2. Water Pollution: Not observed;
3. Land Degradation: mostly through farming.

2. BUHEMBA PROJECT

Location Description:

1. Nearest Village: Biatika, Kinyariri, Matongo, Mirwa, Tarani and Magunga ;
2. District: Butiama;
3. Zone: Lake Victoria Eastern Zone;
4. Population: about 23,349 residents;
5. Traditional Tribes: Luo, Zanaki, Kurya and Ikizu.

Socio-Economic Factors:

1. Level of Poverty: low income;
2. Type of Livelihood: subsistence farming
3. Ethnic Mix: other small tribes);
4. Level of Services: primary school in each village; secondary school in each Ward (Mirwa, Buhemba) dispensaries and Health Center in each Ward; water – several shallow boreholes.

Current Land Use:

1. Land owner: STAMICO;
2. Existing ASM in the area: 3,000 ASM.

Habitat Description:

1. No river and heavy forests, there are seasonal streams and shrubs;
2. Small animals like rabbits, reptiles and dikdiks are commom in the area.

Environmental Sensitivity:

1. Deforestation: mostly through farming and firewood usage;
2. Water Pollution: mainly through mercury contamination;
3. Land Degradation: mild and mostly is caused by Artisanal and Small Min (ASM) through farming.

3. KATENTE AREA DESCRIPTION

Location Description:

1. Nearest Village: Ushiombo ;
2. District: Bukombe;
3. Zone: Lake Victoria Western Zone;
4. Population: about 10,000 residents;
5. Traditional Tribes: Sukuma, Waha and Haya while the Sumbwa people are mainly traditionally found in that area.

Socio-Economic Factors:

1. Level of Poverty: medium level;
2. Type of Livelihood: business, mining and agriculture;
3. Ethnic Mix: other small tribes),
4. Level of Services: primary school in each village; secondary school in each Ward; dispensaries and Health Center in each Ward; water – several shallow boreholes,

Current Land Use:

1. Land owner: Local Government and individuals;
2. Existing ASM in the area: 300 ASM

Habitat Description:

1. No river and heavy forests, there are seasonal streams and shrubs;
2. Scattered small cultivated land.

Environmental Sensitivity:

1. Deforestation: mostly through farming firewood usage;
2. Water Pollution: mainly through contamination from ASM;
3. Land **Degradation**: mild and mostly is caused by ASM through farming.

4. MBESA AREA DESCRIPTION

Location Description:

1. Nearest Village: Mbesa ; (others are Lukumbo and Mbatu);
2. District: Tunduru;
3. Zone: Lake Nyasa Zone;
4. Population: about 8000 people;
5. Traditional Tribes: Yao majority, Makua and Ngoni minority.

Socio-Economic Factors:

1. Level of Poverty: low income;
2. Type of Livelihood: farmers;
3. Ethnic Mix: medium (three tribes);
4. Level of Services: 4 primary schools, 1 secondary school (o-level), missionary hospital.

Current Land Use:

1. Land owner: Mbesa village;
2. Existing ASM in the area: 6 active PMLs for copper;
3. Extent of ASM: about 1500 licences applied and granted (remember 6 active),

Habitat Description:

1. Nearby rivers: Mbesa river (about 400m from mimig area),
2. Nearby Cultivated Land: most licences falling within cultivated areas,

Environmental Sensitivity:

1. Deforestation: mostly through farming,
2. Water Pollution: Not observed,
3. Land Degradation: mostly through farming

5. MTWARA

Location Description:

1. Nearest Village: Mishindo
2. District: Kilwa
3. Zone: Southern Zone
4. Population: about 15,000 people
5. Traditional Tribes: Wamakonde, Wamakuwa

Socio-Economic Factors:

1. Level of Poverty: medium income;
2. Type of Livelihood: fishing, business, tourism, salt mining
3. Ethnic Mix: other small tribes
4. Level of Services: social services are available

Current Land Use:

1. Land owner: villages municipal;
2. Existing ASM in the area: 55 active PMLs for copper;

Habitat Description:

1. Nearby lake/rivers: Indian Ocean , about 2km from the ocean;
2. Nearby Cultivated Land: none

Environmental Sensitivity:

1. Deforestation: none
2. Water Pollution: none;
3. Land Degradation: none

6. KYERWA AREA DESCRIPTION

Location Description: -

1. Nearest Village: Nyaruzumula
2. District: Kyerwa
3. Zone: Lake Victoria Western Zone
4. Population: about 7,000 residents;
5. Traditional Tribes: Nyambo, Sukuma, Waangaza, Waha, Subi and Haya .People are mainly traditionally found in that area.

Socio-Economic Factors:-

1. Level of Poverty: medium level;
2. Type of Livelihood: Mining, Fishing, And Agriculture;
3. Ethnic Mix: other small tribes
4. Level of Services: Medium and supplied by the government

Current Land Use:-

1. Land owner: STAMICO
2. Existing ASM in the area: 4,000 ASM

Habitat Description:

1. Game reserve Rumanyika and Ibanda are located 60km from the mining area.
2. No river and heavy forests, there are seasonal streams and shrubs near to the mining. River Kagera is situated 10 km from the river;
3. Scattered small cultivated land.

Environmental Sensitivity:

1. Deforestation: minimum, mostly by farming
2. Water Pollution: No chemical use in process of Tin
3. Land Degradation: minimum.

7. LWANGASA AREA DESCRIPTION

This site has been widely surveyed by scoping studies conducted by Geita Gold Mines. It contains two PMLs (PML 0013063 and PML 0013064) covering an area of 19.26 Hectares). The PMLs are officially owned by the Serikali ya Kijiji Lwamgasa or the Lwamgasa Village Government. The ownership is not tied to the village leadership, but to the village as a whole through the Village Council. The ownership of the two PMLs was ratified by the general meeting of the village council that was attended by 351 villagers.

The two PMLs at Lwamgasa have not been in operation for a long time and hence there was a limited environmental effect. The effects that could be associated with the previous mining operations were mainly associated with land degradation. The collapsed pits within the two village Government PMLs, land degradation is a major issue in the area. Abandoned pits some of which are dangerously covered by tall grass and some partially or fully collapsed are common in the area.

Socio-Economic Factors:-

1. Level of Poverty: medium level;
2. Type of Livelihood: Mining, Fishing, And Agriculture;
3. Ethnic Mix: Sukuma, Haya, Jita & Jaruo
4. Level of Services: Medium and supplied by the government

Current Land Use:-

1. Land owner: Village government of Lwamgasa
2. Existing ASM in the area: 4,000 ASM

Environmental Sensitivity:

1. Deforestation: minimum, mostly by farming
2. Water Pollution: mercury pollution possible
3. Land Degradation: minimum, mostly due to farming.

