## Part I: Project Information

**Name of Parent Program**
**Global Opportunities for Long-term Development of artisanal and small-scale gold mining ASGM) Sector Plus - GEF GOLD +**

**GEF ID**
**10603**

**Project Type**
FSP

**Type of Trust Fund**
GET

**CBIT/NGI**
CBIT **No**
NGI **No**

**Project Title**
GEF GOLD+ in Nigeria: Enhancing the formalization and mercury-free gold in Nigeria

**Countries**
Nigeria

**Agency(ies)**
UNIDO

**Other Executing Partner(s)**
Federal Ministry of Environment, Ministry of Mines and Steel Development, Basel Convention Coordinating Center

**Executing Partner Type**
Government

**GEF Focal Area**
Chemicals and Waste

**Sector**

**Taxonomy**

Focal Areas, Chemicals and Waste, Mercury, Artisanal and Scale Gold Mining, Waste Management, Hazardous Waste Management, Emissions, Sound Management of chemicals and waste, Best Available Technology / Best Environmental Practices, Convene multi-stakeholder alliances, Influencing models, Deploy innovative financial instruments, Transform policy and regulatory environments, Demonstrate innovative approache, Strengthen institutional capacity and decision-making, Local Communities, Stakeholders, Communications, Education, Behavior change, Awareness Raising, Private Sector, Financial intermediaries and market facilitators, Capital providers, Civil Society, Academia, Trade Unions and Workers Unions, Community Based Organization, Non-Governmental Organization, Beneficiaries, Type of Engagement, Partnership, Participation, Information Dissemination, Consultation, Gender Mainstreaming, Gender Equality, Women groups, Gender-sensitive indicators, Gender results areas, Access and control over natural resources, Participation and leadership, Capacity Development, Knowledge Generation and Exchange, Access to benefits and services, Knowledge Generation, Capacity, Knowledge and Research, Knowledge Exchange, Innovation, Learning, Training, Theory of change, Adaptive management

**Rio Markers**

**Climate Change Mitigation**

No Contribution 0

**Climate Change Adaptation**

No Contribution 0

**Biodiversity**

No Contribution 0

**Land Degradation**

No Contribution 0

**Submission Date**

12/2/2021

**Expected Implementation Start**

1/1/2023

**Expected Completion Date**

12/31/2027

**Duration**

60In Months

**Agency Fee($)**

346,500.00

**A. FOCAL/NON-FOCAL AREA ELEMENTS**

| Objectives/Programs | Focal Area Outcomes | Trust Fund | GEF Amount($) | Co-Fin Amount($) |
|---|---|---|---|---|
| CW-1-1 | Reduction of anthropogenic releases/emissions of mercury from Artisanal and Small- Scale Gold Mining (ASGM) into the environment | GET | 3,850,000.00 | 29,370,000.00 |
| | | **Total Project Cost($)** | **3,850,000.00** | **29,370,000.00** |

**B. Project description summary**

**Project Objective**

To reduce the use of mercury in the ASGM sector in Nigeria through a holistic, multi-sectoral integrated formalization approach, and increasing access to finance leading to adoption of sustainable mercury-free technologies and access to traceable gold supply chains.

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 1.Enhancing ASGM formalization | Technical Assistance | Increased formalization in the sector through multi-sectoral, integrated approaches and capacity building of actors engaged in ASGM formalization | 1.1. ASGM and leaching plants coexistence institutionalized by the Government of Nigeria<br><br>1.2. Commodity specific Jurisdictional Approach (JA) piloted with a focus on ASGM and leaching plants coexistence.<br><br>1.3. Sufficient capacity by the government to assess, plan, and implement sustainable and mercury-free interventions in target ASGM regions | GET | 1,050,000.00 | 8,010,000.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 2. Access to finance enhanced by financial inclusion and responsible supply chains | Investment | Increase in financing options for miners through the attainment of better gold prices facilitated by transparent and responsible supply chains | 2.1. ASGM organizations procured equipment through micro-financing institutions and improved business skills for men and women.<br><br>2.2. Technology-assisted mineral supply chain due diligence developed and tested in target regions | GET | 1,100,000.00 | 8,391,429.00 |
| 3. Enhancing uptake of mercury-free technologies | Technical Assistance | Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners | 3.1. Local institutions strengthened to support mercury reductions and invest in mining organizations<br><br>3.2. Assay lab or processing plant and training center established to promote resource efficient gold mining | GET | 956,667.00 | 7,298,003.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 4. Knowledge sharing, communication and local capacity building support | Technical Assistance | Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts | 4.1. Miner and investment focused communication strategies explored, tested, deployed and scaled up. | GET | 470,000.00 | 3,585,428.00 |
| 5. Monitoring and Evaluation | Technical Assistance | Project progress continuously monitored and evaluated | 5.1. Project Monitoring<br><br>5.2 Project Mid Term Review and Terminal Evaluation | GET | 90,000.00 | 686,571.00 |
| | | | **Sub Total ($)** | | **3,666,667.00** | **27,971,431.00** |

| **Project Management Cost (PMC)** | | |
|---|---|---|
| GET | 183,333.00 | 1,398,569.00 |
| **Sub Total($)** | **183,333.00** | **1,398,569.00** |
| **Total Project Cost($)** | **3,850,000.00** | **29,370,000.00** |

**Please provide justification**

**Co-financing support letters included in Annex L**

**C. Sources of Co-financing for the Project by name and by type**

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount($) |
|---|---|---|---|---|
| Recipient Country Government | Ministry of Mines and Steel Development (MMSD) | In-kind | Recurrent expenditures | 5,000,000.00 |
| Recipient Country Government | Federal Ministry of Environment (FMEnv) | In-kind | Recurrent expenditures | 4,000,000.00 |
| Recipient Country Government | National Environmental Standards and Regulations Enforcement Agency (NESREA) | In-kind | Recurrent expenditures | 5,000,000.00 |
| Civil Society Organization | The Basel Convention Coordinating Centre for the African Region in Nigeria (BCCC Africa) | In-kind | Recurrent expenditures | 2,500,000.00 |
| Recipient Country Government | Kebbi State Government | In-kind | Recurrent expenditures | 250,000.00 |
| Recipient Country Government | Kaduna State Government | Equity | Investment mobilized | 1,200,000.00 |
| Recipient Country Government | Kaduna State Government | In-kind | Recurrent expenditures | 300,000.00 |
| Beneficiaries | Miners Association of Nigeria (MAN) | In-kind | Recurrent expenditures | 1,500,000.00 |
| Civil Society Organization | Women in Mining (WiM) | In-kind | Recurrent expenditures | 500,000.00 |
| Civil Society Organization | Global Rights (GR) | In-kind | Recurrent expenditures | 3,000,000.00 |
| GEF Agency | UNIDO | Grant | Investment mobilized | 80,000.00 |

| Sources of Co-financing | Name of Co-financier | Type of Co-financing | Investment Mobilized | Amount($) |
|---|---|---|---|---|
| GEF Agency | UNIDO | In-kind | Recurrent expenditures | 40,000.00 |
| Private Sector | Bank of Industry (BOI) | Loans | Investment mobilized | 5,000,000.00 |
| Private Sector | Yankari Global Infrastructure Ltd. | Grant | Investment mobilized | 1,000,000.00 |
| | | | **Total Co-Financing($)** | **29,370,000.00** |

**Describe how any "Investment Mobilized" was identified**

During the preparatory phase, all the stakeholders and initiatives in the ASGM sector were mobilized to identify the synergies and cross cutting interventions. The Federal Ministry of Environment, Federal Ministry of Mines and UNIDO led a series of meetings with stakeholders to communicate the objective and the expected results of the project and to facilitate identification of the appropriate resources to support the project goals. These ensured stakeholders interest in committing resources to the project and identifying areas of interest. Component 1 addressing formalization is supported by an amount of 8,010,000 USD, which will be channeled as in-kind contribution from MMSD, FMEnv and NESREA. These institutions have been at the forefront of minerals, pollution and enforcement governance of mining in Nigeria and are ready to co-finance formalization, jurisdictional approach and compliant capacity of Nigeria in ASGM under the project Component 2 looks to address financing and supply chain of ASGM; a total of 8,391,429 USD will be invested as both in-kind and investment equity by MMSD, Kaduna State, MAN and Women in Mining (WiM). Kaduna State is already financing a gold mining license and exploration in the State and they have committed to working and supporting the project with an investment equity contribution. MAN and WiM contribution will propel the mobilization of about 500,000 USD. This will go along with sustainability of the project activities in the state. Miners Association of Nigeria (MAN) who are the major beneficiaries have committed to investment equity in form of equipment, technologies, and human resources provisions. MMSD as the responsibility government entity on gold mining and with financing gold value-chain as part of their major goals will also commit resources to financing gold mining under the project. Bank of Industry mobilized relevant financing programme addressing ASGM investments, of which an amount of 5 mio USD represents confirmed co-financing for the Gold+ Nigeria child project. Component 3 looks to address technology transfer; a total amount of 7,298,003 USD will be channeled as in-kind and investment equity during the project from FMEnv, BCCCA, Kebbi State, Kaduna State and NESREA. NESREA is the foremost environment enforcement body in Nigeria and therefore is saddled with the responsibility to ensure compliance of pollution prevention measures from the project. It has committed to investment equity in form of human resources, some compliance equipment and surveillance activities, which are already in use, during the project. The provision of support for the proper

implementation of this component will ensure Mercury reduction and its eventual elimination from ASGM in Nigeria. The involvement of Kaduna and Kebbi States States contributions and the Niger and Zamfara States will help to mobilize an investment of not less than 500,000 USD. Additional private sector direct investment contribution of Yankari Global Infrastructure Ltd, direct partner of the Mining Association, is also to be quoted as support for this project component. Component 4 looks to address awareness creation and knowledge transfer; 3,585,428 USD in-kind contribution from WiM, MAN and Global Rights NGO. These are organizations are the root of gold mining due diligence in Nigeria and their contribution will further attract other mining and environment focused NGOs and interested bodies to the project Component 5 addresses monitoring and evaluation of the project; with a co-finance sum of 1,398,569 USD from NGOs and UNIDO. UNIDO as the implementing agency will provide 80,000 USD grant and 40, 000 USD in-kind contribution to support the overall management coordination.

**D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds**

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNIDO | GET | Nigeria | Chemicals and Waste | Mercury | 3,850,000 | 346,500 | 4,196,500.00 |
| | | | **Total Grant Resources($)** | | **3,850,000.00** | **346,500.00** | **4,196,500.00** |

**E. Non Grant Instrument**

NON-GRANT INSTRUMENT at CEO Endorsement

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Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

**F. Project Preparation Grant (PPG)**

PPG Required **true**

**PPG Amount ($)**

120,000

**PPG Agency Fee ($)**

10,800

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNIDO | GET | Nigeria | Chemicals and Waste | Mercury | 120,000 | 10,800 | **130,800.00** |
| | | | | **Total Project Costs($)** | **120,000.00** | **10,800.00** | **130,800.00** |

## Core Indicators

**Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| 0.00 | 251.19 | 0.00 | 0.00 |

**Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|
| | 251.19 | | |

**Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|

**Type/Name of Third Party Certification**

**Indicator 4.3 Area of landscapes under sustainable land management in production systems**

| Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|

**Indicator 4.4 Area of High Conservation Value or other forest loss avoided**

| Disaggregation Type | Ha (Expected at PIF) | Ha (Expected at CEO Endorsement) | Ha (Achieved at MTR) | Ha (Achieved at TE) |
|---|---|---|---|---|
| | | | | |

**Indicator 4.5 Terrestrial OECMs supported**

| Name of the OECMs | WDPA-ID | Total Ha (Expected at PIF) | Total Ha (Expected at CEO Endorsement) | Total Ha (Achieved at MTR) | Total Ha (Achieved at TE) |
|---|---|---|---|---|---|

## Documents (Please upload document(s) that justifies the HCVF)

| Title | Submitted |
|---|---|

**Indicator 6 Greenhouse Gas Emissions Mitigated**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| Expected metric tons of CO?e (direct) | 0 | 119880 | 0 | 0 |
| Expected metric tons of CO?e (indirect) | 0 | 0 | 0 | 0 |

**Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| Expected metric tons of CO?e (direct) | | | | |
| Expected metric tons of CO?e (indirect) | | | | |
| Anticipated start year of accounting | | | | |
| Duration of accounting | | | | |

**Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector**

| Total Target Benefit | (At PIF) | (At CEO Endorsement) | (Achieved at MTR) | (Achieved at TE) |
|---|---|---|---|---|
| Expected metric tons of CO?e (direct) | | 119,880 | | |
| Expected metric tons of CO?e (indirect) | | | | |
| Anticipated start year of accounting | | 2022 | | |
| Duration of accounting | | 5 | | |

**Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

| Total Target Benefit | Energy (MJ) (At PIF) | Energy (MJ) (At CEO Endorsement) | Energy (MJ) (Achieved at MTR) | Energy (MJ) (Achieved at TE) |
|---|---|---|---|---|
| Target Energy Saved (MJ) | | | | |

**Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)**

| Technology | Capacity (MW) (Expected at PIF) | Capacity (MW) (Expected at CEO Endorsement) | Capacity (MW) (Achieved at MTR) | Capacity (MW) (Achieved at TE) |
|---|---|---|---|---|

**Indicator 9 Chemicals of global concern and their waste reduced**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|
| 0.00 | 18.48 | 0.00 | 0.00 |

**Indicator 9.1 Solid and liquid Persistent Organic Pollutants (POPs) removed or disposed (POPs type)**

| POPs type | Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|---|

**Indicator 9.2 Quantity of mercury reduced (metric tons)**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|
| | 18.48 | | |

**Indicator 9.3 Hydrochloroflurocarbons (HCFC) Reduced/Phased out (metric tons)**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.4 Number of countries with legislation and policy implemented to control chemicals and waste (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Indicator 9.5 Number of low-chemical/non-chemical systems implemented, particularly in food production, manufacturing and cities (Use this sub-indicator in addition to one of the sub-indicators 9.1, 9.2 and 9.3 if applicable)**

| Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|

**Indicator 9.6 POPs/Mercury containing materials and products directly avoided**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.7 Highly Hazardous Pesticides eliminated**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 9.8 Avoided residual plastic waste**

| Metric Tons (Expected at PIF) | Metric Tons (Expected at CEO Endorsement) | Metric Tons (Achieved at MTR) | Metric Tons (Achieved at TE) |
|---|---|---|---|

**Indicator 11 People benefiting from GEF-financed investments**

| | Number (Expected at PIF) | Number (Expected at CEO Endorsement) | Number (Achieved at MTR) | Number (Achieved at TE) |
|---|---|---|---|---|
| **Female** | | 5,753 | | |
| **Male** | | 5,753 | | |
| **Total** | 0 | 11506 | 0 | 0 |

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

## Part II. Project Justification

### 1a. Project Description

JUSTIFICATION FOR REVIEWING EXECUTING ARRANGEMENT

The co-financing identified at CEO endorsement is slightly below the amount identified at the concept stage. The process has proved challenging due to the COVID pandemic and due to limited in-person consultations and meetings.

During the engagement of stakeholders in proposal development and its endorsement, adjustments to align, the execution towards national needs was farther assessed. Originally, the proposed sole PEE was the Basel Convention Coordination Center for Africa Region. While this regional agency is based in Nigeria, there was still a need identified for addressing suitability for national substantive issues, and as a consequence governmental entities responsible for the formalization and environmental compliance enforcement, FMEnv and MMSD were co-opted as executing entities. BCCC Africa responsibilities in project execution agreement remain and will be linked with the specific activities addressing transfer of technology guidance, since there is limited experience in this regard at national level.

JUSTIFICATION FOR CHANGE OF ONE OF THE PROPOSED ASGM LOCATION

When this project?s PIF was submitted, the National Action Plan (NAP) for ASGM in Nigeria was still under development and Osun was identified as one of the highest producers of gold. However, conclusions were not made yet on Mercury use and volume in the States. During subsequent extensive site visits and stakeholder consultations, it was discovered that mercury could not be proven to be used for gold extraction in Osun State even though there were insinuations that some foreigners are using mercury. The government led by the Ministry of Mines and Steel Development and the Federal Ministry o?f Environment will continue to investigate the possible usage of Mercury in the State. Therefore, Kebbi state which was listed as the next highest producer of gold has been selected to replace the choice of Osun State as one of the chosen pilot states for the project.

PROJECT DESCRIPTION

1. Artisanal and small-scale gold mining (ASGM) is the largest global source of anthropogenic mercury releases into the environment with about 38% of total releases from a multitude of sites in over 70 countries (UNEP Global Mercury Assessment, 2018), and accounts for about 15% of the world?s annual gold production (Metal Focus, 2019). It occurs almost entirely in developing countries and countries with economies in transition.

2. Artisanal and small-scale gold mining (ASGM) accounts for approximately 20% of the global gold supply and is the largest source of mercury emissions into the environment, reaching 38% of the total amount. It takes place in more than 70 countries, mainly developing countries and economies in transition. Approximately 12-15 million people are directly involved in the sector, out of which 4.5 million are women and children.

3. Mercury, due to its combining properties with gold, is often used in ASGM to help separate gold from other minerals using rudimentary processing methods. During the related mining and processing activities, mercury losses to the environment occur at two stages, namely during the amalgamation process when mercury is mixed with gold and other minerals to for the amalgam, and during the roasting process of the mercury and gold amalgam, when mercury is evaporated, and the gold remains.

4. Due to poor mining practices in ASGM, mercury is released directly into the environment, contaminating air, land, and water bodies. Children are the most susceptible to the negative developmental effects of mercury exposure. The uncontrolled loss of mercury, especially released from whole ore amalgamation in ASGM can travel long distances around the globe, contributing to global mercury pollution and contaminating the world?s ecosystems and fisheries.

5. Consumption of mercury-contaminated fish exposes communities to methyl-mercury, an organic form of mercury that bio-accumulates and bio-magnifies along the food chain. There are ongoing global efforts to reduce mercury use in the ASGM sector involving several multi-lateral, bilateral and private sector initiatives. In about 70 countries mercury is still the mainstream method ASGM uses to recover gold. A few successful mercury-free pilots have been carried out, though their upscaling has been limited in comparison to the scale of the global mercury release from the ASGM sector.

**6. Efforts to reduce mercury use in ASGM have provided insight into the major barriers preventing the uptake of sustainable mining technologies and practices:**

**A) Informality:**

7. There appears to be a consensus that formalization is a process of which at the core is the issue of legalization. In the world of ASM and ASGM, formalization includes all processes by which the activities of this sector are brought into the mainstream through appropriate policy and legislative frameworks for regulation as well as institutional arrangements for support and promotion. Even though legalization is only part of the process, because of the highly regulated nature of the mining sector in all jurisdictions it is not possible to speak of formalization without considering the legal perspective. Most jurisdictions where ASGM takes place legally recognize ASM either explicitly or implicitly. In the jurisdictions where it is explicitly provided for, the mining law has a category of mining license or permit that targets the ASM sector. Some countries go as far as providing for a commodity-specific (i.e. gold) category for ASM. Experts argue that most problems associated with ASGM are, in many ways, ?expressions? of its perpetual informality. As expressions of informality, most ASGM activities are unlicensed, unregulated, poorly monitored, and characterized by poor mining practices and little concern for the environment. Furthermore, informality and weak regulation keep the sector unbanked, limiting its access to formal and legitimate financing mechanisms to improve productivity and technology to achieve a transition towards mercury-free methods. Miners are forced to secure finances through informal means and without access to efficient equipment, and many are trapped in a vicious cycle of poverty.

B) **Lack of Access to Finance in the ASGM Sector:**

8. The ASGM sector is undercapitalized, particularly in comparison to the formal/industrial-scale gold mining sector. This means that ASGM miners are unable to finance the initial investments that are needed to switch to low or no mercury alternative techniques and technologies. Coupled with the low

access to finance, their awareness of mercury alternatives is also very low. The most salient barriers to increasing capitalization of informal gold mining operations are a lack of understanding of the sector within national and local financial institutions, a lack of data on the ASGM sector, a lack of formal business skills by ASGM miners, the scope of the finance required and the remoteness of the operations. . Essentially, access to formal finance by a predominantly informal sector may be the most significant obstacle. Additionally, lack of education within the market means that local banks lack the understanding of the ASGM sector required to create financial products for it. This lack of understanding coupled with the negative perception of ASGM and its informality make financiers skeptical of the prospect of investing in the sector.

**C) Low Technical Capacity in Countries to support Formalization and Mercury Reduction:**

9. Generally, there is weak technical capacity in many ASGM countries to help the sector professionalize, train on mercury-free techniques, and provide adequate support. Barriers to knowledge transfer and progress in mercury reduction include a poor capacity of actors at the local level and knowledge sharing. Despite the availability of mercury-free technologies, these are not widely used by miners. The reasons for lack of migration to mercury-free technologies include; (i) cost of the equipment, (ii) failure to adapt technologies to the level appropriate for ASGM organizations, (iii) lack of adequate training to enhance capacity during the transfer of technology to miners, and (iv) lack of awareness on mercury-free alternatives.

D) **Lack of a Holistic Approach and Regional Coordination:**

**10.** Despite country-level efforts, mercury flows, inter-country migration, and a lack of common purpose amongst neighbor countries present challenges to controlling mercury flows and ASGM formalization. The capacity of customs regulators and officers at the national and regional level to control undocumented and/or smuggled mercury flows is limited. Lack of regional coordination presents a challenge to achieving mercury reduction in ASGM. Research points to challenges with regional mercury flows, informal gold trading, and illicit financing as transboundary issues. Other challenges related to the transboundary nature of ASGM include migrant labor and informality, deforestation, lack of access to formal financing, and illegal gold exports.

11. UNIDO, Global Environment Facility (GEF) and other funding partners have in the past years supported several projects[1][1] aimed at the reduction of mercury use. These initiatives have been scaled up to meet the requirements of the 2013 Minamata Convention. A description and analysis of these efforts follow to provide a global level baseline. During the years 2002-2006, the GEF, UNIDO, and UNDP stepped up the focus on addressing the mercury problem with an international project named the Global Mercury Project (GMP). The project focused on best practices and pollution prevention measures to limit mercury contamination of international waters from ASGM practices in six countries: Brazil, Lao PDR, Indonesia, Sudan, Tanzania, and Zimbabwe. The GMP introduced cleaner technologies, trained miners, developed regulatory mechanisms and capacities within government, conducted environmental and health assessments (E&HA), and built capacity within participating countries to continue monitoring mercury pollution after the project was completed. Lessons learned from the GMP informed the Minamata Convention journey, through the Intergovernmental Negotiation Committees (INC) to the point of signing in October 2013 and its coming into force in June 2017. Lessons from GMP and other ASGM actors and governments were key to the elaboration of the Convention and its Annexes relevant to ASGM.

12. Led by the National Resources Defense Council (NRDC), the United Nations Environment Program (UNEP) and UNIDO, the UNEP Global Mercury Partnership Area on ASGM was set up in 2007 as a voluntary platform to share knowledge and provide information on the sector and its needs. The Partnership Area brings together a wide range of partners from Governments, IGOs, NGOs, academia and the private sector, who, together, can identify, design and implement sustainable solutions for the sector. The objective of the Partnership Area is the continued minimization and elimination, where feasible, of mercury uses and releases in ASGM. The Partnership Area focuses on assisting governments to prepare to address ASGM related obligations, by creating guidance material for ASGM National Action Plan (NAP) development; assisting governments in the development of their own NAPs; and helping to identify and implement practical projects. To date, Nigeria has developed and submitted its NAP which has been lodged with the Minamata Secretariat.

13. Furthermore, The Minamata Convention sets out the objective: ?to protect human health and the environment from anthropogenic emissions and releases of mercury and mercury compounds?. The ASGM sector is addressed in several articles and annexes, particularly in Article 7 and Annex C. Article 7 obligates parties to take steps to reduce and, where feasible, eliminate mercury use in, and emissions and releases from the ASGM sector. Parties that declare to the Secretariat that their ASGM sector is more than insignificant must develop and implement National Action Plans as part of their domestic efforts to address mercury-related problems and risks in this sector. To date, Nigeria has developed and submitted its NAP which has been lodged with the Minamata Secretariat.

14. The planetGOLD Program (2019-2024) program is currently being implemented in eight countries in three major global regions: Burkina Faso, Colombia, Ecuador, Guyana, Indonesia, Kenya, Mongolia, Peru, the Philippines and a global programme component. These countries were selected based on their demonstrated interest in addressing the sector positively and on the amount of mercury reportedly used. The planetGOLD Program aims to support the eight countries to fulfill their commitments under the Minamata Convention on mercury by responding to the concrete target to contribute to the direct reduction of the emissions and release of 123 tons of mercury into the environment throughout implementation. The main objective is to reduce the amount of new anthropogenic mercury emissions and remediation of mercury-contaminated tailings in the nine participating countries. The Program aims to introduce ?planetGold? criteria to the market to improve market access for miners that manage not only mercury emissions, but also improve performance across a broader suite of social and environmental standards.

[1]Reduction of Mercury Emissions and Promotion of Sound Chemical Management in Zinc Smelting Operations, UNDP, 2012

**Background (The Nigeria Context)**

15. One of the key priorities of the Nigerian Government is to enhance the diversification of the economy to a broader range of productive sectors. In this context, agriculture and the mining sector have been identified, by the current Government, as potential sources of growth for the future. At the highest level, the Government efforts are focused on accelerating mining investment for resource development to meet the following objectives: (a) capture of lateral economic linkages to diversify the economy; (b) job creation including formalizing of artisanal and small-scale mining (ASM); and (c) increased revenues including capture of leakages within the current system. Despite the country?s resource potential and its experience as a significant mineral producer (contributing about 4?5% of GDP in the 1960s and1970s based on the production and export of tin, columbite, and coal), today the sector has one of the lowest outputs in the Nigerian economy. The mining sector?s contribution to GDP

has steadily declined from 5.6% in 1980 to about 0.33% by 2015, which is significantly lower than other mineral-rich countries in the West African Region (Source: Roadmap for the Nigerian Mining Industry). In 2015, Nigeria gained about 0.02% of its export earnings from solid minerals, compared to more than 20% in Namibia, Botswana, and Zambia and more than 50% in the Democratic Republic of Congo. Moreover, exploration expenditures in Nigeria are not commensurate with the underlying mineral endowment.

16. Artisanal Small-Scale Mining (ASM) is an important part of the Nigerian Mining Sector which has the potential to raise internal revenue in addition to foreign exchange, create employment and reduce poverty and encourage foreign direct investment (FDI) if is well managed. ASM in Nigeria is undeveloped and has been long neglected due to over dependence on oil. Over 90% of mining activities in Nigeria are ASM of which 75% are carried out illegally (NAP 2021). The sector is unguided and unregulated. The policies in place are inadequate and the miners are untrained. This makes ASM to adopt poor quality operational techniques in mining and use of toxic chemicals like mercury and improper use of cyanide in gold mining which is mostly used by the foreigners.

17. Artisanal and small-scale gold mining (ASGM) has long been practiced in Nigeria and around the world. Bolstered by historically high gold prices, a lack of viable alternative livelihoods, and a ready ? if expensive ? supply of mercury, there has been a resurgence of ASGM activities, mostly in northern Nigeria in recent years. This resurgence, however, has come at a price like the devastating lead poisoning of children and others from lead-contaminated gold ore, in addition to mercury exposure and significant emissions and releases of mercury into the air and soil. In 2010, unregulated artisanal and small-scale gold mining in the northern state of Zamfara gave rise to an epidemic of Lead and Mercury poisoning which led to the death of at least 163 people between March and June, including 111 children (Medecins Sans Frontiers, 2010). By 2013-2014, it was widely believed that no fewer than 500 people had died from co-exposure of lead and mercury poisoning (Federal Ministry of Health, 2015) After the Zamfara State incidence, there was a repeat of the exposure in Niger State which also claimed the lives of about 30 children and women but the Government with the support of partners like UNIDO quickly intervened and avoided a volume of numbers like that of Zamfara. Despite the efforts of development, medical, and environmental experts both nationally and globally, Lead and Mercury contamination continues to afflict large numbers of the populace, especially children. The practice of mercury amalgamation at mining sites has also resulted in widespread contamination of miners and others working near the mines. It is even worse as the miners sometimes do the amalgamation with Mercury at home, thereby exposing their entire family members and other members of their society to Mercury poisoning. Miners were burning the mercury at home during amalgamation thereby causing emissions of mercury into the air and washing the pans containing mercury by the wells where the mostly get their drinking water.

18. The Nigerian Minerals and Mining Act of 2007 recognizes Artisanal Small-Scale Mining (ASM) in Nigeria. With gold recognized officially as one of the seven strategic minerals in Nigeria, there is considerable commitment and investments from both government and the private sector in the area of Gold Mining even though this is still quite low. Under the Ministry of Mines and Steel Development (MMSD), the ASM Department is the official institution dedicated to Artisanal and Small-scale Mining (ASM) as well as Artisanal and Small-scale Gold Mining (ASGM). Amidst other investments, in 2017, the Government of Nigeria through the Ministry of Mines and Steel Development obtained a loan of USD 150 million from the World Bank to develop the ?Mineral Sector Support for Economic Diversification Project (MinDiver)?. In 2017, UNIDO supported the Government of Nigeria through the Federal Ministry of Environment in finalizing the Minamata Convention Initial Assessment which identified ASGM as one of the priorities of Nigeria in addressing Mercury emissions and releases. In

May 2021, UNIDO also supported the Government of Nigeria through the financial assistance of the GEF in finalizing the Nigeria National Action Plan on Hg use in the ASGM sector. Other development partners like PACT, Doctors without Borders MSF have also collaborated with the Nigerian government in improving the ASGM sector. To improve the sector and its contribution to the GDP, the government made gold one of the seven priority minerals in the country. This propelled the MMSD to issue the first-ever license for a national gold refinery in Nigeria in 2017 to Kian Smith Ltd. In 2018, a second license was issued. Within the informal mining sector, gold extraction represents a major source of income where economic opportunities are limited, especially in rural communities. Commercial quantities of gold are available in Osun, Kwara, Nasarawa, Zamfara, Kebbi, Niger, and Kaduna states in the North and South Western regions, where the gold vein exist and ASGM is active (PIF Nigeria).