ANNEX II: CONSULTATIONS

SUMMARY OF KEY ISSUES RAISED IN CONSULTATIONS ON THE PREPARATION OF THE STRATEGIC ENVIRONMENTAL AND SOCIAL ASSESSMENT:

One of the findings of SESA was in regards to conflict over land for mining, which according to the report remains commonplace and conflict over use of customary land has been a major source of tension between local communities and mining companies in Tanzania, particularly where local livelihoods depend on the use of such land. The licensing process often results in ‘grey’ or ambiguous areas under which different stakeholders in the mining sector are forced to transact. In particular, the licensing process suffers from institutional weaknesses in that large-scale mining licenses are applied for centrally, whereas small-scale licenses are applied for at local zonal offices of the Ministry of Energy and Minerals. This can result in overlaps between large- and small-scale mining licenses as large mines apply for licenses on what they thought were fairly open areas. Under the law, holders of small-scale mining licenses should in principle be compensated by the larger mining license holder, but there is a lack of an effective and transparent land compensation procedure to resolve conflicts over licenses. Small-scale mining license holders are therefore rarely compensated, and have often resisted being removed from plots even when bought out.

Whilst mine workers health and safety was highlighted as a priority in the regional workshops, plenary discussions at the workshops and with individual stakeholders and at the national workshops concluded that large mining operations generally are looking after their own employees’ health and safety but issues do arise when illegal operators break on to LSM sites. Therefore these issues are dealt with under Mine and Community Security.

The stakeholder interviews did touch on some perceived tensions arising in communities around large mine sites to do with increased inequality between those benefiting economically from Large scale mining (LSM) operations and those who did not. Although at the regional workshops, only in Arusha was cultural tensions / immigration and gender identified as a priority (and a fairly low priority at that), during plenary discussions at many of the regional workshops and during fairly extensive discussions at the national workshops tensions and gender issues (particularly women’s role in mining) was highlighted. Many of the challenges and proposed solutions on ensuring that community benefits from LSM operations are dispersed as widely as possible, and ensuring women’s participation in LSM is dealt with in the economic section.

Residents’ Rights and Forced Evictions

The rights of residents and forced evictions were highlighted as a priority by a broad cross section of stakeholders when interviewed as well as at the regional and national workshops.

Tanzania has experienced a number of serious incidents linked with the displacement of residents from their homes in order to make way for new mining ventures. The situation has often been complicated by the difficulties in distinguishing between those who had a legitimate right to compensation and people who took advantage of advanced notice of the development and set up temporary squatters' homes in order to qualify for resettlement. At the same time some companies have taken unilateral action in driving people from their homes, provoking anger and severe tensions in the local communities that has subsequently erupted in violence.

It was stated at the Mwanza and Mbeya workshops that the most important stage in planning any new mineral development is the identification of residents' rights and the creation of a resettlement plan, that not only replaces every home with an equal or better quality structure, but also addresses livelihoods, maintains community cohesion and ensures that everyone benefits from the existence of the mine.

REPORT OF THE STAKEHOLDERS CONSULTATION WORKSHOP ON THE ENVIRONMENTAL AND SOCIAL FRAMEWORK FOR SMMRP II

HELD AT JULIUS NYERERE INTERNATIONAL CONVENTION CENTRE (JNICC), IN DAR ES SALAAM

29th December 2014

1. INTRODUCTION

The Government of the United Republic of Tanzania through the Ministry of Energy and Minerals has been implementing the Sustainable Management of Mineral Resources Project (SMMRP) since 2009. The Project is in line with the Government drive to improve overall management of the Mineral Sector to maximize benefits to the investors and the nation as a whole. Phase one of the project is due to end in June, 2015.

On January 2014, The GoT requested the Bank to consider additional financing to expand some activities to scale-up the project's poverty reduction impact and development effectiveness.

The additional funding in phase two will maintain and enhance the implementation the original four project components, which are:

- I) Improving the benefits of the Mineral Sector for Tanzania: Artisanal and Small-Scale Mining, Local Economic Development and Skills Development;
- II) Strengthening Governance and Transparency in Mining
- III) Stimulating Mineral Sector Investment; and
- IV) Project Coordination and Management.

As a prerequisite for the World Bank funded projects, environmental and social impact assessments of the project need to be carried out. Hence a framework was prepared that identifies both, the various adverse and favourable impacts that may result during and after implementation of the SMMRP II and builds up mitigation plans to reduce and avoid the adverse impacts and also proposes enhancements of positive benefits identified.

Objective of the Environmental and Social Management Framework (ESMF) is to ensure that implementation of the SMMRP II is carried out in an environmentally and socially sustainable manner.

Since ESMF will be one of the guidance documents in dealing with environmental and social management, the World Bank Safeguard Policy for Environmental Assessment (OP/BP 4.01) requires a Public consultation to be undertaken in all stages of project implementation. A one day consultation workshop was conducted in line with this requirement.

The participants of the workshop came from the Government institutions, Private institutions, and NG'Os. The list of all participants and institutions they represent is in **Appendix 1**.

2. OBJECTIVES OF THE WORKSHOP

The main objective of stakeholder's consultation workshop was to ensure that key stakeholders linked with project implementation are aware of the planned developments. it was also a

fulfilment of the World Bank Safeguard Policy for Environmental Assessment (OP/BP 4.01). Specifically, the workshop aimed:

- To provide information on the progress of the implementation of SMMRP I; and planned activities for SMMRP II.
- To give a brief overview of the Environmental and Social Management Framework (ESMF) for SMMRP II
- To receive comments and concerns from stakeholders, and ensure that the stakeholders view are addressed in the ESMF.

3. WORKSHOP PROCEEDINGS

3.1 Word from the Permanent Secretary (PS) - MEM

The PS welcomed all participants in the validation workshop on the developed Environmental and Social Management Framework for SMMRP phase II.

He provided a brief history of the project whereas he mentioning the four project components. He explained on the reforms under the existing project which have resulted in significant improvements in mineral policy, institutional capacity and geological knowledge.

Besides the results of the project which have led to an increase in minerals production and government revenues from Mining, the PS alliterated that the benefits of the resource-induced growth have not been widely shared and has not been adequate to reduce rural poverty.

The PS described that as an alternative solution, the GoT has requested the World Bank for Additional Financing, with the aim to prioritize the sustainable development of Artisanal and Small-Scale Mining (ASM) , as a way to spread the benefits of resource-induced growth to the population and eventually reduce rural poverty.

Finally the PS mentioned the importance of engaging key stakeholders to obtain their recommendations for further consideration as it is required in adhered to the World Bank procedure during the implementation of the additional funding. The speech is in **appendix 2**.

3.2 Overview presentation on implementation of SMMRP I

An overview presentation on progress of implementation of SMMRP I and planned activities for SMMRP II was given by the Project Manager, the presentation covered the project concept and background, its components and objectives, and project activities and its implementation status. The project Manager further explained on the requested additional funding and the planned activities. The presentation is in **appendix 3**.

3.3 Overview presentation on ESMF

The overview presentation on the ESMF was given by the Environmental Manger from TMAA and the Environmental Officer from EMU-MEM. This presentation mostly covered the following contents:

1. The objectives and rationale of the ESMF
2. WB Policies and other international agreements
3. SMMRP activities for phase II, which are divided in component A to D

4. Recommendations from SESA report
5. Potential Environmental and Social Impacts based on SMMRP II activities and a summary of propose approach to mitigate potential environmental and social impacts.
6. Coordination with other Ministries, Departments and Government Agencies i.e VPO, NEMC, NGO, Mining organisation, Communities etc. Also institutional roles and responsibilities were presented.
7. Environmental Monitoring, here the various institutional levels were each assigned responsibility for monitoring and evaluation of the mitigation measures, stating from the National level, Regional level, District level and the Community
8. And finally the time frame and budget, in which an initial budget of USD 30 million IDA and 5 Mil. Govt based on activities planned was presented.

The presentation is in **Appendix 4**.

4. CONCLUSION AND CLOSURE REMARKS

The workshop was closed by the Commissioner for Minerals. In his closure remarks he concluded that the consultation workshop has been fruitful because participants engaged fully during the sessions and gave out their concerns. Participants were ascertained that the final report will encompass all of their comments and that the Ministry will continue to consult them when need arise. Further the ministry will ensure continuity in interactions in building transparent spirit as part of good governance.

S/ N	ISSUE/ QUESTION RAISED	RESPONSE
1	EXECUTIVE SUMMARY: Revise the English structure of the executive summary	Rectified
2	ABBREVIATIONS: Has to be revised to cover all the words used in the report and amend some of the words therein.	Rectified
3	FIGURE 3.1: Areas for SMMRPII activities have to be properly presented in the map. National, Region and District boundaries to be clearly indicated. The maps be moved to proposed area section 1.3 or be appended to the report	Rectified in collaboration with GST
4	FIGURE 3.2 Showing areas for high resolution airborne geophysical survey should properly represent areas as in the content of the report. The maps should be moved to the appropriate section of the report or be moved to the annex	Rectified in collaboration with GST
5	FIGURE 3.3: Showing areas for geological mapping and geochemical survey should properly represent areas as in the content of the report. The maps should be moved to the appropriate section of the report or be moved to the annex	Rectified
6	Management and Implementation Structure: Figure 4.1	
	General amendment of the structure i.e. relations between the bodies in the structure and appropriate titles of the members in the Technical Committee	Rectified
	Exclude CEO- GST from Steering Committee part and include in Technical committee part member	Rectified
7	Section 30 of the Environmental Management Act, 2004 indicates that there shall be an Environmental Section in each sector ministry while ESMF report referees environmental management unit under MEM.	This is a result of MEM management structure, but principle functions of the unit are those defined in section 31 of EMA,2004
8	Information provided on Tanzania Gemological Centre (TGC) has to be reviewed to reflect current situation. (Name of the centre and major issues identified).	Rectified
9	Figure 4.1 do not have explanation and do not reflect the contents in section 1.3.4	Rectified
10	Data provided in Table 3 are obsolete (2001), The table only list few areas with minerals.	Information presented is just indication of the situation it does not present the actual situation
11	INDIGENOUS PEOPLE: The term indigenous people is not officially used in Tanzania hence it should not be used in the ESMF report	The term Indigenous was used in the report to refer the World Bank OP/BP 4.20
12	Information on impacts identification be modified to address real situation for example use simple terms	Addressed

	for carbon foot print and replace Desertification with loss of flora and fauna	
1 3	Enhancement measures are not provided along positive impacts	It is an annex which has been prepared by someone else hence it cannot be changed.
1 4	SMMRP -II should facilitate ASM to conduct EIA in their projects. The EIA reports will be the basis on which environmental monitoring will be done	The Mining Act, 2010 through its Regulations on Environmental Management for Small Scale Mining of 2010 requires small scale miners to conduct studies and prepare environmental management protection plan (EPP). MEM has prepared EPP template.
1 5	Definition of SESA to be provided under definitions section. Environment Management Act, 2004 requires SEA to be undertaken, while the ESMF report mentions SESA.	SESA definition has been provided. The World Bank identifies SESA as one of an instrument that can be used to satisfy the Banks requirement (contained in operational policy 4.01) for environment assessment. It is used interchangeably with SEA. However, the two words carry the same meaning.
1 6	Mining Cadastre Information Management System: information on MCIMS should be updated to reflect the current situation.	ACML and Head of ICT should be consulted to provide information.
1 7	Development of Seven Model Mines: since the proposed time frame for AF will be 3 years, it will be unrealistic to develop all seven model mines for such period of time.	The model mines will be privately owned and operated. The Project will only provide support to develop such mines
1 8	List of References: format of presentation of references should be consistent.	Rectified
1 9	Extension Services: District councils should be involved in trainings on mining development and environmental protection. Minerals smuggling issues should be addressed specifically in areas along borders.	Addressed under subcomponent A.2
2 0	The functions of NEMC as well as Sector Environmental Sections should be presented as mentioned in the EMA, 2004	Re -addressed
2 1	The wordings under Institutional arrangement for environmental monitoring section should be revised	Re - addressed
2 2	Zonal and Resident Mine Officers should be Ex-official in councilors' meeting to enhance transparency in the development of mineral sector.	Policy Issues which was picked by the Commissioner for Minerals
2 3	Mining activities have direct impacts to infrastructure. What are the obligations of mining project owners when their activities affect	Addressed in Impacts Section (Chapter 5)

	infrastructure such as roads, bridges, etc.	
2 4	There have been informal agreements between mineral right and surface right holders. How can such agreements be formalized to enable surface right holders to have shares in minerals production.	According to the Response provided by the Commissioner for Minerals, mining should exclusively be done by mineral right holders.
2 5	How is SMMRP -II going to ensure that extension services provided to ASM do give the positive results expected?	Addressed in Monitoring Section (Chapter 8)
2 6	How is SMMRP -II going to ensure communities surrounding the mine sites(who don't directly participate in mining activities) benefit from the extension services provided	Cumulative benefits from improved mining industry resulting from support to be provided to ASM
2 7	In collaboration with councilors, specific by-laws should be formulated that will require ASM to conduct environmental rehabilitation at their mine sites	This will be one of the areas for capacity building for extension services to be provided to ASM
2 8	What strategies are in place to ensure conflicts between ASM and Large scale mines do not happen	Addressed in Impacts Section (Chapter 5)