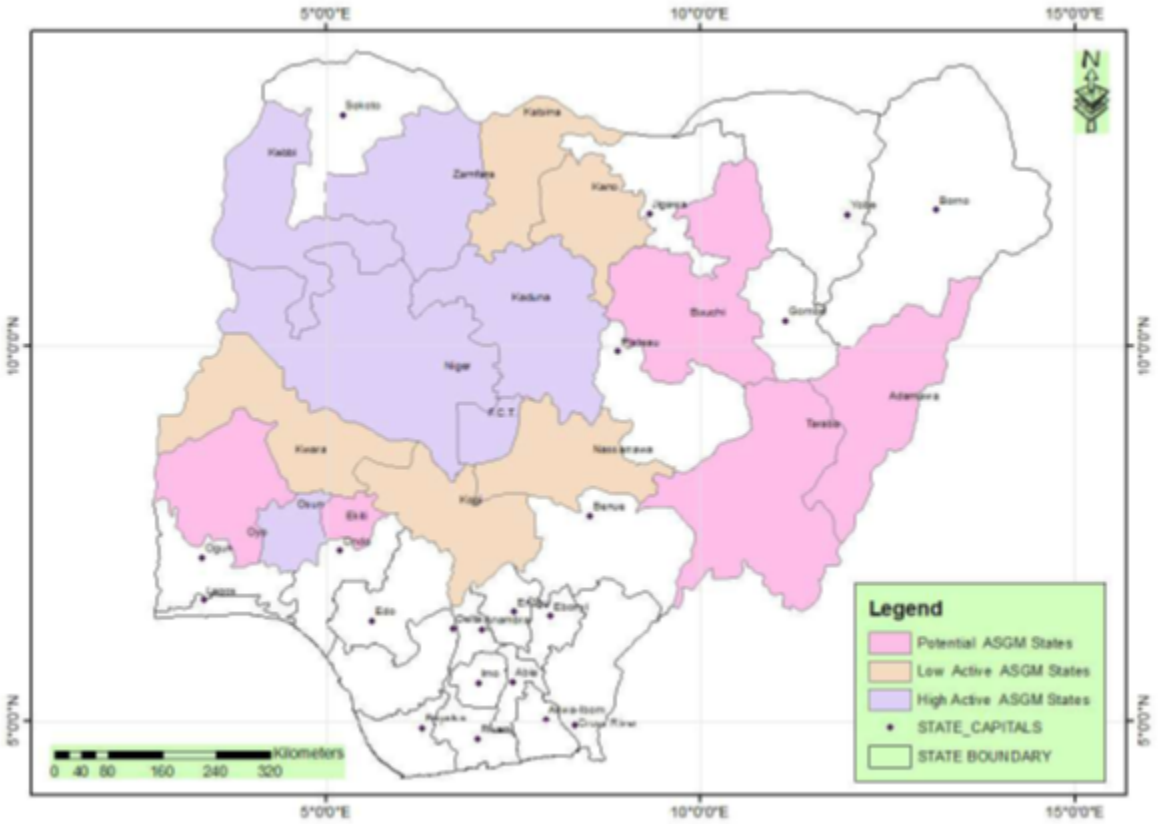


Figure 1: States with Actively High ASGM operations, low ASGM operations and potential ASGM activities (Source: NAP, 2021)

19. Niger, Kaduna, Kebbi and Zamfara States have been identified as pilot states for the GOLD+ Child Project implementation in Nigeria. Although the ASGM sector seems to be a major source of employment for economically vulnerable persons (unemployed youth, poor rural families, uneducated individuals etc) in certain parts of Nigeria, the anthropogenic releases and emissions of mercury in gold amalgam separation during ASGM activities has been found to adversely impact on human health and the environment, therefore, the justification for GEF Gold + Child Project in the ASGM sector.

Table 1: Definitions of ASGM operations. (Source: UN Environment and UNITAR Handbook (2019) on Formalization for the ASGM sector developed for signatories to the Minamata Convention)

| Category | Description |
|---|---|
| **illegal** | ASGM actors are either prohibited by law or lack mining licenses, and do not adhere to other requirements set in national regulations. In Ghana, this includes persons or operations lacking mining licenses, and all non-Ghanaian citizens as small-scale mining is reserved for citizens. |
| **Extra legal** | ASGM actors are neither recognized nor prohibited by national regulations. Such as artisanal miners, which are no recognized in law. In Ghana, artisanal miners are not recognized in mining laws and excluded. In Ghana, artisanal (non-mechanized) gold miners that are excluded from law and thus operate on the margins of existing law. |
| **Informal** | Regardless of legal status, ASGM actors are not organized in or effectively represented by a legal entity; do not receive governmental support; or do not benefit from enforcement of policies that enable them to understand / comply with requirements in national regulations. |
| **Legal** | ASGM actors are recognized by national law, have mining licenses and environmental permits, and adhere to any other standards as required by national regulations. In Ghana, legal Mining Entities (MEs) and Community Mining Lisences exist. |

20. In Nigeria, the occurrence of gold is associated with a geologic formation known as the Schist Belt. The formation is a component of distinct suites of rock of the Nigerian Basement Complex**.** The Schist belt is made up of metasedimentary and metavolcanic rocks including low grade, metamorphic rocks. The belt trends from the northwest down to the southwestern part of Nigeria. Nigerian gold deposits occur in two different forms; as primary mineralization associated with veins bodies of quartz in the basement rocks (load) and alluvial deposits which are found in present river channels and in older buried placers. The bulk of ASGM activities are concentrated in the States where this rock formation occurs namely in Kebbi, Zamfara, Kaduna, Niger, Kwara, Kogi (west), FCT, Kano, Katsina and Osun States as shown in Figure 1 above.

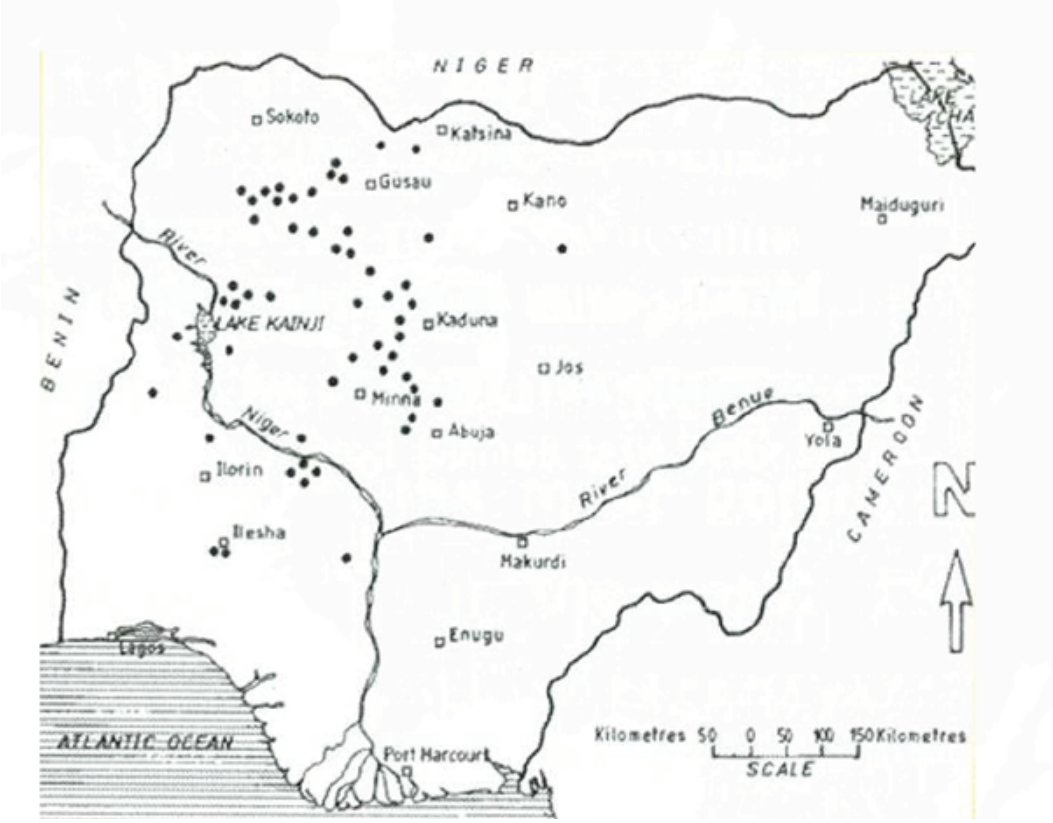


Figure 2: Locations of gold occurrence in Nigeria (source: NAP, 2021)

21. Primary gold deposits occur mostly within quartz veins in the host rock. Artisanal miners often target veins by digging and chiseling out the gold ore. The pit is often demarcated into partitions with a given group of miner

**Environmental problems associated with ASGM in Nigeria**

22. Mining activities can have serious negative effects on the environment, these effects occur from the exploration stage to the closure stage of a mine?s operation. ASGM in Nigeria, particularly in the selected mining states, is associated with significant environmental degradation, including toxic pollution of air, land and water; destruction of flora and fauna; geological instability, flooding, erosion and tremors; landscapes degradation; and radiation hazards. The environmental impacts associated with the selected mining sites visited are as follows;

**Deforestation**

23. Most of the mining sites are located in forests, gold mining cause deforestation, in most mining sites in the selected states large areas of land were cleared, consequently destroying the forest that many animal species depend on for food and habitation.

**Biodiversity Loss**

24. ASGM is associated with clearing a wide space of land of its vegetation and in doing this, it destroys the natural habitat of several animal and plant species, depending on the area and disrupts the balance in the ecosystem. Many animal species known to inhabit this environment may have migrated away or are exterminated, including protected species.

**Erosion**

**25.** Excavation of mines for gold exploration purposes is one of the most common sources of erosion, as observed in the mining states. Excavation as a result of mining activities has caused considerable damage to land and the soil is exposed to erosion. In many of the northern states where hard rock mining is the predominant ASGM practice, it was evident that the practice over the years has led to the formation of gullies around the ASGM sites thus predisposing some areas to erosion. Unfortunately, majority of the gold mining sites are not restored after decommissioning of the mining activities.

**Air pollution**

26. Air pollution is one of the results of ASGM activities. The associated dust generated by mining makes a major impact on the environment and worker?s health. During the dry season (December to April), the level of dust emission is higher in comparison to the rainy season (May to November). This was evident at some of the mining sites and processing centers visited during the site assessment. Miners are exposed to this dust which may lead to respiratory and eye injuries due to the lack of use of personal protective equipment such as nose masks and googles. Many of the gold processing centres employ dry milling which is a major source of air pollution.

**Noise Pollution:**

27.Taking into account the noise generated from grinding/crushing machines and noise generated from primitive implements in breaking rocks of ore and digging pits.

**Agricultural and water pollution**

28. Agriculture and water are the two most important necessities in human life. Food security largely depends on agriculture and water. Nigeria is a predominantly agricultural country and also endowed with substantial natural resources which include; 68 million hectares of arable land; fresh water resources covering about 12 million hectares ,960kilometre of coastlines and an ecological diversity which enables the country to produce a wide variety of crops and livestock, forestry and fisheries products (Arokoyo, 2012). Mining activities have threatened these two important necessities in human lives as a result of its uncoordinated operations in most mining states, as a result of mining activities

agricultural sector in some of the selected mining states in Nigeria is affected directly (low productivity in crop farming) and indirectly by affecting water used by farmers and people surrounding mining areas use the contaminated water not only for farming but also for other domestic use. In some cases, farm lands are destroyed when gold is found in an area, as the gold takes priority to the farming activity.

**Regulatory and Institutional Policy Framework**

29. ASGM activities in Nigeria are regulated by the following relevant legislations namely

**a) Nigerian Minerals and Mining Act, 2007**

30. Some of the highlights of the Nigerian Minerals and Mining Act 2007 that impact on ASM activities include:

? **Ownership and control of Minerals:** the ownership of all mineral resources within territorial space of Nigeria is by this Act vested in the Federal Republic of Nigeria. Towards this end, the Act prohibits unauthorized exploration and exploitation of minerals. Right to explore and/or mine mineral deposits or trade minerals is conferred on individual corporate body or mining cooperative that has been awarded relevant permits by the MMSD to do so. This gives the Federal level of Government the exclusivity of minerals management which has continued to be a debated topic by the State governments. However, land belongs to the State governments.

? **Legality of ASM:** the rights to participate legally in the Nigeria mining sector by ASM operators are derived from sections 47,48,49,51 and 52, which variously provide that artisanal miners could be granted appropriate permits to operate legitimately as registered, licensed and performing mining cooperatives. The rights include the following: Reconnaissance Permit, Exploration License, Small Scale Mining Lease, Quarry Lease and Water-Use Permit. All the rights are issued by MMSD.

? **Support and Promotion of ASM:** Section 34 of the Mining Act established the Solid Minerals Development Fund (SMDF). The fund is specifically mandated by section 34, subsection 2(d & e) to finance the provision of extension services to registered and performing ASM operators in pursuant to section 91, and fund the provision of infrastructure in mines land.

? **Provision of Extension Services to ASM Cooperatives:** Section 91 of the Act required MMSD to provide extension services to duly registered ASM cooperatives.

31. The Nigeria Mineral and Mining Act of 2007 addresses Artisanal and Small-scale Mining (ASM) activities, however, there is no specific definition of ASM in the Act. Artisanal mining (generally referred to as Artisanal and Small-scale Mining-ASM) in Nigeria are almost by definition informal, that is, operating outside current laws and regulations. The Nigerian Minerals and Mining Act 2007 recognizes ASM and provides formation of mining cooperative as prerequisite for artisanal miners to access a special title of Small?Scale mining lease. Artisanal miners under legal cooperative with valid mineral title are qualified to receive support in the form of extension services and other assistance.

**b) Nigeria Minerals and Mining Regulations, 2011**

32. These mining regulations were developed to entrench a coordinated and regulated mining sector. Key features of the regulations as they relate to ASM sector concerns ASM formalization in sections 230 to 232, where guidelines are provided for registration of artisanal mining cooperatives, qualification for access to extension services and registration of Mineral Buying centres. Section 48 disapproves ASM operators from extensive use of toxic chemicals, use of more than 50 workers[1] in typical workday, operating underground workings of more than 7m below the earth surface, among others. Section 151 provides, inter alia, strict adherence (of miners) to safety procedures at mines and proper sanitation at mining camps. Section 196 (subsections 1 and 2) requires that the quantity of any hazardous liquid store used by miners should be managed properly to avert damage to land, water cultivations, plants and animals. Other aspects of the Regulation cover issues regarding small-scale mining leases under which ASGM operates.

[1] This restriction to number of workers in a workday will not limit the number of members a cooperative can have. Members can adopt the work shift pattern so as to accommodate the required number of workers per day as prescribed in the regulation.

**c) Nigerian Minerals and Metals Policy of 2008**

33. The policy is aimed to provide requisite direction in the development of the Nigerian mining and metals sector. The policy clearly supports the private sector to drive the mining sector by restricting the role of government to that of administrator/regulator. The policy recognizes the ASM as a subsector of the Nigeria Mining Sector and provides as one of its major thrust policies, promotion of small-scale mining and formalization of informal mining activities.

**Federal Environmental Laws, Policies, and Regulations with Impact on Mining Sector.**

34. In addition to complying with requirements from the Minerals and Mining Act, mining operations must comply with environmental laws implemented and enforced by the Federal Ministry of Environment.

**d) The Environmental Impact Assessment Act, 1992 (as amended by EIA Act CAP E12 LFN 2004)**

35. Under the Environmental Impact Assessment Act, 1992, the Federal Ministry of Environment must complete pre-construction review of activities raising environmental concerns. No activity falling under the mandatory list provided in the act, including mining activities in new areas exceeding 250 hectares, in addition to ore processing (including concentrating for gold), can be executed without an EIA.
36. Under this Act, EIAs must include a description of the activity, the potential affected environment, and the practical alternatives, along with an assessment of likely or potential environmental impacts, identification and description of mitigation measures, and an indication of gaps in knowledge. Mining-specific requirements include a surface infrastructure plan (including water pollution management), and surface water, groundwater, and air pollution analysis. The Act expressly prohibits the commencement of, inter alia, mining development projects without an approved EIA statement by the Federal Ministry of Environment.

**e) The National Environmental Standards and Regulations Enforcement Agency (NESREA) Act, 2007**

37. The Act is the embodiment of laws and regulations focused on the protection and sustainable development of the environment and its natural resources. With respect to mining, the FMEnv, through NESREA, passed the following mining related regulations in 2009:

- ? National Environmental Regulations, 2013 S. I. No. 33: - ensures prevention of environmental degradation occasioned by quarrying and blasting of mineral ores and rocks.
- ? National Environmental Regulations, 2009 S. I. No. 31: - pursues the utilization of efficient and cleaner technology to minimize pollution from the mining of coal, industrial minerals and processing of ores.
- ? National Environmental Protection Regulations, 1991 S. I. No. 8: - requires mining firms to ensure detoxification of effluent chemicals by installing antipollution technology and make provision for further treatment of effluents to meet the maximum limits prescribed.
- ? National Effluent Limitation Regulations.
- ? National Environment Protection (Pollution abatement in industries and facilities producing waste) Regulations (1991).
- ? The Harmful Waste (Special Criminal Provisions Etc.) Decree 1988, Decree No. 42.

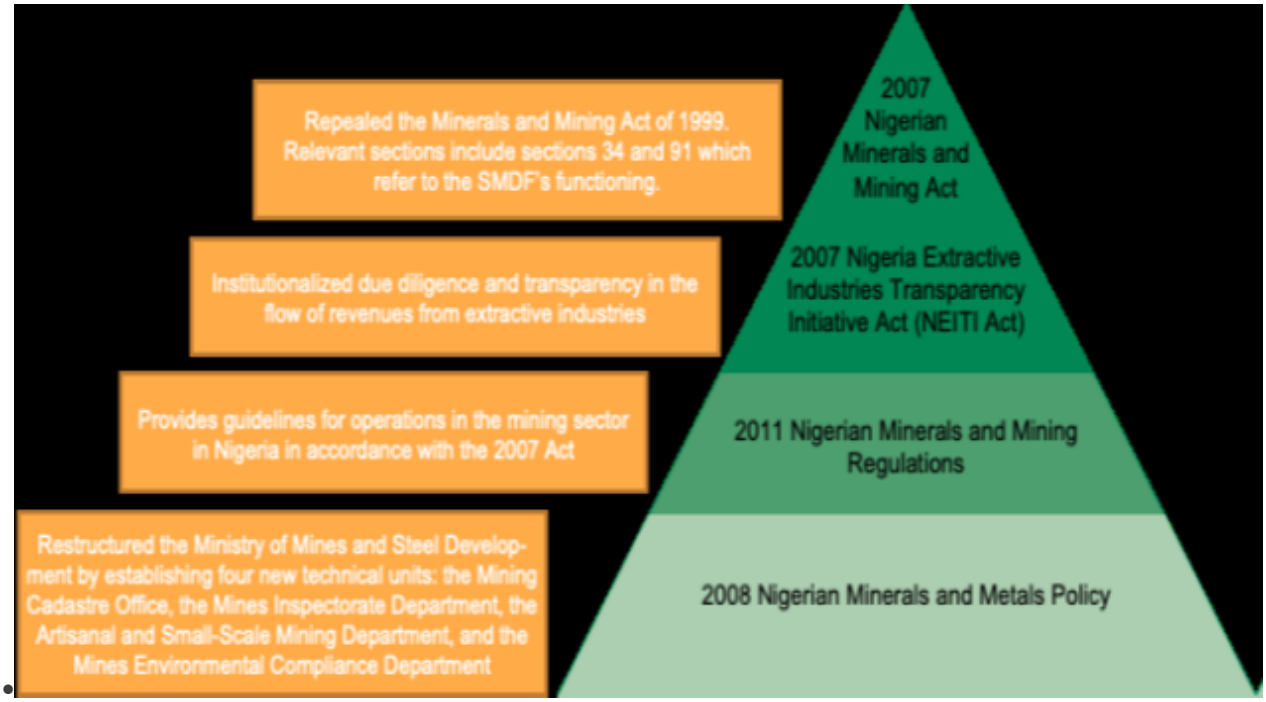


Figure 3: Legal Framework for Mining in Nigeria (source: Capstone team)

38. The institutional framework of the Nigerian mining sector is made up of different institutions and departments whose organization and mandates are detailed in the figure below:

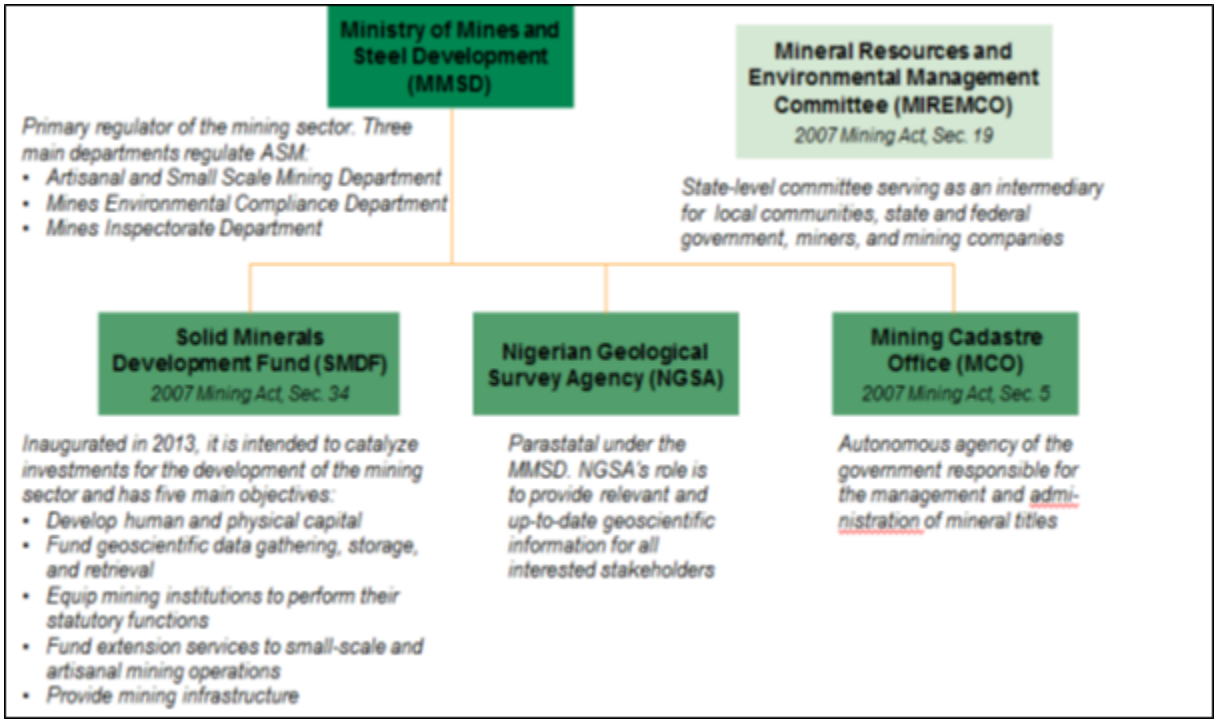


Figure 4: Institutional Framework for mining in Nigeria (source: Capstone team)

**f) International Laws**

39. The Government of Nigeria is signatory and/or Party to some relevant international protocols, treaties, agreements and conventions. Many of these are under the coordination of the Federal Ministry of Environment. Three international environmental agreements are implicated by ASGM, namely: The Minamata Convention on Mercury, the Basel Convention on Transboundary Movement of Hazardous Waste, and the Strategic Approach to International Chemicals Management (SAICM).

? **Minamata Convention on Mercury**

40. Nigeria ratified the Minamata Convention on Mercury. The ratification instruments were deposited February 1, 2018. The National legislation of Nigeria takes on the provisions of the Minamata Convention on Mercury, its text being published into Official Journal of Nigeria (FGP 84/82017/10). The Convention seeks to reduce mercury pollution across many sectors, including ASGM, by prohibiting trade of certain mercury-added products and by requiring national plans to reduce anthropogenic mercury emissions. Under the provisions of this convention the Nigeria government, through FMEnv, NESREA, MMSD and other relevant Ministries, Departments and Agencies listed below, ensures the provision of support towards the protection of human health and the

environment from anthropogenic emissions and releases of mercury and mercury compounds in the ASGM sector

The national policies and regulations addressing mercury and hazardous chemicals management in general are as follows:

? **The National Policy on Chemicals Management, Federal Republic of Nigeria, 2010**

This policy was developed to integrate the management (production, handling and disposal) of chemicals for the protection of human and animal health and the environment. It was also aimed at developing relevant legal and legislative instruments required to strengthen the strategies and activities for chemicals management, including data collection and retrieval. The policy seeks to identify and prioritize national needs in all sectors for sound management of chemicals including institutional and human resources development, technical assistance requirements, and financial resources mobilization. This policy will enhance the integration of sound chemicals management and safety in the gold mining industry and in the national planning processes of chemicals management in Nigeria

The purpose of these regulations is to provide for improved control of the nation?s air quality to such an extent that would enhance the protection of flora and fauna, human health and other resources affected by air quality deteriorations.

? **National Environmental (Hazardous Chemicals and Pesticides) Regulations, S.I. No 65, 2014**

These regulations seek to protect human health and the environment from harmful effects of hazardous chemicals and pesticides, and other agro chemicals. It also contributes to the sustainable development of agriculture and the conservation of the environment

? **National Environmental (Surface and Groundwater Quality Control) Regulations, S.I No. 22, 2011**

This regulation aims to restore, enhance and preserve the physical, chemical and biological integrity of the nation?s surface waters and to maintain existing water uses.

? **National Environmental (Sanitation and Waste Control) Regulations, S.I. No, 28, 2009**

This regulation is to provide legal framework for the adoption of sustainable and environment friendly practices in environmental sanitation and waste management to minimize pollution.

? **National Environment Protection (Pollution abatement in industries and facilities producing waste) Regulations (1991).**

This regulation ensures restriction are imposed on the release of toxic substances and requirement of stipulated monitoring of pollution to ensure permissible limits are not exceeded; unusual and accidental discharges; contingency plans; generators liabilities; strategies of waste reduction and safety for workers,

? **The Harmful Waste (Special Criminal Provisions Etc.) Decree 1988, Decree No. 42.**

This decree prohibits the carrying, depositing and dumping of harmful waste on any land, territorial waters, contagious zone, Exclusive Economic Zone of Nigeria or its inland water ways and prescribes severe penalties for any person found guilty of any Crime relating thereto. The following sections are notable:

- **Section 6** provides for punishment of life imprisonment for offenders as well as the forfeiture of land or anything used to commit the offence

- **Section 7** makes provision for the punishment accordingly, of any conniving, consenting or negligent officer where a company commits the offence

- **Section 12** defines the civil liability of any offender. He would be liable to persons who have suffered injury as a result of his offending act.

? **Basel Convention on the control of transboundary movement of hazardous wastes and their disposal**

41. The Basel Convention controls the transboundary movement of hazardous wastes. Impetus for the Convention developed after the 1988 toxic waste incident in Koko, Nigeria, that spurred the development of Nigerian Environmental Law. While ASGM practices are not directly regulated under Basel, technical documents do call for the education of artisanal miners, treatment of mining residue, and environmental remediation of mining sites. Basel also regulates the intrastate storage of wastes that contain mercury. Under the Convention, the generation of mercury waste should be reduced to a minimum, taking into account social, technological and economic aspects. Countries must also provide adequate disposal facilities to ensure environmental sound management. Under these two provisions, appropriate storage and management practices hold the potential to prevent mercury use, including in ASGM activities.

? **Strategic Approach to International Chemicals Management (SAICM)**

42. The Strategic Approach to International Chemicals Management (SAICM) is a policy framework for international action to advance the sound management of chemicals. It aims to encourage governments and other stakeholders to address chemical safety more effectively in all relevant sectors as agriculture, environment, health, industry and labor and ensure that by the year 2020, chemicals are produced and used in ways that minimize significant adverse acts on the environment and human health. The framework is currently being re-negotiated for a post 2020 era. Since adoption, various activities have been undertaken by the Nigerian Government to implement the initiative in Nigeria. One of the projects implemented ?Establishing an Institutional Framework and Strengthening of National Capacity within an Integrated National Programme for the Sound Management of Chemicals and Implementation of SAICM in Nigeria? has enabled a strong and dynamic collaborating mechanism within the overall national chemicals management programme.

**g) States Environmental Laws and Policies**

43. Nigerian states possess the authority to enact environmental laws that are not preempted by conflicting laws passed by the National Assembly. However, Nigeria has a constitutional provision that enumerates an exclusive legislative list that vests legislative power solely in the National Assembly, including with respect to mines and minerals. Therefore, the Minerals and Mines Act of 2007 and its regulations would pre-empt most State regulations on ASGM, with some exceptions. All Nigerian

states have environmental agencies and environmental laws. These state agencies act under the principle of cooperative federalism, where states have concurrent authority over most environmental matters, subject to regulations promulgated by the Ministry of Mines and the Ministry of Environment. State agencies often monitor and enforce the EIA process, conduct surveys, engage in outreach, and issue permits.

**h) Institutional Framework for Mining activities in Nigeria are as follows:**

44. The legal framework governing mining activities and their environmental and health impacts is implemented primarily by three federal agencies ?The Ministry of Mines and Steel Development (MMSD), The Federal Ministry of Environment (FMEnv), and The Federal Ministry of Health (FMoH).

45. The MMSD is responsible for identifying the nation's solid minerals, advising the government on the formulation and execution of laws and regulations guiding the various stages of prospecting, quarrying, and mining; and handling sale and consumption of solid minerals in the country, through the issuance of Permits, Licenses, Leases and Collection of Rents, Fees and Royalties. FMEnv, on the other hand, administers the country's general environmental protection laws through the National Policy on Environment (2001) and the National Environmental Standards and Regulations Enforcement Agency (NESREA) Act and the Regulations pursuant.

46. The Federal Ministry of Health is responsible for the formulation and implementation of policies related to health.

**Ministry of Mines and Steel Development (MMSD)**

47.The Ministry of Mines and Steel Development (MMSD), and its Agencies, is charged with formulating, disseminating and implementing related policies on mining, providing information and knowledge to enhance investment in the sector, regulating operations in the solid minerals sector, and generating appropriate revenue for the government.

**Federal Ministry of Environment (FMEnv)**

48. The mandates of the Ministry are to:

? Prepare a comprehensive National Policy for the protection of the environment and conservation of natural resources, including procedures for environmental impact assessment of all developmental projects, and towards the overall goal of sustainable development;

? Prepare, in accordance with the National Policy on Environment, periodic master plans for redevelopment of environmental science and technology and advise the Federal Government on the financial requirements for the implementation of such plans;

? Prescribe standards for and make regulations on hazardous chemicals and wastes, water quality, effluent limitations, air quality, atmospheric protection, ozone layer protection and noise pollution;

? Advise the Federal Government on National Environmental Policies and Priorities, the conservation of natural resources and sustainable development and scientific and technological activities affecting the environment and natural resources;

? Promote cooperation in environmental science and conservation technology with similar bodies in other countries and with international bodies connected with the protection of the environment and the conservation of natural resources;

? Cooperate with Federal and State Ministries, Local Governments, statutory bodies, academia and United Nations agencies on matters and facilities relating to the protection of the environment and the conservation of natural resources; and monitor and enforce environmental protection measures.

49. Within these mandates, the FMEnv is the Designated National Authority for the implementation of chemical related Multilateral Environmental Agreements (MEAs) including the Minamata Convention on Mercury. The Ministry coordinates all activities relating to chemicals management and, with the Federal Ministry of Health, co-chairs the **National Committee on Chemicals Management (NCCM)** that ensures cooperation and collaboration for the sound management of chemicals, including mercury, in Nigeria, across participating agencies, organizations and stakeholders. A **Technical Coordinating Committee (TCC)** advises the NCCM on all technical matters relating to chemicals safety and management.