ANNEX III

SCREENING CHECKLIST FOR THE ENVIRONMENTAL ASSESSMENT OF SUB-PROJECTS UNDER SMALL GRANTS PROGRAM

A	Environmental and Social Impacts	Yes	No
	Location		
1	Does the project area (or components of the project) occur within or adjacent to any protected areas designated by government (national park, national reserve, world heritage site, etc.)?		
2	If the project is outside of, but close to, any protected area, is it likely to adversely affect the ecology within the protected areas (e.g., interference with the migration routes of animals)?		
3	Will the project reduce people's access (due to roads, location etc) to the pasture, water, public services or other resources that they depend on?		
4	Will the project alter any historical, archaeological or cultural heritage site		
	Physical and biological environment		
5	Will the project generate wastes or emissions that could adversely affect soils, vegetation, rivers, streams, groundwater or air?		
6	Does the project have human health and safety risks, during operations, rehabilitation or Later?		
7	Would increase in population migration impact nearby forest and other natural resources;		
8	Does project include plan for rehabilitation after completion and closure of mining works		
	Alternatives		
9	Is it possible to achieve the objectives above in a different way, with fewer impacts?		
Circle one of the following screening conclusions for Part A:			
A1. All answers to the checklist questions are "No". There is no need for further action.			
A2. For all issues indicated by "Yes" answers, adequate mitigation measures should be included in the project design whose implementation will require supervision by the applicant and the appropriate local authority			
A3. For the following issues indicated by "Yes" answers (specify questions numbers): The applicant must revise the proposed project plan to provide adequate mitigation. Specify where specialist advice may be required :			
A4. For the following issues indicated by "Yes" answers (specify questions numbers): The applicant must prepare an environmental assessment of the proposed project. Specify where specialist advice may be required			

B	Resettlement and Land Acquisition	Yes	No
1	Is the land privately owned		
2	Is the land owned by the Government		
3	Will anyone be prevented from using economic resources (e.g. pasture, fishing Locations, forests) to which they have had regular access?		
4	Will the project result in the involuntary resettlement of individuals or families?		
5	Will the project result in the temporary or permanent loss of crops, fruit trees and Household infra-structure (such as granaries, outside toilets and kitchens, etc)?		
6	Will project result in temporary or permanent loss of livelihoods of individuals or families		
Circle one of the following screening conclusions for Part B: B1. All answers to the checklist questions are "No". There is no need for further action.			

B2. There is at least one “Yes” answer. Consult the Resettlement Policy Framework and prepare a Resettlement Action Plan as appropriate which must be approved by World Bank or other financial authority as required.

C	Vulnerable People	Yes	No
1	Might the project adversely affect vulnerable people living in the area?		
2	Are there members of these groups in the area who could benefit from this project?		
Circle one of the following screening conclusions for Part C: C1. All answers to the checklist questions are “No”. There is no need for further action.			
C2. There is at least one “Yes” answer, an Peoples Development Plan must be prepared, in discussion and consultation with and approval of the World Bank.			

TITLE OF SMMRP PROJECT:

LOCATION OF COMMUNITY:

SIGNATURE:**DATE:**.....

ANNEX IV

TERMS OF REFERENCE FOR ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

1.0 INTRODUCTION

During updating of this report, several key environmental and social issues of concern are identified after holding consultations with stakeholder of the project and after reviewing various literatures related to the project. Similarly, expert opinion is considered in various issue identified as requiring specialized knowledge. In some cases, samples are taken for identification and evaluation of the magnitude of the problem to address them in detailed EIA study.

The purpose of the Terms of Reference (TOR) therefore, is to ensure that the Consultant undertaking the environmental and social studies carries out the necessary tasks to comply with standards, procedures and that all salient issues are covered. They form the basis for subsequent review process.

In these Terms of Reference, strategies for addressing the issues identified during scoping have been provided to make the detailed study and hence the EMP review more focused.

2.0 SCOPE OF WORK FOR A DETAILED ENVIRONMENTAL AND SOCIAL STUDY

Task 1: Description of the Proposed Project

Provide a detailed description of the relevant parts of the project and its activities. Review information about the project and provide any missing information and data about the following: location, general layout, size and capacity, production methods, pre-rehabilitation, scheduling of rehabilitation development activities, life span of operations.

Task 2: Present baseline data relevant to environmental and Social characteristics of the area

With reference to the baseline data and information existing at the project site and that contained in the scoping report, assemble, evaluate and present baseline data on relevant environmental and social characteristics of the study areas such as biophysical and socio economics and cultural aspects. Elaborate on the study areas and adjacent (marginal) areas should be considered, for example;

Physical environment:

- Geology;
- Topography;
- Soils;
- Climate and meteorology;
- Ambient air quality;
- Surface water resources;
- Groundwater resources;
- Existing sources of air emission;

- Existing pollution discharges and receiving water quality;
- The borrow pits and waste rock disposal areas;
- Location of roadways and other support infrastructure.

Biological environment:

- Present baseline data on both the terrestrial and aquatic communities of flora and fauna found in the project area: General spatial arrangement of vegetative community types, vegetative species abundance listings, record of rare or endangered species, sensitive habitats, significant natural sites, species of commercial importance etc.;
- Nature of aquatic habitats;
- Conduct specific studies on the ecological/vegetation characteristics of all areas earmarked for project activities and facilities e.g., areas borrow pit sites for the raw materials and waste rock disposal, workshops and other infrastructure facilities.

Socio-economic environment:

- Review baseline data and information on the socio-economic environment as provided in the scoping report and present any additional data related to the project area.

Task 3: Legislative and Regulatory Considerations

Describe pertinent regulations and standards governing environmental quality and management, health, safety, protection of sensitive areas, endangered species, and land use control at relevant local, regional, national, and international levels.

Task 4: Determination of Potential Impacts of the Proposed Project

Identify and predict all possible impacts qualitatively and where possible quantitatively, of the project on the biophysical, socio economic and cultural environment. Specify the methodology used on predictions. In particular, the following issues will be addressed.