50. The Ministry also controls and manages the disposal of obsolete hazardous chemicals and wastes. It gives technical support to State ministries and Agencies of Environment to promote management of hazardous chemicals and waste, collects data on hazardous chemicals and wastes for information dissemination, and maintains national hazardous chemicals and waste data bank. It collaborates with relevant National, Regional and International Agencies and NGOs on chemicals management programmes in consultation with all stakeholders, and initiates fund, coordinates and promotes research activities on hazardous chemicals and waste management in the environment in collaboration with relevant stakeholders.

**The National Environmental Standards and Regulations Enforcement Agency**

51. NESREA was established as a parastatal of the FMEnv by an Act of parliament in July 2007. The NESREA Act repeals the FEPA Act Cap F10LFN 2004. NESREA is charged with the responsibility of enforcing all laws, guidelines, policies, standards and regulations on environment in Nigeria. It also has the responsibility to enforce compliance with provision of international agreements, protocols conventions and the treaties on the environment.

52. The Agency also has the responsibility of enforcing biodiversity conservation and sustainable development laws, as well as liaising with relevant stakeholders within and outside of Nigeria, on matters pertaining to enforcement of environmental policies, regulations, laws and standards. The (NESREA) Act of 2007 is the embodiment of laws and regulations focused on the protection and sustainable development of the environment and its natural resources. Section 7e of the Act mandated the Agency to enforce compliance with regulations on the importation, exportation, production, distribution, storage, sale, use, handling and disposal of hazardous chemicals and waste other than in the oil and gas sector.

**Federal Ministry of Health (FMoH)**

53. The Federal Ministry of Health is to assess the short- and long-term health impact of chemicals and provide expertise for treatment of people exposed to chemicals. The Ministry formulates, disseminates, promotes, implements, monitors and evaluates health policies of the Federal Government of Nigeria,

using the National Health Act, and collaborates with the National Council on Health (NCH), States and Local Governments, the Private Sector and Civil Society Organizations in formulating health policies. It is the coordinating body of the Federal Government on issues of health.

**Federal Ministry of Science and Technology (FMST)**

54. This Ministry is to facilitate the development of science and technology apparatus to enhance the pace of socio-economic development of the country through appropriate technological inputs into productive activities in Nigeria. The ministry has an important role to play in the choice of alternative technology for ASM in Nigeria. The Ministry is also responsible for the formulation, dissemination and implementation of related policies on technology.

**Federal Ministry of Labor and Employment (FMLE)**

55. This Ministry is concerned with occupational health and safety issues related to the use and handling of chemicals at the workplace. The Ministry conducts workplace monitoring to ensure safe working environments for workers. Due to its important position, it has great influence on the safety of workers in Nigeria. The Factory Inspectorate Division (FID) of the Ministry identifies and controls the hazards of exposure to chemicals and other labor associated risks to workers in the workplace.

**Federal Ministry of Industry, Trade and Investment (FMITI)**

56. This Ministry is statutorily responsible for formulating and implementing policies, programmes and incentives for industrial development of the country, including chemical industries. The Ministry carries out its mandate through its relevant departments and agencies including: i. Industrial Development Department (IDD), ii. Commodities and Produce Inspectorate Department (CPI); iii. Standards Organization of Nigeria (SON); iv. Federal Competition and Consumer Protection Commission (FCCPC)

**Federal Ministry of Justice (FMJ)**

57. The Ministry is generally concerned with the development of laws and regulations with respect to ASGM and chemicals management in the country. The Ministry is also responsible for the formulation, dissemination and implementation of related policies.

**Federal Ministry of Finance, Budget and National Planning**

58.The ministry is responsible for the formulation, dissemination and implementation of related policies on finance. It provides financial assistance to relevant institutions to implement national programmes, proactively determines and efficiently advises on matters relating to national development and overall management of the economy for positive growth. It also ensures that plans and policies are properly implemented by all relevant stakeholders.

59. **Other Sectors Relevant to ASGM Activities in Nigeria:**

a) **Academia And Research Institutions:** e.g. Basel Convention Coordinating Centre for Training and Technology Transfer for the African Region; Federal Ministry of Environment-University of Lagos Linkage Centre for Excellence for Environmental Human Resources Development; the National Research Institute for Chemical Technology (NARICT).

b) **Non-Governmental Organisations:** e.g Nigerian Environmental Society (NES), Global Rights, Women Environmental Programme (WEP), Waste Management Society of Nigeria (WAMASON), Friends of the Environment (FOTE), Women In Mining.

c) **Professional Organizations**: These bodies dedicate themselves to the interest of the members, to a point of being registered trade unions and function to standardize, unify, monitor quality, promote research, further education, along with updating the skills of practicing professionals. E.g. Institute of Public Analysts of Nigeria (IPAN), Institute of Chartered Chemists of Nigeria (ICCON).

d) **Business And Trade (Employers) Organizations:** Miners Association of Nigeria (MAN), Manufacturers Association of Nigeria (MAN), Gold Buyers & Sellers Cooperative Union.

e) **Management Of Accidents And Emergencies:** The management of mining/mercury related accidents and emergencies are undertaken jointly by relevant MDAs vested with core mandates. The National Emergency Management Agency (NEMA) has the mandate to respond to accidents and emergencies, in close collaboration with relevant agencies e.g. Nigeria Centre for Disease Control (NCDC).

60. Some other relevant and functional departments under this structure and arrangement that handles artisanal mining activities are:

a) **The Mining Cadastral Office (MCO):** The MCO was established to administer mineral titles and maintain cadastral registers. Major functions of the MCO include but are not limited to: considering applications for mineral titles and permits; issuing, suspending and revoking mineral titles; receiving and disposing of renewal applications, extension of areas of, transfer and relinquishment of mineral titles; maintaining a chronological record of all applications in respect of mineral titles; and maintaining a priority book and general registry book.

**b**) **Mines Inspectorate Department (MID):** The MID has the sole duty of supervising all reconnaissance, exploration and mining operations for the purposes of ensuring that they comply with the provisions of the Act. Other functions of the MID include: supervising and enforcing compliance by mining title holders with all mining regulations relating to health and safety, conducting investigations and inspections necessary to ensure that all conditions relating to grant of mineral titles as well as the requirements of the Act are complied with, and review programs for controlling mining operations for recommendation to the Minister.

c) **Mines Environmental Compliance Department (MECD):** The MECD has various responsibilities which include monitoring and enforcing compliance with all environmental requirements imposed by the Act and the Regulations, periodical audit of all environmental requirements provided by the Act, the Regulations and any other law for the purposes of making recommendations on same to the Minister, and review of all plans, studies and reports on the mining environment prepared by holders of mineral titles.

d) **Artisanal and Small-Scale Mining Department (ASSMD):** The ASSMD has the responsibility of assisting, and supporting small scale and artisanal mining operations in the country. Major functions of the ASSMD include provision of extension services to small-scale and artisanal mining title holders, and assisting artisanal and small-scale miners to access the Solid Mineral Development Fund established by the Act.

**e) Department of Geological Survey for Detailed Exploration Data**

61. The various public mining institutions have overlapping jurisdictions making application for mining titles cumbersome and unnecessarily expensive. The weakness of these mining institutions meant a dearth of accurate geological data and statistics in identifying mining prospects and the lack of any fiscal incentives was a turn off for any foreign investor.

**Problems facing ASGM in Nigeria**

62. The ASGM Sector in Nigeria is faced by several problems and issues. Some are associated with institutional weaknesses such as policies that do not spell out mechanisms and support systems for growth of the ASGM market (in terms of prompt and sufficient Returns on Investment (ROI), the viability of the gold supply chains, exports, etc.). Additionally, other problems are associated with poor and substandard practices on mining sites such as the use of mercury which results in anthropogenic releases and subsequent environmental degradation and adverse impacts. These problems are itemized and discussed below.

**A) Formalization of ASGM and Efforts made by the Government of Nigeria**

63. Principally, a critical factor faced by the subsector is the inadequate formalization of ASGM activities across the Country; which has allowed numerous pockets of illegal/informal ASGM sites to sprout up in most rural and peri-urban communities. Although the MMSD has initiated the process of organizing ASGM groups into cooperatives, there is still a lot to be achieved for a more articulated, structured and formalized ASGM subsector in the country.

64.The Government of Nigeria (GoN) has made considerable effort to tackle the problem of informal[1] mining in the country by collaborating with international donor agencies such as the UNIDO, World Bank, and UNDP to establish sustainable activities and/or programs targeted at establishing formalization of the ASM Sector, and specifically, ASGM in order to eliminate barriers to; safe practices, investment opportunities, low productivity and inadequate technological capacity with an overall objective to minimizing the adverse health, environmental and socio-economic impacts of ASGM activities. In the past, some of these projects have been funded solely by the Government of Nigeria, but the transition from one government to the other, and unavailability of sustainable roadmaps to this effect, have either slowed down the actualization of expected outcomes or in some cases halted further steps towards achieving large scale formalization of the ASGM subsector in the country. Between 2005 to 2010, Nigeria implemented the Sustainable Management of Minerals Resources Project (SMMRP), funded by the World Bank. The SMMRP instituted a Micro Grant Scheme to support the ASM Sector. The scheme aimed to foster formalization of the sector by incentivizing operators to formalize their operation by organizing themselves into registered mining cooperatives as one of the conditions to access assistance from the scheme. Although many operators formed mining cooperatives in the bid to benefit from the scheme, most were not successful as they failed to meet other conditions.

? **The National Policy on Chemicals Management, Federal Republic of Nigeria, 2010**

[1] In the Nigeria context, ASGM is considered informal due to the fact that miners are resident locals who are known and carryout these activities within their localities. The Nigeria government through the MMSD are currently formalizing the informal ASGM operators so as to ensure proper

documentation, monitoring and effective coordination of their activities. This is an on-going process.

**65. Programmatic Interventions targeted at ASGM formalization in Nigeria -** In 2011, Nigeria joined the UNEP Global Mercury Partnership in four (4) thematic areas, including Artisanal and Small-Scale Gold Mining. The overall goal of the Partnership is to protect human health and the global environment from the release of mercury and its compounds by minimizing and, where feasible, ultimately eliminating global, anthropogenic mercury releases to air, water and land. Furthermore, in 2011, Nigeria in collaboration with the United States Environmental Protection Agency (USEPA) and the UNEP organized an Anglophone West Africa Regional Awareness-Raising Workshop on mercury in ASGM. The workshop provided an opportunity for stakeholders to consider how to tackle mercury-related issues in artisanal and small-scale gold mining and to initiate a dialogue on the broader range of issues associated with such mining. In 2015, Nigeria prioritized the diversification of the Nigerian economy by engendering accelerated development of the non-oil sectors of the economy including the mining industry. The Government developed the Economic Recovery and Growth Plan (ERGP), which identified mining as one of the key areas to diversify the economy. In keying to the new Government's policy, a roadmap for the growth and development of the Nigerian Mining Industry was developed in 2016. The roadmap identified gold as one of the Country's ?7 Strategic Minerals[1]?, and gave a projection for mining's contribution to the GDP (at 0.33% in 2015) to 7% by the year 2031. The Federal Government plans to build the capacity of the Artisanal and Small-Scale Miners through the provision of extension services and actively drive the formalization of ASMs in the next couple of years.

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[1] The 7 Strategic Minerals include Gold, Iron Ore, Limestone, Bitumen, Coal, Baryte and Lead-Zinc.

66. Some of the major goals of the ERGP include to:

? Formalize the ASGM sub-sector through establishment of an enabling legal and regulatory framework and organized group of ASGM miners representing the needs of the sector including:
  ? Building and strengthening institutional capacity of ASGM support institutions; and
  ? Enhancing co-operation and partnership at all levels among miners, public authorities, industry sector, NGOs, Academic Institutions, and other stakeholders.

**67. Formation of Cooperatives as a Form of Formalization of ASGM in Nigeria** - The MMSD has been spearheading the actualization of the national agenda to formalize artisanal miners' activities into a formally recognized subsector contributing to the national GDP. One of the ways the MMSD is implementing the ASM formalization policy is formation of miners into registered mining cooperatives and quarry associations for purposes of ease of administration and regulations. But despite the efforts to formalize the miners, statistical results prove to be low (National Action Plan - NAP, 2021). According to the NAP, there are about 1,410 artisanal mining cooperatives registered with the MMSD. Out of the total cooperatives registered by the MMSD, only 8% have valid mineral titles (SSML or QL) over their area of operation, whilst 92% of the registered cooperatives

operate without any mineral title. The registered cooperatives are further facilitated to acquire small-scale mining lease to cover their area of operations. Findings from several studies in-country (including the NAP studies) of the sector have indicated that ASGM has become a veritable livelihood strategy available for teeming underemployed and unemployed individuals in the rural areas of States with significant ASGM activities in Nigeria. Similarly, ASM, including ASGM, is intensively practiced in rural areas across the country and has become a major source of livelihood in such communities for unemployed youth/persons, rural families etc. Despite the violation of legal and regulatory provisions by operators, occupational health and safety risks and hazards, and the adverse health and environmental impacts of mercury use, ASGM in Nigeria has become an eye-catching and significant financial supporting activity to many low-income and economically vulnerable peri-urban and rural communities; some of whom alternate ASGM with farming, fishing and retailing activities. In areas where ASGM has become a part of the community occupational culture, women generally undertake ASGM work in the off season (dry season), where they pan river sediments for gold. In the rainy season, they revert to farming and agriculture. This is particularly common in Niger State where women participate directly and actively in ASGM through engaging in panning and washing of sediments for gold in alluvial deposits. They do not migrate like most men, but restrict themselves to mining at community streams during dry seasons and revert to farming in the rainy seasons. It is estimated that over 260,000 miners are directly involved in ASGM in Nigeria. Based on typical AGSM practices in the country, ?for every person directly engaged in ASM, an additional 3 to 5 persons are indirectly supported economically?. Therefore, the estimated number of persons indirectly dependent on ASGM in Nigeria is 1.3 million persons (NAP, 2021).

See Table 2 below for estimates in the GEF GOLD+ participating states (Source: NAP, 2021)

| ASGM States | Direct Workers | Indirect Workers |
|---|---|---|
| Niger | 58,429 | 292,145 |
| Zamfara | 133,492 | 665,780 |
| Kaduna | 33,803 | 169,015 |
| Kebbi | 7,600 | 38,000 |
| Total | 233,324 | 1,164,940 |

68. Current Levels of Formalization - A number of ASM/ASGM miners are aware of the government policy on formalization. ASM officers at the state level often carry out sensitization at mines to intimate artisanal miners on the needs to formalize their operations. Despite efforts of the MMSD, most miners still do not understand the need for formalization. General assessment of the typical scenario in the country shows that the issuance of a lease has little impact on the general unskilled workforce on-site, which makes up most labor within the ASGM sub-sector. Additionally, the ?legality? of a site and the presence of a formal lease does not necessarily define an organizational structure on-site. It should not be assumed that sites that do not have a legal license are not organized. In most ASGM sites around the country, there is a level of on-site coordination capacity, be it through the ?management? or ?labor unions?. Currently, the ASM Department of the MMSD registers artisanal mining cooperatives with the aim of formalizing them, and using their registration status to enable them acquire mineral titles in the short and long term, including government support through technical assistance and access to finance. However, most of the cooperatives that are registered have not received certificates from the department due to delays associated with paucity of funds.

69. ASGM Gender-Differentiated Impacts in Nigeria ? The Path to Formalization - In Nigeria, women occupy a diversity of roles in artisanal gold mining communities; majorly constituting a percentage of

the unskilled workforce which include panners, diggers, ore carriers and processors). Women's responsibilities in gold processing range from crushing, grinding, sieving, washing and panning, to gold amalgamation with mercury and amalgam decomposition. Less commonly, women are concession owners, mine operators, dealers and buying agents, and equipment owners. Ironically, projects and programmes designed to improve operational standards of miners most times generalize and relegate the peculiar concerns of women. In considering formalization of ASGM in Nigeria, the formalization approach should ensure that benefits and disadvantages of the approach do not fall disproportionately on women, but rather design co-operatives such that the leadership and technical competencies of women in ASGM are enhanced and optimized; including ensuring that women account for a reasonable percentage of each cooperative?s membership population. This will include technical assistance and capacity building for women, and ensuring that legal and regulatory frameworks do not restrict women involvement in decision making, access to finance and other aspects associated with the ASGM supply chain. Additionally, informalized practices in mining which also pre-expose women to several social concerns such as Social Inclusiveness, Gender Inclusiveness, Gender Based Violence (GBV), Sexual Exploitation and Abuse/ Sexual Harassment (SEA/SH). Other factors which informalization of the sector may have exacerbated in past and recent times include Vulnerability, Disability, and Equity in the sharing of the economic benefits of ASGM.

**B) Access to Finance**

70. A lack of, or limited opportunities for access to finance is a major factor contributing to ASGM operators seeking illegal and unregulated mining opportunities. Several commercial banks in Nigeria (with exception of WEMA, Zenith and Sterling Banks)[1] do not have finance mechanisms in place to support ASM/ASGM activities specifically, therefore creating a gap to accessing Safer Technology Options, Better Markets, Capacity Building and Technical Assistance, Extension Services, etc. Even where finance mechanisms might be available, information sharing is inadequate and the requirements for eligibility are farfetched as major MDAs whose responsibilities are to provide criteria for eligibility may be slow or have not instituted such processes to avail ASGM operators the statutory position or rights to approach finance institutions for loans, grants, etc.

[1][1] See Table 3 on Available Financial Mechanisms for ASGM

71. While presenting the locally mined gold bars by the Presidential Artisanal Gold Mining Development Initiative, in July 2020, the Government of Nigeria disclosed that Nigeria lost about 3 billion USD, in royalties and taxes, to the smuggling of gold between 2012 and 2018. As stated previously, gold deposits are mostly found in Zamfara, Osun, Oyo, Kogi, Jigawa, Plateau, Kebbi, Kwara, and Nasarawa States, with active ASGM/informal mining ongoing in several sites in these states. The lack of formal markets, access to finance, limited knowledge of ASGM among commercial Banks to support the supply chain and unlicensed ASGM activities which have led to deprivation of the government of gold revenue, prove to be direct and indirect factors relating to the poor contribution of the gold market to the national GDP. Although the Minerals and Mining Act requires all gold obtained under an SSML (which includes gold mined by artisans) to be sold to a licensed Mineral Buying Center, the majority of artisanal gold miners sell their gold to unlicensed buyers. Despite generally reliable access to market information via their cellular phones, many miners are obligated to sell their gold onsite to middlemen/sponsors who have already loaned cash to them for various financial needs. This enables the middlemen (sometimes known as ?retailers) to set the price at which they will purchase the gold, which is often below market value, and which is in turn sold to the buyers (sometimes known as wholesalers). Additionally, because of the unformalized and unstructured marketing of gold in-country, purchased gold is smuggled out of the country on the black market and

sold internationally. While miners can generally obtain a higher price through gold buyers and sellers associations, the location of such associations in capital cities can be quite far from processing sites.

72. The ASGM sector is undercapitalized, particularly in comparison to the formal/industrial/large scale gold mining sector. This means that ASGM miners are unable to finance the initial investments that are needed to switch to low or no mercury alternative techniques and technologies, despite allowing increased gold recovery. Coupled with the low access to finance, their awareness of mercury alternatives is also very low. The most salient barriers to increasing capitalization of informal gold mining operations are: lack of education (of the sector within local financial institutions), data, formal business skills, scope of the finance required and remoteness of the operations which create market access challenges as well as lack of collaterals, which are commonly required for most types of conventional finance (credit). Naturally, the formalization of ASGM also presents a significant hurdle. More so, lack of education within the market means that local banks lack the understanding of the ASGM sector required to create financial products for it. This lack of understanding coupled with the negative perception of ASGM and its informality make financiers bearish on the prospect of investing in the sector. ASGM operations often lack information on mineral resources and reserves and key historical data around the operation itself, which can be used to evaluate the viability of a loan. The data on operations is lacking because ASGM miners do not have formal business skills or systematic monitoring of their activities and progress. Without these formal management skills, again, a loan is perceived as a higher risk. The remoteness of ASGM operations creates two key issues, namely access to markets and financing: which results to low gold prices and lack of opportunities. However, in comparison to other commodities such as agricultural products, miners receive a relatively higher value for the gold, even though the numerous intermediaries required to get the gold to market means that miners receive reduced revenues when compared to the international gold price. Secondly, where opportunities for miners to access support, financial services, and new markets do exist, the miners are often unable to access the information and the services due to the remoteness of their operations.

73. This, therefore, implies that strengthening extension services is required, as well as tracking of mining activities and improved information sharing on financial mechanisms to support access to finance. Following an initial financial assessment carried out during project development, of the available financial mechanisms in-country to enable an increase in financing options for miners, some financial institutions were identified. Nonetheless, there was difficulty in getting information with regards to access to finance for ASGM from other financial institutions as some of these did not have financial structures in place dedicated to ASGM, or due to administrative reasons could not avail top management personnel to respond within the assessment/survey period. Few institutions were able to avail financial instruments/mechanisms for supporting and enabling access to finance for ASGM.

74. Table 3 below provides a summary of ascertained mechanisms among commercial banks and the federal government to access finance for ASGM. However, this list may not be exhaustive as a more detailed assessment may need to be done during the project implementation.

Table 3: Available Financial Mechanisms for ASGM

| **AVAILABLE INSTITUTIONS FOR ACCESS TO FINANCE/FINANCING MECHANISMS FOR ASGM IN NIGERIA** |
|---|

| S/N | Financing Institution/Financing Instrument | FINANCING MECHANISM | CRITERIA FOR SELECTION | ELIGIBILITY |
|---|---|---|---|---|
| 1 | Zenith Bank | | Provision of mining license, collateral etc. | ASGMs.<br><br>Large scale miners.<br><br>Cooperative ASGMs. |

| | | | | |
|---|---|---|---|---|
| 2 | Sterling Bank | Minimum of 10% equity contribution (depending on the volume and value of the transaction). | ●3 months minimum relationship between bank and customer.<br>●Valid trading license for gold or precious metals.<br>●Valid License for purchase.<br>●Possession of Gold Valid Contract for purchase from supplier of Gold indicating the origin for traceability, carat etc.<br>●Certificate of Incorporation.<br>●Articles and Memorandum of Association.<br>●Board Resolution Approving the Application for the Facility.<br>●Expression of Interest to the CBN.<br>●Three (3) Years Tax Clearance Certificates.<br>●CRMS checks from two credit bureau on the Company and Directors.<br>●Credit reports from two credit bureau on the Company and Directors.<br>●Brief on Directors.<br>●Bank Verification Number (BVN).<br>●Tax Identification Number (TIN).<br>●Previous/Current Management Position(s) and Percentage Shareholding in the company.<br>●Business Plan: Financial Plan, Economic benefits.<br>●Environmental Impact Report and 3-year Financial Projection.<br>●Notarized Proof of Suppliers/source of Gold.<br>●Registered Artisanal and Small-Scale Miners.<br>●Notarized Proof of Local Buyers.<br>●Registration and License with Ministry of Mines and Steels Development (MMSD).<br>●Proof of waiver from MMSD or the License/Lease Owner.<br>●Provision of EIA (depending on future considerations to finance mining). | Gold traders.<br><br>ASGMs (with the exception of Zamfara state, due to the ban on gold mining activities) |

| | | | | |
|---|---|---|---|---|
| 3 | Wema Bank | | ●6 months minimum relationship between bank and customer.<br>●Evidence of track record in the business.<br>●An account statement showing capacity.<br>●Tangible collateral.<br>●Requisite approval from the Ministry of Environment to carry out that activity.<br>●Positive credit bureau report.<br>●Minimum of 50% turnover in bank account.<br>●Provision of EIA. | Small scale gold miners. |
| 4 | The CBN National Gold Purchase Facility (NGPF) (not yet implemented) | | No Information Available | Artisanal miners<br><br>Small scale miners. |
| 5 | The Presidential Artisanal Gold Mining Initiative (PAGMI[1]) | | No Information Available | ASGM operators. |
| 6 | Solid Minerals Development Fund (SMDF[2][2]) | | No Information Available | Small scale miners. |
| 7 | Bank of Industry[3][3] (BOI) | Loans. | ●Miners must belong to a Cooperative.<br>●Mining license from the Federal Ministry of Mines and Steel Development.<br>●Surety<br>●An officer from grade level 14 upward. | Artisanal and Small-Scale Miners. |

[1] PAGMI was designed to integrate artisanal gold mining activities along the value chain into Nigeria?s legal, economic, and institutional framework. This initiative will be used to fund a National Gold Purchase Program (NGPS)under which a special purpose vehicle jointly owned by the SMDF and participating states will buy, process, and sell gold mined by artisans in order to improve ASGM operators? market access

To be eligible you must be an ASGM operator who has gold to sell. This initiative is however yet to fully take off.

[2] The official mandate of the SMDF is to: ?Act as a catalyst to spur development of Nigeria?s mining sector by undertaking targeted sustainable, profit-oriented investments and interventions in key areas, in close coordination with stakeholders in the sector?. The fund is to address the financial gaps across the mining value chain, including geoscience activities, exploration, equipment financing, mine development, production, infrastructure and capacity building,? The SMDF is not a bank, but a partner, ?they only co-fund projects.? They are presently not yet capitalized to be able to disburse funds to individuals, cooperatives and small-scale miners at the moment. Disbursement of funds is presently being done by BOI.

[3] The Ministry of Mines and Steel Development in collaboration with the Bank of Industry created an artisanal and small-scale mining financial support fund. The sum of 5 billion naira was earmarked for disbursements as loans to qualified ASM operators with counterpart funding of N2.5billion from the Ministry. It is to be disbursed by BOI as follows:

a) N10million - N100million each for Small Scale Miners and

b) Less than N10million for Artisanal Miners. To qualify, the miner must belong to a Cooperative. You must have a mining license from the Federal Ministry of Mines and Steel Development.

**C) Mercury Use in ASGM in Nigeria**

75. The gold ore is usually bagged and brought from the mine pits to the processing points. Very coarse gold ore is first broken down (crushing) into smaller pellets on a hard iron slab using hammer. The pellets size ore are then ground into fine grains in a milling machine under a wet conditions in some places and in dry condition in other places. The gold ore pellets are shoveled into the milling machine with continuous stream of water; the pulverized materials, which are now fluidized, flow down from the milling machine along the sluice box which is lined with fibrous carpet. Sluices are normally inclined at an angle to allow desired flow rate such that gold grains alongside heavy particles settle out on the fibrous carpet. The mixture is then washed out from the carpet on to a basin.

76. The next process is panning, which allows the miners to concentrate the gold grains albeit with other heavier sediments. This process relies on the difference in specific gravity between gold and the unwanted sediments/minerals. It involves panning, wherein circular or back and forth shaking of the concentrate and water in a pan causes the gold grains and unwanted sediments to concentrate in layers at the bottom of the pan, whilst the lighter gangues are decanted away. To separate the gold from the sediments, miners add some quantity of mercury to the concentrate and begin to knead the mixture in a pan. Mercury amalgamates with the gold (leaving behind unwanted sediments) to form an amalgam of

Mercury and gold, followed by heating or burning the amalgam to vaporize and expel the mercury, finally the sponge gold is smelted.

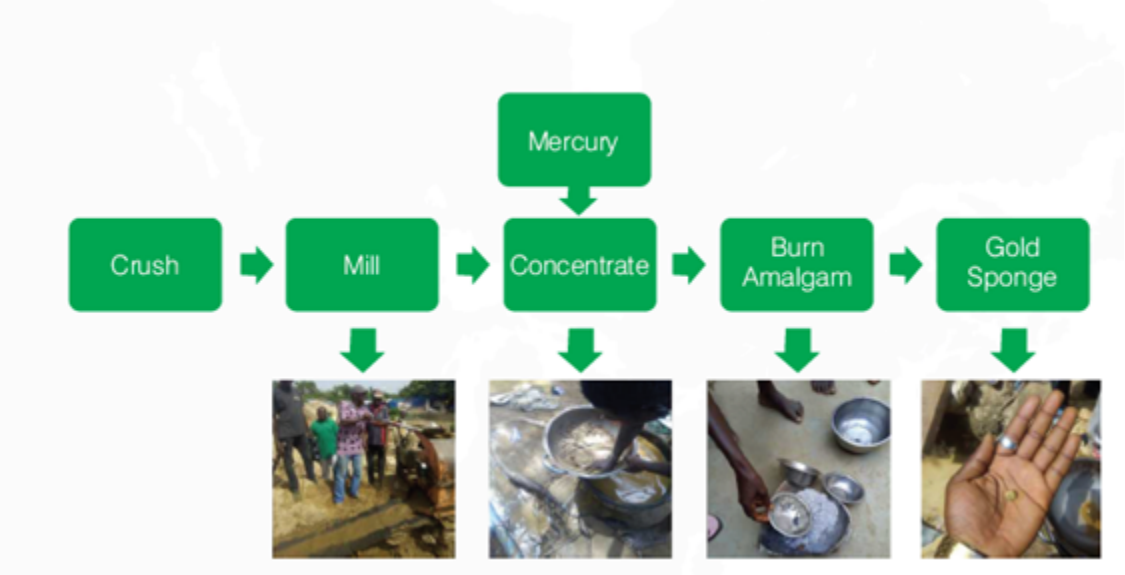



Figure 5: Showing Gold Ore Processing Flow Using Mercury (Source: NAP, 2021)?

77. ASGM operators generally lack resources in terms of time and money for gold processing. This often leads to an increase of mercury use to process the ore resulting in negative environmental and social impacts. Similar to the Zamfara incident of 2010, there are widespread fears regarding the extensive use of mercury and related emissions and releases into the environment and related human health consequences. In this sense, higher awareness raising among miners and their communities is required. The MMSD and the FMEnv need to strengthen their extension services to support behavioral change amongst the miners to reduce the use of mercury. Moreover, there is a need for the Government to channel further investments into the construction of leaching plants for an environmentally sound management of tailings. While the pressing needs to support miners in moving away from the use of mercury is clear, any meaningful approach should address the economic motivations behind ASGM and present viable, affordable and available alternatives to mercury use. Economic incentives should support public and private sector efforts in wholesale and retail mercury-free technologies to ensure these equipment is available across the country and for those who need to operate it. Additionally, there is a lack of awareness on occupational, health and safety (OHS) standards in the ASGM sector. Based

on the information gathered during the NAP baseline and the project preparatory phase, ASGM sites hardly have OHS mechanisms in place. There is a general lack of insurance coverage for incidents and accidents in mining sites and wearing personal protective equipment is not common among miners. Policies, programs and procedures to address health and safety in the mining sites should be put in place.