Biophysical issues:

- Provide baseline data on dust, quality of surface and groundwater;
- Examine and determine the requirements of water for rehabilitation operations and establish the possible potential sources;
- Identify current sources of pollution in main water sources such as rivers and springs by taking into considerations the surrounding activities, e.g. animal grazing, charcoal burning, etc.;
- Examine the handling, storage and use of any chemical in the catchment around the source mining operations i.e., factory discharges, mining, and mechanical farming activities.
- Evaluate the loss and disturbance of biodiversity and threatened species resulting from the vegetation clearance during rehabilitation and operation and recommend mitigation measures;
- Examine evaluate the impacts that may result from generation of odors and noise from the equipment and machinery operating in the area and impounded waters;
- Evaluate health and nuisance problems resulting from dust, air and oil pollution from mobile equipment and machinery. Identify other existing pollutants in the project environment and recommend mitigation measures;

- Determine rehabilitation programs after project closure, with regard to land reclamation, re-vegetation, infrastructure, etc.;
- Guided by acceptable standards and regulations make recommendations on the design criteria to be used for the project quarry sites, borrow pit waste, rock dumps and support infrastructure.

Socio-economic issues:

- Conduct further consultations with those stakeholders who were not covered in the earlier study and incorporate their views accordingly;
- Examine possibilities and devise mechanisms for compensation of loss of income by people whose activities will be affected by the mining operations;
- Review Government procedures and compensation rates for people living in areas earmarked for quarrying, involuntary displacement;
- Review the current and planned project outreach programs in relation with addressing issues associated with the influx of job seekers in the area versus pressure on resources and social services in the District;
- Conduct further consultations to ascertain the extent of both negative and positive social and economic contributions of the project;
- Identify people and groups (with gender considerations) that are most likely to benefit/be affected;
- Identify and evaluate the impacts resulting from influx of new people to the area, who may influence and affect the attitudes and behavior of people in the area;

Task 5: Analysis and assessment of impacts

The description of impacts should indicate whether impacts are positive or negative, direct or indirect, short or long term, reversible or irreversible. Furthermore, the study should consider cumulative impact on a regional scale.

Guided by acceptable standards and regulations recommend the most feasible measures to eliminate/reduce/mitigate the impacts.

Task 6: Analysis of Alternatives

Describe alternatives that were considered or examined in the course of developing the proposed project. Also, identify other alternatives of achieving the same objectives in the case of siting, design, technology, rehabilitation techniques, phasing, etc and compare them in relation to suitability under local conditions, potential environmental and social impacts and institutional training and monitoring requirements. The zero alternative scenarios should also be considered.

Task 7: Develop an Environmental and Social Management Plan to Mitigate Negative Impacts

Propose feasible and cost effective measures to reduce the negative impacts. Prepare an environmental and social management and monitoring plan in relation to operations in the project area to include the proposed programs, budget estimates, schedules, staffing and training requirements to implement the mitigation measures and impacts of the projects during the rehabilitation and the operational phase.

Task 8: Develop the Monitoring Plan

Prepare a detailed plan to monitor the implementation of the proposed mitigation measures and reduction of environmental and social impact of the project during rehabilitation and operation phases.

This plan should specify which parameters are to be monitored, at what interval and frequency, costing and assign responsibility i.e., who will be doing what, when and how.

Task 9: Public involvement

Ensure adequate public consultation and involvement in the environmental and social study process by consulting key stakeholders that were not covered during the scoping study. Review the consultation process undertaken during the scoping exercise. Ensure concerned stakeholders are involved and their concerns are taken to the board. The result of public consultations should be documented in the report.

3.0 Reporting

The final draft of the EIS document and EMP address issues associated with the project area should be prepared and be concise by following the proposed report writing guidelines in the Environmental management and Protection Act no. 20,(2004) Regulations 2004, for simplifying the review process. The executive summary should be both in Swahili and English per EMA, 20 regulations.

4.0 References

The objective of this section is to identify and record the written materials used in the study. This is extremely important because some of the material used as background information may be in unpublished form, and yet it may be necessary that these are available during the review process. A list of references will be included in the final report together with the list of people contacted and summary of interviews

ANNEX V

GUIDELINES FOR PREPARATION OF AN ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN (ESMP)

The preparation of an EMP should include the following key sections

1. Summary of Impacts: Anticipated adverse environmental impacts should be identified and summarized as well as their relationship to social impacts and the appropriate mitigation measures
2. Description of Mitigation measures: The mitigation measures proposed for the various impacts should be described in relation to the corresponding impacts while stating the conditions under which they are required. Adequate description of the consultations should be done and justified.
3. Description of monitoring program: A detailed monitoring program should be described in the EMP, listing environmental and social performance indicators and their link with impacts and mitigation measures. The EMP should also describe the parameters to be measured, methods to be used, sampling location and frequency of measurements, detection limits and a clear definition of thresholds that indicate the need for corrective measures. Monitoring and supervision schedules should be clearly stated and agreed with the Bank to ensure timely detection of needs for remedial action and also provide information on the level of compliance with EMP in accordance with Bank safeguards. These arrangements must be clearly stated in the project implementation/operations manual to reinforce project supervision.
4. Legal requirements and bidding/contract documents: The EMP should be incorporated in all legal documents to enforce compliance by all contractors participating in the project. The EMP should be summarized and incorporated in the bidding and contract documents

Institutional arrangements: The EMP should clearly state who is responsible for monitoring, execution of remedial action and the reporting order and format to allow for a defined channel of information flow. It should also recommend institutional strengthening for relevant agencies and the funding authorities for the various activities.

6. Capacity Development and Training: To support timely and effective implementation of Environmental and social project components and mitigation measures, the EMP draws on the EA's Assessment of the existence, role, and capability of environmental and social units on site or at the agency and ministry level.³ If necessary, the EMP recommends the establishment or expansion of such units, and the training of staff, to allow implementation of EA recommendations. Specifically, the EMP provides a specific description of institutional arrangements i.e. who is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental and social management capability in the agencies responsible for implementation, most EMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.
7. Implementation Schedule: The frequency, timing and duration of mitigation measures and monitoring should be stated in the implementation schedule. Links between

ANNEX VI

EMP FOR REHABILITATION/CIVIL WORKS AT ZONAL MINES OFFICES

I. Environmental impacts related to civil works

Construction activities generate varied kinds of waste which have the potential of polluting the neighbouring air, water and land. The neighbourhood and surrounding areas of any construction can be adversely affected by the huge amounts of construction materials, waste and large number of temporary construction workers, if they are not managed properly. Health, safety and sanitation of these temporary workers is an added concern which needs to be addressed during the course of the construction activity.