78. In line with the Nigeria?s National Action Plan (NAP) on Mercury in the ASGM Sector (2021), The Government of Nigeria aims to reduce mercury use in ASGM by 50% in 2030, through partial elimination of intensive and unsafe practices of mercury use, the adoption of mercury controls and capture technologies, and/or the adoption of mining techniques that do not require mercury use (mercury-free technologies). However, due to the exigencies of current widespread mercury use in artisanal mining in several gold mining regions of Nigeria, it is considered that a phased- reduction target might be the option. According to the Nigeria National Action Plan (NAP) on Hg in the ASGM sector, the Nigerian government is committed to effectively reduce mercury use in the ASGM sub-sector, by 10% in 2024, 20% in 2027, and a further 20% by 2030, (based on the quantities determined by the baseline inventory). With the proposition to join the GEF GOLD+ Global project, Nigeria is more optimistic in achieving this goal. An estimated 30% of the world?s artisanal miners are women and they occupy several roles ranging from labor-intensive mining methods to the processing aspects of artisanal mining (in ASGM practices in Nigeria, mercury is mainly used in the processing centres, where women are also found to serve as a fraction of the labor force). Consistent with the GEF Policy on Gender Mainstreaming and UNIDO?s Policy on Gender Equality and Empowerment of Women, the Nigerian government recognizes the gender dimensions of mercury use and exposure risks in ASGM, especially to women and children.

79. **Mercury Import to Nigeria -** Official data on mercury import into Nigeria specifically for use in ASGM in Nigeria is not readily available. However, informal and illicit trans boundary movement of mercury from across neighboring West African countries into Nigeria is not uncommon. The NAP indicates that occasional and illicit supplies also come from other sectors such as the health sector; specifically, hospitals and the energy/power sectors. The NAP also recommends that further studies are required to fully understand the trading mechanism and supply chain of mercury trade in Nigeria.

**D) Knowledge Sharing, Communication and Local Capacity Building Support**

80. Ever since Nigeria kicked off efforts towards mercury management in ASGM, and establishing its commitments and obligations to the Minamata Convention, including knowledge management and increased access to information among project partners and the wider ASGM community in-country; the aspects of formalization, market access and technology transfer have been primary areas of interest.

The government envisages that communication strategies and activities and local capacity building support, will be articulately promoted and implemented through the GEF GOLD+ Nigeria Child project. There is no doubt that more education, sensitization and awareness of the general public, including decision makers on the major issues, challenges and solutions related to the ASGM sub-sector is essential and should be continuous. In recent years, the MMSD has increased its efforts to intensify knowledge sharing; one of which being the current MinDiver project funded by the World Bank. In this regard, Nigeria through MinDiver hopes to achieve the following:

- Establish mining information management systems (including geological database, Decision Support System [DSS], Environmental Information Management System [EIMS] developed. Currently, only the DSS has been established but not rolled-out.
- Ensure geological knowledge is enhanced through an integrated geological database and made publicly accessible
- Increase economic linkages from industrial minerals to the services and manufacturing sectors
- Ensuring mining exploration and production projects are subject to formal environmental and safety inspections following good international practices set under the project, and
- Sharing of production data collected from ASM operations (as a percentage of total number of operations inventoried under the project)

81. Additionally, the NAP also proposes strategies to providing information to artisanal and small-scale miners and affected communities. These are being adopted by the Government of Nigeria and include:

? Engagement of trained translators to communicate directly to ASGM communities, especially the miners and women.
? Use of short videos and display to educate children on the effects of mercury use, including cyanide in mining.
? Development of educational materials on mercury and impacts in ASGM communities.
? Use of pictorial and visual methods in communicating to ASGM communities on the hazards associated with mercury use.
? Soliciting the supports of community and religious leaders in sensitizing the ASGM communities during community meetings, religious gathering and related programmes on radio and television.
? Encouraging ASGMs to form associations through which they can be approached by relevant institutions.

82. Several other organizations including Non-governmental Organizations are involved in ASM/ASGM knowledge sharing activities; some of these include PACT, Global Rights, Miners Association of Nigeria, etc.

# THE PROPOSED ALTERNATIVE SCENARIO

83. The proposed Child Project, called GOLD+ Nigeria, aims to deepen mercury reduction in ASGM through a holistic multi-sectoral integrated formalization approach. This will take into account all facets of gold production and its supply chain, with consideration of all sectors that enable an optimally functioning ASGM sector in Nigeria, with capacity to reduce mercury use and support sustainability.

84. The GOLD+ Child Project for Nigeria responds to the GEF 7 Chemicals and Waste Focal Area Strategy priorities, which require high level of innovation and integration, and interventions developed to be sustainable beyond the life of the GEF project. It responds to GEF 7 program principles of building on or using existing networks, regional, national and sub- national institutions

85. The Child Project aims to achieve the long-term goal ?to prevent the exposure of humans and the environment to harmful chemicals and waste of global importance.? As designed, the program is consistent with the GEF-7 Chemicals and Waste element CW-1-1: Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination. Various multilateral environmental agreements and global processes including the Minamata Convention on Mercury which also informs the design of the Global Program and Child Project.

86. The GOLD+ programme?s Theory of Change has been developed since concept phase around:

? Optimizing formalization strategies through integrated, holistic, and multi-sector approaches at the landscape scale through commodity-specific JAs;

? Accelerating financial inclusion and creation of responsible supply chains;

? Enhancing uptake of mercury-free technologies through sustainable business models.

? Foster knowledge sharing, learning, and synthesis of experiences.

87. The integrated approach proposed for the Nigeria child project fully responds to and reflects the GOLD+ Programme?s ToC, by designing interventions that focus on the barriers preventing the uptake of responsible mining technologies and practices. The project and programme components

are the similar, while the child project outputs directly contribute to the PFD. In line with the GOLD+ Program?s ToC, expanding on the work initiated under the GEF-funded PlanetGOLD programme. It explores the various options for financial mechanisms to provide financial products suited to the ASGM sector and pilot a Jurisdictional Approach (JA), following territorial boundaries of mining areas with a commodity focus on responsible gold. The JA appears to be a suitable method for tackling the systemic challenges in Nigeria.

88. The following section explains how the project will lead to an alternative scenario to the current context experienced by the sector at the national level. To this end, the foreseen outcomes, outputs, and activities expected in the next five (5) years are presented graphically below in the Theory of Change and explained in subsequent paragraphs (Table 4).

89. The Project aims at promoting mercury reduction in ASGM through holistic multi-sectoral integrated formalization innovations. The project considers the different stages of the gold production and supply chain, to enable an optimally functioning ASGM sector with the appropriate capacity to reduce mercury use and support sustainability.

90. The integrated approach proposed responds to and reflects the Programme Theory of Change (ToC)

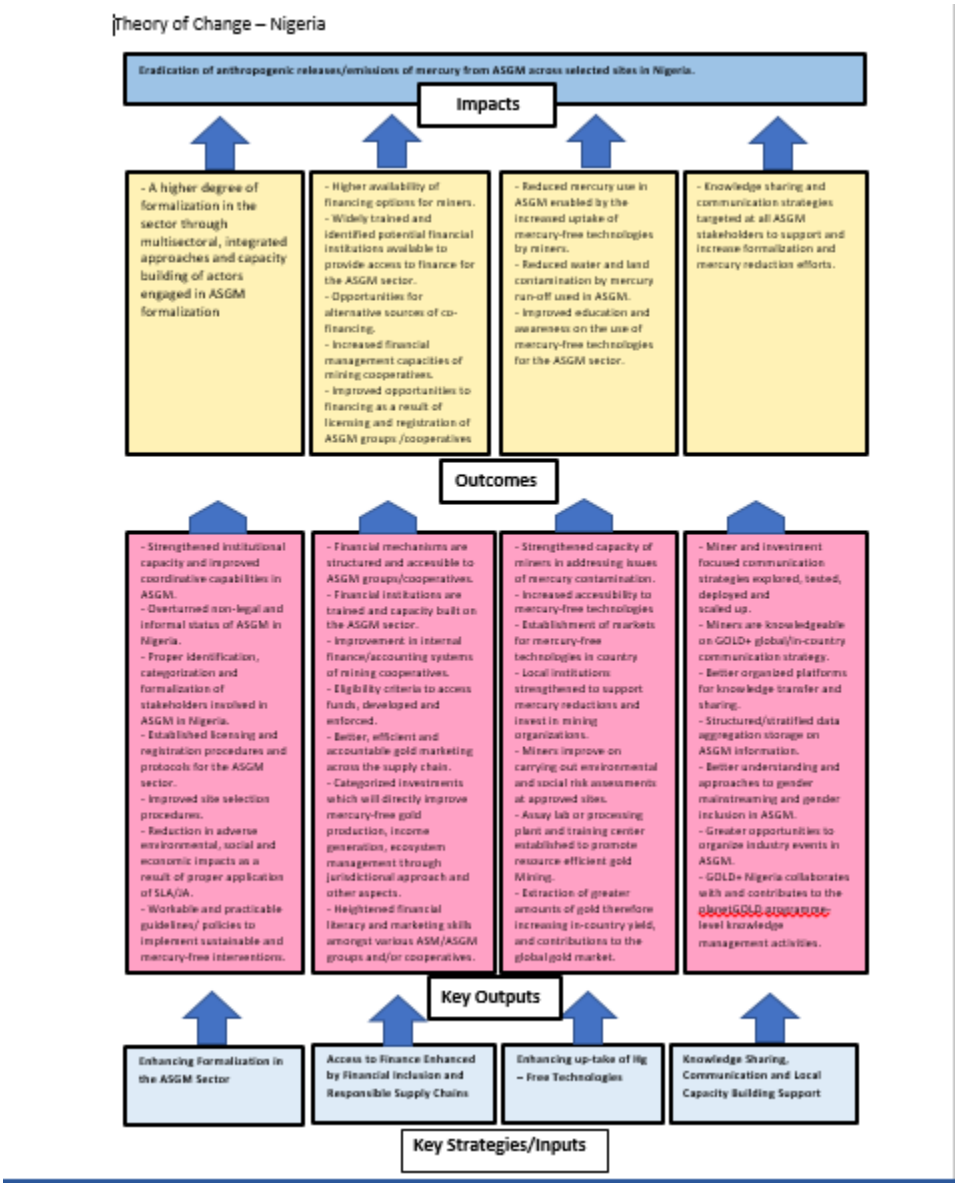
91. The ToC is based on the problem tree that outlines the root causes and barriers of the existing environmental problems.The project outputs are structured to target one or more root causes of mercury use and negative impacts on the human health and the environment.

92. If the outputs are completed successfully THEN the project will reduce mercury use in ASGM and the negative impacts on health and the environment because increasing formalization in the ASGM sector through jurisdictional approaches, increasing investment through access to finance and responsible supply chains, increasing uptake of mercury-free technologies and improving knowledge

and skills of local actors will drive formalization and responsible mining practices that will reduce mercury use and realize environmental and human protection outcomes.

93. The planned integrated approach is designed to generate a direct mercury reduction of 4.62 metric tons by project completion. Contribution to other core indicators has been assessed and is detailed under the specific section of this project document (Section G)

Table 4 ? Theory of Change Nigeria



94. The **main objective** of the project, respectively the reduction of the use of mercury in the ASGM sector in Nigeria through a holistic, multisectoral integrated formalization approach and increased access to finance, leading to the adoption of sustainable mercury-free technologies and access to traceable gold supply chains is intended to be achieved through the four main components described below, complemented by monitoring and evaluation.

**Table 5: Program Components and Expected Outcomes**

| S/N | Component | Expected Outcomes |
|---|---|---|
| 1 | Enhancing ASGM formalization | A higher degree of formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization |
| 2 | Access to finance enhanced by financial inclusion and responsible supply chains | Higher availability of financing options for miners<br>through the attainment of better gold prices facilitated by transparent and responsible supply chains |
| 3 | Enhancing uptake of mercury-free technologies | Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners |
| 4 | Knowledge sharing, communication and local capacity building support | Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts |

**Component 1: Enhancing ASGM formalization**

95. Component 1 implementation in Nigeria aims to achieve a *?higher degree of formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization?* through activities and initiatives driven by or requiring technical assistance.

96. Envisaged Benefits of ASGM Formalization include:

a. Strengthened institutional capacity and improved coordinative capabilities/technical competency among executing agencies and other actors to drive global best practices which include elimination of Mercusry use in ASGM, in-country.

b. Proper identification, categorization and formalization of stakeholders involved in ASGM in Nigeria.

c. Improved community engagement and establishment of effective Grievance Redress Mechanisms (GRMs) at community, states and national levels.

d. Reduction in number of illegal/informal mines and mining operations.

e. Standardization of the ASGM supply chain in participating states and Nigeria.

f. Established licensing and registration procedures and protocols for the ASGM sector, including guidelines for due diligence which strongly emphasize environmental, social and economic sustainability.

g. Increased yield based on shared geological data and information, in contrast to low yield due to poor site selection processes, crude methods or technology (guess work or trial and error).

97. Three (3) major anticipated project outputs are expected to be attained under this Component and are briefly described subsequently.

### 1.1. ASGM and Leaching Plants Coexistence Institutionalized by the Government of Nigeria

98. To achieve this output, fractions of GEF program financing and co-financing will be channeled at development of National Strategy for Co-existence of ASGM and Leaching Plants. This will provide guidance on chemicals like Mercury to be avoided in gold processing centres and state environmentally and economically friendly procedures in ASGM sites. An assessment of legislative framework at Federal level to improve mineral exploration and licensing will be carried out at all levels which will ensure consideration for Mercury-free technologies. There will be an assessment of existing laws and regulations on effective Mercury management on ASGM at Federal and State levels (for the four selected states), while standards and measures in place for effective formalization of miners and total elimination of Mercury in the ASGM sector will also be reviewed. These processes will identify the needs, gaps and other uncertainties such as land tenure, illegal gold trading and gender mainstreaming; recommendations will be proffered and actions will be taken to address as many of the gaps and challenges identified.

99. This will be supported by capacity building for the executing agencies (FMEnv, MMSD) and strengthening of their respective institutional systems to enable them to execute project activities satisfactorily to meet the overall project objective. Broadly, the Government of Nigeria will adopt

an integrated approach to achieving registration of over 40% of ASGM operators/operations into co-operatives to kick-start the formalization process. Although several ASGM co-operatives have been formed and registered by the MMSD in recent years, the GEF GOLD+ project hopes to increase the number of registered co-operatives during the project implementation period. This will also entail the development of registration procedures which will be made accessible to ASGM operators and driven by the MMSD through its respective departments. This development will also require processing centers/leaching plants to be registered and geo-referenced; as a part requirement processing centres (leaching plants) will be encouraged to be sited close to mining sites to avoid emissions from logistics activities and to ensure the proximity principle of environmental management is adhered to; individuals/cooperatives that owns processing site will be made to generate and submit data on quantities of tailings generated (monthly, quarterly, half-yearly and annually). Generally, this will be achieved by integrating GIS, GPS and remote sensing into the registration, licensing and site survey/monitoring processes, such that ASGM co-operatives and operators produce geo-coordinates of their mines, but most especially processing centers/leaching plants. This will serve as a monitoring system for Mercury management at the gold mining sites. It will be also used to monitor the reduction of Mercury against improvement of alternative technologies introduced. Due diligence efforts will not only depend on registration of ASGM co-operatives and operations with the MMSD, but through technology-assisted tracking of ASGM operations and activities across the supply chain in all participating states, with pilot demonstrations. This may also require building up a database of gold buyers and tailings buyers, which will be domiciled in the states and shared through a management information system (MIS) at the federal level (MMSD). As part of the formalization process, stakeholder identification, mapping, and engagement will be a continuous process to ensure accountability and sustainability.