MEM will ensure that all these new constructions and upgradations/extensions are being done on land which belongs to the Government and/or is free of any occupation or "encroachment". If there is any issue related to relocation of encroachers, the Bank should be informed accordingly. During the course of the program, if there are any plans for a **major construction**, (such as a complete building and/or which require land acquisition etc.) the Bank will need to be informed well in advance and the appropriate environmental plan will need to be developed.

II. Construction Guidelines

The design and construction of the planned facilities should conform with national regulations.

- The drainage pattern of the site and the region should be studied to determine whether the site would be subject to flooding and stagnant water. The chosen site should be free from water logging problems.
- The setting of the upgraded/renovated facility should not harm natural habitats or biodiversity of the region, e.g. forest areas, wet lands, historic, archaeological or religious sites.

III.b) Guidelines for design

- Good indoor air quality and ventilation should be ensured in the building design.
- The flooring design should be such that it does not lead to falls, slippage and retention of infectious material.
- Good construction practices should be planned. This should include the usage of environment friendly construction products such as fly ash.
- Building materials should be fire resistant and there should be provision for evacuation in the event of fire.
- Sanitary standards for waste water treatment storage and disposal should be in compliance with national norms
- Wastewater and effluents should be treated and recycled wherever feasible.
- Adequate drainage and evacuation arrangements should be made at all points where water is available.
- Norms for mercury and other chemical management must be compiled with
- Sufficient number of bins should be provided to collect general solid waste

- For recyclables, storage locations should be planned.
- The facility / building should have an emergency egress.
- Unsafe building materials such as asbestos should be avoided
- Low-cost lead-based paints, anti-termite chemicals and other pest management using chemical pesticides should be avoided.

III.c) Construction Management Guidelines

Any upgradation/renovation of a building creates environmental impacts, which can be minimized through good construction management practices. This section includes some guidelines on how these impacts can be mitigated or reduced.

- *Generation of dust* is common in a construction site. In order to reduce dust emissions, periodic watering should be done. In addition, temporary fencing should be provided along the boundary so that the emissions do not affect the immediate neighbours.
- *Noise pollution* due to operation of different types of equipment and machinery during construction activities may disturb the surrounding premises, including residential dwellings, schools, hospitals etc. Construction should be carried out only during the daytime and as per permitted timings. If there is an educational institution in the neighbourhood, proper temporary noise barriers should be erected to reduce construction-related noise impacts.
- Labour camps on site should be well maintained with proper water and sanitation services .
- If there is any eco-sensitive habitat in the vicinity of the construction site, care should be taken to ensure that there are no adverse impacts on the habitat. Any existing streams and drains within, and adjacent to the site should be kept safe and free from any debris and any excavated materials arising from the works.
- *Construction waste* generated should be properly stored on site and disposed by filling low-lying areas after obtaining the required local permissions.
- *Liquid spills* of lubricant, fuel and oil within the site should be attended at the earliest in order to minimize land & groundwater contamination.
- Temporary fencing around the project site should be provided to regulate the entry and exit of material, personnel and equipment.
- Construction workers, managers and visitors to the site should use personnel protective equipment such as helmets, gloves, safety boots and goggles

ANNEX VII

TEMPLATE FOR ENVIRONMENT PROTECTION PLAN (EPP)

PART A: TITLE OF THE REPORT

Environmental Protection Plan for(Type of the Project e.g Gold Mining and Processing) at(Locality),..... (District) in(Region)

The cover page also should include:

- Name and address of the project owner
- Name and address of the expert who conducted environmental and social studies
- Time of production and submission of the EPP report.

PART B: REPORT CONTENTS

1. GENERAL INFORMATION (FOR ALL MINERALS)

1.1 General Introduction

- Information (ownership history) on developer and/or operator of the mine and/or plant;
- Type of license and Minerals(PML or Processing) and its tenure; and
- Location: (Locality, Village, Ward, District and Region). Locate the area on the map and provide coordinates

1.2 Objective

Explain the purpose of the project. e.g to mine or to process minerals or both;

1.3 Scope

Provide the scope as follows

- spatial boundaries(what aerial extent project impact will reach),
- administrative (under what Government administrative level the project will be administered); and
- temporal (Proposed project life time).

1.4 Methodology of the Study

Explain the methods employed in environmental investigation and social baseline studies

1.5 Project Permitting Requirements

- Relevant Polices
- Relevant Legislations
- Any international convention relevant to the project

2. PROJECT DESCRIPTION

2.1 Project Location and Accessibility

- Geographic location from the nearest township/city
- Accessibility (road, railway etc)
- Site arrangement/layout plan (Sketch and Map)

2.2 Mining and Materials/Minerals Processing Methods

- Type of minerals mined and processed
- Method(s) employed in mining and minerals processing
- Proposed mining output (quantity)
- Proposed production output (quantity and grade (if possible))

2.3 Use and storage of chemicals (If any)

- Types and quantities of chemicals/reagents used
- Ways to be used for chemicals storage as per Industrial and Consumer Chemicals (Management and Control) Act, 2003

2.4 Emissions and discharge to air, land and water

- sources of air emissions
- sources of land and water pollution
- types and estimated amount of wastes (waste rocks, solid and liquid wastes) to be generated
- Management of wastes and emissions produced and disposal methods

2.5 Infrastructure and Facilities

- Types and capacities of equipments
- Sources of power and water supply
- Energy and water demands
- Provision for accommodation and offices
- Temporary and permanent structure to be erected on site
- Waste management facilities (waste rocks, tailings, solid and liquid wastes)

3. ENVIRONMENT AND SOCIAL BASELINE STUDY

3.1 Biological Characteristics

- Flora (names of common animals, reptiles and birds within the project area)
- Fauna (names of common trees within the project area)
- Aquatic information (information on aquatic habitat) (If any)

3.2 Physical Characteristics

Provide information on the following:

- Climate (average monthly temperature, rainfall seasons and amount if possible)
- Geology and mineralization
- Soil (type and profile)
- Surface and ground water sources around the project
- Topography (landscape and visual character)

3.3 Socio-Economic Information

Provide information on the following;

- Demography (village and ward levels)
- Land Use and Tenure
- Settlement, compensation and relocation
- Local communities (ethnicity and livelihood)
- Socio-economic activities
- Socio-economic Infrastructure (hospital, schools, markets, waster and energy sources)
- Cultural heritage

4. STAKEHOLDERS CONSULTATION

- Provide List/Groups of stakeholders consulted (up to district level)
- Incorporate comments of stakeholders
- Attach names and signatures stakeholders consulted

5. IMPACTS IDENTIFICATION

5.1 Environmental Impacts

Identify and describe environmental impacts related to the project activities for all stages of the project (construction, operation and closure) in air, water, soil, flora and fauna.

5.2 Socio-economic Impacts

Provide positive and negative socio-economic impacts. For example impacts on: Health, cultural heritage, accessibility, social services etc.

6. ENVIRONMENTAL PROTECTION PLAN

Environmental protection plan should be comprised of the following

6.1 Mitigation measures

Provide mitigations for enhancement of positive impact and minimization of negative impacts identified in Part 5 above.

6.2 Monitoring Plan

Prepare a plan to monitor implementation of the mitigation measures. The plan should include among other things (Appendix 3):

- Project phase
- Potential impacts
- Parameters to be monitored
- Monitoring frequency
- Monitoring Area
- Measurement Unit
- Target
- Responsible

6.3 Conceptual Closure Plan

Provide the conceptual closure plan with the following information (Appendix 4)

- Decommissioning, Restoration and Alternative use of facilities
- Alternative land use
- Environmental and social restoration plans
- Provisional restoration cost estimates

APPENDICES

Appendix 1: Example of Environmental Impacts Identification for Gold Mining and Processing.

S N	Project Phase	Project Activity	Potential Impacts	Risk Assessment
1	Construction	Land Disturbances: - Land clearance - Land excavation	Soil erosion	Medium Environmental Impact: - No off-site impact, confined to small area on-site,
			Reduced vegetation cover	Medium Environmental Impact: - No off-site impact, confined to small area on-site,
			Soil compaction	Medium Environmental Impact: - Off-site and onsite impacts are confined to the roads.
		Emissions from vehicles: - Dust emissions - Exhaust Emissions	Air pollution	Medium Environmental Impact: - Off-site and onsite impacts are confined to the roads.
			Aesthetic impacts	Low Environmental Impact
2	Operational Phase: 2.1 Under ground Mining	Drilling and Blasting	Contamination of ground water	Medium Environmental Impact: - Potential onsite and off-site impacts
			Health impacts to employees from drilling and blasting	High Health Impact: - Potential for long-term health effects to employees involved in drilling due to dust emissions.
		Underground workings dewatering	Water drawdown form water table	High Environmental Impacts: - Impact may extend beyond the site boundary.
		Waste Rocks	Land and water pollution	Medium Environmental Impact: - Moderate effects on biological or physical environment. Damage can be recoverable in the long-term.
		Electricity Usage and Generation	Air emissions	Medium Environmental Impact: - Continuous running of generators contributes to noise and air emissions
		2.2 Haulage of Materials	Emissions from vehicles hauling materials:	Air Pollution

S N	Project Phase	Project Activity	Potential Impacts	Risk Assessment
	for vat leaching	<ul style="list-style-type: none"> - Dust emissions - Noise - Exhaust Emissions 	Aesthetic Impacts	Low Environmental Impact <ul style="list-style-type: none"> - Impact confined in a small area
	2.3 Gold Processing	Chemicals Usage for processing	<ul style="list-style-type: none"> - Land and water pollution from chemicals 	High Environmental Impact: <ul style="list-style-type: none"> - Contamination or damage recoverable in moderate period of time (e.g. 1-3 yrs) - Impact may extend beyond the site boundary.
			<ul style="list-style-type: none"> - Health impacts to employees 	Medium to High Impact: <ul style="list-style-type: none"> - Long-term health effects to employees are not expected due to the nature of operation, however, there is a potential for sudden death in case of cyanide poisoning.
		Water usage for processing	Depletion of water resources;	Low Environmental Impact <ul style="list-style-type: none"> - Water for processing is being recycled.
			Contamination of water	High Environmental Impact: <ul style="list-style-type: none"> - Impact may extend beyond the site boundary.
		Hydrocarbons usage on vehicles and generators	Land and water pollution from hydrocarbon spillages	Low Environmental Impact <ul style="list-style-type: none"> - Impact confined in a small area onsite - Provision of secondary containment for hydrocarbons
			Air emissions from generators	Medium Environmental Impact: <ul style="list-style-type: none"> - Continuous running of generators contributes to noise and air emissions
		Noise and Vibrations from Generators	Noise emissions and vibration	Medium Environmental Impact: <ul style="list-style-type: none"> - Continuous running of generators contributes to noise emissions and vibration
		Disposal of treated tailings	Sedimentation of water courses	Medium Environmental Impact: <ul style="list-style-type: none"> - Potential for sediments being washed offsite
			Change in topography	Low Environmental Impact <ul style="list-style-type: none"> - Impact confined in a small area onsite

SN	Project Phase	Project Activity	Potential Impacts	Risk Assessment
			Land and water pollution from metals available in tailings and vegetation metal uptake (Refer soil quality data)	Medium Environmental Impact: -Potential for off-site and onsite health impacts
		Disposal of empty chemical containers	Health impacts to scavengers and end users of chemical containers	Medium Environmental Impact: - Potential for off-site and onsite health impacts
3	Closure Phase	Decommissioning of infrastructure	Aesthetic impact	Low Environmental Impact - Impact confined in a small area.
		Site abandonment	Aesthetic, environmental and health impacts	High Impact: - Impact may extend beyond the site boundary.

Appendix 2: Example of Social Impacts Identified for Gold Mining and Processing

SN	Phase	Aspect	Impact
	Construction Phase	Employment	- Income generation
		Migration	- Resources scarcity - Change in social values
		Public health and safety	- Accidents - Communicable diseases
	Operation Phase	Occupational and public health	- Increased exposure to diseases
		Vat leaching method	- Technology gain
		Migration	- Resources scarcity - Change in social values
	Decommissioning	Income and aesthetic	- Loss of income
			- Impairment of land usefulness

Appendix 3: Example of Mitigation Measures for Gold Mining and Processing

SN	Potential Impacts	Mitigation Measures
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SN	Potential Impacts	Mitigation Measures
01	Reduced vegetation cover	<ol style="list-style-type: none"> 1. Rehabilitate disturbed areas by planting indigenous trees such as <i>Pericopsis angolensis</i>; <i>Brachystegia spiciformis</i>; <i>Brachystegia boehmii</i>; and <i>Dichrostachys cinerea</i>. 2. Ensure that topsoil is being stripped in new working areas and stockpiled for future rehabilitation activities.
02	Soil erosion	Re-vegetate disturbed areas by planting indigenous plants and grasses to reduce washouts.
03	Soil compaction	<ol style="list-style-type: none"> 1. Limit vehicle movements in designated roads. 2. Ensure waste rocks and treated tailings are disposed in designated areas.
04	Air Pollution	<ol style="list-style-type: none"> 1. Implement dust suppression on roads. 2. Ensure that vehicles are well maintained to reduce exhaust emissions. 3. Limit vehicles speed onsite.
05	Aesthetic Impacts	<ol style="list-style-type: none"> 1. Design waste rock dump and tailings dumps in a manner that will reduce visual impacts of the project; 2. Rehabilitate disturbed areas, waste rock dump and tailings dumps with indigenous plants 3. Maintain housekeeping within the facility
06	Land and water pollution from chemicals	<ol style="list-style-type: none"> 1. Ensure that mercury amalgamation process is conducted in an area that prevents water from amalgamation process to interact with the environment and ensure that spillages are being contained and cleaned. 2. Ensure that all chemicals are being stored in a proper manner to reduce interaction with environment. 3. Ensure that all chemical spillages are being contained and cleaned. 4. Dispose all obsolete chemicals in consultation with GCLA and NEMC. 5. Ensure that all chemicals have material safety data sheets and the chemical containers are well labeled.
	Health Impacts to Employees	<ol style="list-style-type: none"> 1. Ensure that gold-mercury complex is burnt in a manner that will prevent mercury vapor emissions. 2. Provide personal prospective gears to all employees. 3. Provide clean drinking water for employees; 4. Provide antidote in areas with potential for hydrogen cyanide gas poisoning. 5. Conduct pre and post employment health checkup to employees. 6. Provide first aid kits in working areas; 7. Maintain a register showing health incidents in working areas and mitigation measures to prevent recurrence. 8. Install alarm system / detector of hydrogen cyanide gas in areas such as stores and reagent mixing area (barren solution tank).

SN	Potential Impacts	Mitigation Measures
	Depletion of water resources	<ol style="list-style-type: none"> 1. Ensure that excess water from underground workings is being used for positive alternative such as irrigation farming. 2. Ensure that water being used for processing is recycled. 3. Monitor water pumping from underground workings.
	Contamination of water	<ol style="list-style-type: none"> 1. Ensure that process water is being recycled and prevent release. 2. Ensure periodic monitoring of ground water for potential contamination.
	Land and water pollution from hydrocarbon spillages	<ol style="list-style-type: none"> 1. Provide secondary containment for all hydrocarbons containers. 2. Ensure that all hydrocarbon spillages are contained and cleaned.
	Air emissions from generators	<ol style="list-style-type: none"> 1. Ensure periodic maintenance of generators to reduce exhaust emissions. 2. People working in powerhouse/generators should be provided with ear plugs to reduce noise impacts.
	Sedimentation of water courses	Design tailings dumps batter angles in a manner that will reduce washout during rainfalls.
	Change in topography	Ensure rehabilitation of tailings heaps and waste rock dumps to mimic natural terrain/topography i.e. gently sloping
	Land and water pollution from metals available in tailings and water rocks	<ol style="list-style-type: none"> 1. Provide water and sediments containment channels around tailings and waste rocks dumps. 2. Conduct periodic monitoring of ground water and vegetation.
	Site abandonment	Prepare detailed mine closure plan and submit to Chief Inspector of mines for review and approval.

Appendix 4: Example of Monitoring Plan for Gold Mining and Processing

Phase	Potential Impact	Parameter to be monitored	Monitoring Frequency	Monitoring Area	Measurement Unit	Target level	Responsibility	Estimated cost
Operational Phase: Mining	Water Pollution	pH, EC, TDS, Mercury, Lead, Zinc, Copper, Arsenic	Biannually	Mine Dewatering	Parameters Units	EMA, 2004 & 2007 Standards Regulations		1,000,000
	Health impacts to employees	Dust impacts	Annually	Employees involved in drilling		EMA, 2004 & 2007 Regulations; OSHA, 2003		
	Aesthetic Impact	Rehabilitation of waste rock and tailings dumps	Annually	Waste rock and tailings dumps	Hectares Rehabilitated	Rehabilitation Plan		
Operational Phase: Processing	Mercury contamination	Mercury on soil, water and vegetation	Biannually	Mine site	ppm, mg/l	EMA, 2004 & 2007 Standards Regulations		
	Contamination of land and water due to accidental/incidental spillages/leakage of chemicals/oils/lubricants of lubricants	Cyanide species (WAD, Total); Mercury	Bi Annual	Tailings Disposal area; Water from underground workings	ppm, mg/l	EMA, 2004 & 2007 Regulations		400,000/=

Phase	Potential Impact	Parameter to be monitored	Monitoring Frequency	Monitoring Area	Measurement Unit	Target level	Responsibility	Estimated cost
	Disturbance to workers and neighbours due to noise pollution from generators	Noise levels	Bi Annual	Processing area	dB	TBS and OSHA standards	• OSHA	
	Disposal of empty chemical containers	Numbers of containers disposed	Monthly	Project area	Numbers of containers disposed	N/A	• TBS, GCLA, NEMC, MOHSW and M/S	120,000/ = per year
	Vegetation metal uptake from tailings	Mercury, Lead, Zinc, Copper, Arsenic	Annually	Project area	ppm	No metals uptake		200,000/ = yearly
Decommissioning phase	Loss of aesthetic value	Housekeeping/ Well designed facilities	Throughout project life and after closure	Entire project area	none	none		300,000/ = yearly
	Loss of income to workers	Social Security Funds Contributions	Monthly	All CMK employees	Number of employees registered with Social Security Funds	All CMK employees		
	Contamination of land and water due to improper demolition /chemical wastes disposal	Quantity of Wastes/ chemicals left on site	Six months after decommissioning	Project area	Kilograms	No wastes, chemicals left on site		

Appendix 5: Example of Conceptual mine/processing site closure plan

S/N	Project Component	Proposed Decommissioning and Closure Plan	Estimated Expenditure (TZS)
1	Waste Rock Dump	<ul style="list-style-type: none"> • Use the waste rocks to progressively backfill the mining pits which are no longer used for mining • Re-vegetate the area formally occupied by the waste rocks 	2,500,000
2	Mining Pits	Progressively backfill the pits by using waste rocks	1,500,000
3	Buildings and other erective structures	<ul style="list-style-type: none"> • Demolish all buildings that have no future value to the surrounding communities • Overlay the topsoil and plant trees 	3,000,000

ANNEX VIII

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