**Major activities and Inputs required**

100. MMSD and FMEnv will lead realistic and achievable activities, given the implementation timeline for the Child Project. Some proposed activities and inputs planned and considered to enable actualization of this output will include the following; but are not limited

a) Review and conduct of validation for existing national policies, regulations, plans and guidelines to streamline mining licensing, operations and chemical management.

b) Development of guidelines for enhancing formalization of ASGM in-country i.e. registration, licensing procedures and protocols, regulating ASGM operations etc

c) Promotion of access to responsible, traceable gold markets; which will be aimed at developing a strategy that will address access to different international gold markets rather than relying on the local market for sales of gold.

d) Guidelines for environmental and social due diligence, which aims at offering technical assistance to mining cooperatives that will result to mercury free technological investments in a short period of time possible and also will help establish downstream connections and linkages with leading global gold refiners for best environmental practices.

e) Support to enhancing or developing sectoral guidelines and standard operating procedures for gender inclusiveness and non-discrimination in ASGM.

f) Support the introduction and issuance of certification to ensure gold buying centres purchase and trade mercury free gold and gold processed in an environmentally friendly manner.

g) Development of guidelines addressing labour and working conditions for ASG miners; especially unskilled persons and general occupational health and safety in ASGM.

h) Mapping of registered ASGM sites and operations; activity tracking and leaching operations monitoring adopting digital tools

i) Piloting site selection criteria and assessment procedures.

101. For the successful execution of this output, MMSD will lead working with relevant national stakeholders. It is expected that MMSD will build on the progress it had previously achieved with its Departments and Agencies. It will also compliment, build and incorporate previous efforts made by the relevant state governments. This output will also try to put in place mechanism for monitoring leaching and processing plants. This will ensure monitoring of the equipment for movements from place to place and types of materials and quantities been released and/or emitted from the plants. This will give an opportunity to track progress and use of unwanted chemicals like Mercury.

**Commodity Specific Jurisdictional Approach (JA) piloted with a focus on ASGM and leaching plants coexistence.**

102 The SLA approach to be adopted for the GEF-GOLD+ Nigeria Child Project will adopt some of the guidelines provided by CI but the output will be driven primarily by the FMEnv. FMEnv will coordinate with other stakeholders such as the Environmental Assessment (EA) department, forestry department, mining cadastral office, Women in Mining, private sector players utilizing or having jurisdictions in selected landscapes etc. The FMEnv will also work with the MMSD in aligning SLA/JA objectives at national and State levels. With regards the implementation and execution of the Child Project in Nigeria, the SLA will be applied through an integrated approach implemented through partnerships to address multiple and/or competing goals which may exist between ASGM and other economically driven activities targeted at human well-being in mining communities and specifically sites across project selected States. Relevant mining communities and trade associations will be consulted. The State government in collaboration with the Federal government will ensure that relevant Federal and State guidelines, Policies, and Regulations are reviewed and aligned to achieve a robust and effective JA. The State government will be required to review some of their regulatory frameworks as JA is concerned. Communities, traditional rulers and relevant trade associations will be engaged in achieving this.

**The Child Project will adopt 5 phases in achieving SLA:**

103. **Phase 1 - Landscape characterization:** For every site selected in each of the participating States, an assessment of the status of landscape sustainability in terms of natural capital (protected areas and/or sustainable production areas), production, human well-being and governance will be undertaken. Specifically, landscape characterization at ASGM sites will ensure the definition of landscape goals and boundaries. Ultimately, a shared understanding of the goals and priorities of the landscape must be developed between primary and secondary stakeholders i.e., FMEnv, MMSD, UNIDO, BCCC-Africa, State Ministries for Mining and Environment, other relevant state

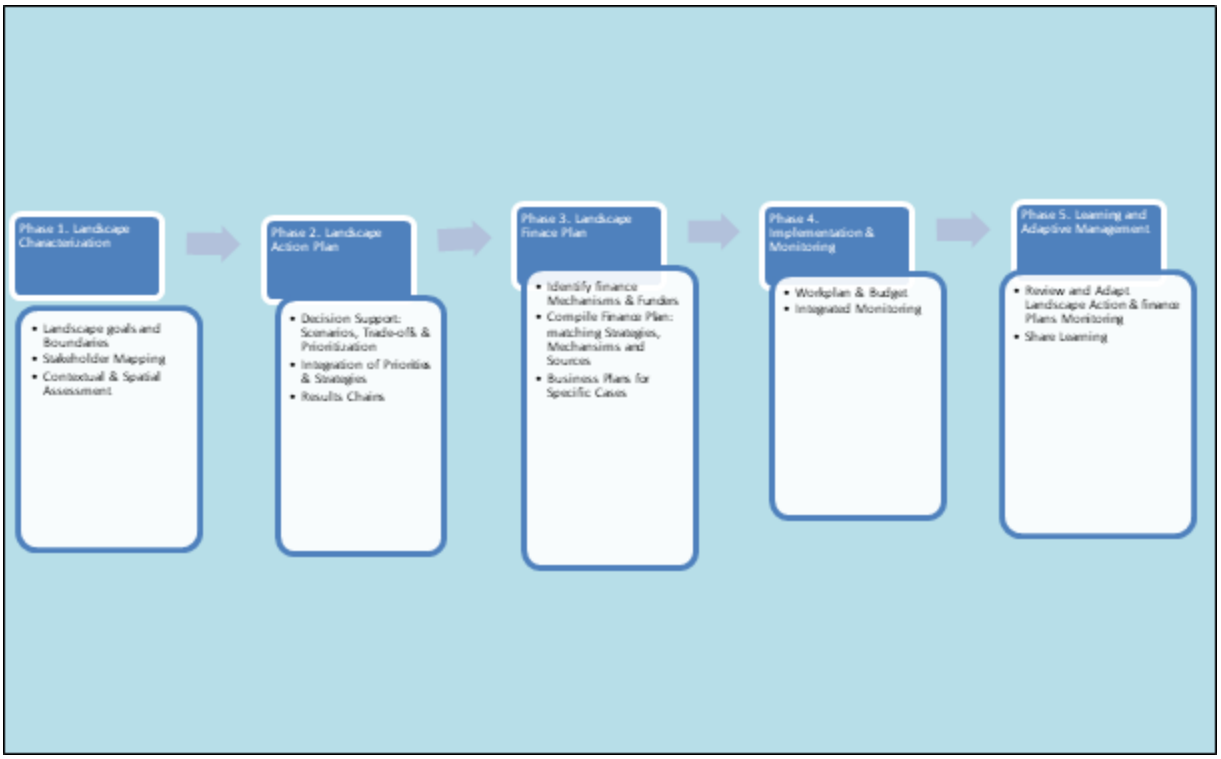
level Ministries, Agencies and Departments (MDAs), Miners Association of Nigeria, ASGM Cooperatives, Host Communities, NGOs, Community Based Organizations (CBOs), Faith Based Organizations (FBOs), etc.

104. **Phase 2 - Landscape Action Plan (LAP):** Since, the Child Project implementation will require an interplay of functions and responsibilities by several stakeholder groups and partners across the ASM/ASGM sector and sub-sector in Nigeria respectively, the maximization of synergies, making well informed decisions and identification of the most appropriate and economically feasible interventions for investments has to be achieved but importantly, through a workable and achievable Landscape Action Plan (LAP). The LAP will be based on the boundary, goals and stakeholder analysis completed during landscape characterization. It will also be vetted by a Multi-Stakeholder Platform (MSP) also established during stakeholder mapping at landscape characterization (Phase 1).

105. **Phase 3 - Landscape Finance Plan (LFP):** The essence of the LFP is to enable the GEF GOLD+ Child Project in Nigeria, build a diverse portfolio of financial resources that can support implementation with a range of mechanisms, timelines, risks tolerances and levels of investment. Already, the implementing (UNIDO) and executing (MMSD, FMEnv & BCCC-Africa) agencies have identified potential finance mechanisms and institutions in-country that can drive the implementation of the LFP (See Final Financial Report for GEF GOLD+ Project). Additionally, at an international level, financial mechanisms which could support the LFP for implementation in Nigeria or leveraged upon; may include REDD+ (Carbon Fund), Trust funds (Global Conservation Fund), Accelerator fund (Conservation ventures), Grants (Green Climate Fund Agency), etc. The Government of Nigeria through the Child Project will ensure to a) identify potential financial mechanisms and funders for strategies b) match strategies, mechanisms and funding sources and develop several business plans to support LFP implementation.

106. **Phase 4 - Implementation and Monitoring:** To add value to the Theory of Change for the Child Project in terms of evaluating indicators and expected outcomes, Phase 4 will ensure that management interventions and investment opportunities employed through partnerships as outlined in the LAP and LFP are effectively monitored. This will broadly include monitoring the impacts of implemented interventions at national and sub-national levels (Federal, State and Local Government) as well as achievements of landscape goals within the boundaries of selected sites in the participating States (Niger, Kaduna, Zamfara and Kebbi).

107. **Phase 5 - Learning and Adaptive Management:** Implementation of interventions will complementarily result in learning from implementation successes, limitations and risks. The locations throughout the country where the GEF GOLD+ Project will be implemented, have similar approaches to governance, funds management, etc. in some instances. Nonetheless, variations in these approaches may exist, which may be useful learning points to evaluate project performance and as well enable adaptive management.




**Jurisdictional Approach**

108. The JA will be applied in the implementation of the GEF GOLD Child Project in Nigeria. Nigeria will adopt either or a combination of the under listed JA initiatives in the implementation of the Child Project following advisory and guidance from UNIDO and BCCCA.

The multiple jurisdictional initiatives that are in progress around the world are grouped into three categories namely;

1. Models that address demand signals to the market, such as corporate pledges to preferentially source commodities from geographies that demonstrate improved sustainability.
2. Models that address supply signals to the market, including ongoing efforts to achieve jurisdictional harnessing/production of natural resources and enhancing formalization of natural resources stakeholders, and
3. Place-based initiatives that bring together supply and demand-side stakeholders to agree on sustainability goals and implementation strategies.

109. The JA is key in achieving a balance in roles and services of all stakeholders within the landscape. The assessment and evaluation of jurisdictional approaches undertaken in the course of site assessments and visits to the respective mining states for Child Project implementation in Nigeria indicate that in some participating States, some potential problems need to be identified and managed during the conceptualization and design stages of state-level interventions, These include;

a) Poor mapping of stakeholders,
b) Recognizing and understanding their level of influence and significance to mining

operations,

c) Total negligence to managing landscapes through jurisdictional roles and responsibilities,

d) State Government bureaucracy and

e) Stringent political decision-making without due, proper, elaborate, extensive, and continuous stakeholder engagement.

**Jurisdictional Approach Input Strategies**

110. The following input strategies will be adopted for the Child Project;

a) **Periodic Capacity building on SLA/JA for stakeholders and Multi-Stakeholder Platforms** including the conduct of SLA/JA pilots across selected landscapes in participating states.

b) **Develop Resilient Conservation Policy:** Such policy will aim to identify strategies that will maintain conservation goals and targets in the mining communities especially during the implementation of interventions. Objectives of this policy will be consistent with the country?s Economic Recovery & Growth Plan and Roadmap for the growth and development for the Nigerian mining industry. For sustainability, it is expected that this will be a shared vision for the present government and for future governments.

c) **Build Structural Resilience:** This strategy will be designed to help propose initiatives under the Child Project to survive shifts in political will and changes. This could be achieved by reviewing existing national and state-level policies and regulatory frameworks, such that where possible, firm/stringent legal instruments (i.e., a state law) can be established and difficult to be manipulated by future detractors. Some level of control could be handed to a multi-stakeholder formation that includes but not limited to government bodies.

d) **Effective and Periodic Multi-Stakeholders Consultation**: A Stakeholders Engagement Plan (SEP) has been prepared for the Child Project in Nigeria (see Annex W). Considering the jurisdictional roles and influences of stakeholders widely identified thus far, continuous multi-stakeholder engagement will be critical and essential for the long-term effectiveness and performance of proposed interventions across the participating States. The GEF GOLD+ Nigeria understands that stakeholder mapping and engagement is a helpful requirement for project acceptance, performance and evaluation. Critical and unsatisfied stakeholders can oppose and change the course of investments into proposed initiatives or project activities. It is therefore pertinent that UNIDO and the executing agencies identified under the Child Project maintain effective and periodic multi-stakeholder consultations.

111. Note that opposition to project objectives could happen if all relevant stakeholders refuse to agree and concede to the vision and goal of the Child Project. In respect of this, stakeholders will be properly identified, mapped, and engaged at different levels to ensure participation and project buy-in. Essentially, Non-Governmental Organizations (NGOs), Community Based Organizations (CBOs), and disadvantaged groups will be involved including women to avoid disproportionality in the perceived benefits of the project.

**Applicable Steps to Jurisdictional Approach in the Selected States/Sites**

112. Nigeria through the Federal Ministry of Environment will proceed to:

a) Develop a database of viable multi-stakeholder initiatives to sustainable resource use in the states that operate on landscape or jurisdictional scales, and

b) Proffer applicable Initiatives that will encourage sustainable mining activities in selected states, such as, landscape approaches to conservation, sustainable agriculture, sustainable development, and commodity production, amongst others.

**113. Criteria for initiative selection:**

- The ASGM operations shall be carried out on landscape or jurisdictional scales
- The initiative shall have in place a multisectoral approach involving government and the private sector
- The initiative shall show evidence of reduction of ecosystem degradation through sustainable development activities

**Jurisdictional Approach Variables:**

114. JA variables to be considered for GEF GOLD+ Child Project implementation in Nigeria will include:

- Government Participation
- Multi-stakeholder Participation
- The intervention focuses by development and multilateral agencies
- Objectives of the initiatives
- Funding sources
- Geographical scale
- Targeted industries/ value chain

115. The project will look to assess relevant regulatory framework on SLA/JA in the case of identified gaps, the project will look to support the development of a SLA/JA regulation in partnership with appropriate Ministries, Departments and Agencies. The project will build the capacity of at least two selected host communities in SLA/JA.

116. This output will achieve the following:

a) Pilot implementation of JA as a multi-stakeholder forum approach to secure input and support on proposed strategies that will identify the key social, environmental and production goals and challenges in a mining community/jurisdiction as well as the action plans needed to address them.

b) Serve as a tool to optimize land allocation processes for local concessions, issuance of environmental licenses and other permits relating to ASGM activities.

c) Provide support to ASGM stakeholders to ensure allocation of ASM zones or community license is transparent.

d) Carry out risk assessments on climate change vulnerability and adaptation strategies as part of the multisector integrated approach that will be implemented to assess potential issues for livelihoods and technical design of mercury-free facilities; also risk assessment on possible occurrence of natural disaster that could eventually affect operations in the places where pilot projects will be implemented will be considered.

e) Support the site selection criteria and allow the country to create an approach to assess formalization tool, identify the challenges that may exist in implementing this approach with the ASGM sector and ensure these challenges are well addressed for effective project implementation.

**Sufficient capacity for the Government to assess, plan, and implement sustainable and mercury-free interventions in target ASGM regions**

117. Training needs for executing agencies and respective MDAs such as the ASM department, Environment Assessment department, Climate Change department, National Environmental Standards and Regulations Enforcement Agency (NESREA), State governments, Ministry for Science and Technology, Ministry of Labor and Productivity will be identified and scheduled to build capacities of the institutions. The project will put regulatory and policy emphasis from different relevant sectoral areas. Government?s role is essential in ensuring sustainability

118. The achievement of this output will also be dependent on international trainings mainly for the executing agencies and the major project implementation actors, to have out-country experiences and sighting already existing and successful interventions in other countries especially the planetGOLD Phase 1 countries. It is expected that MMSD will lead this output. This output will ensure the capacity building of not less than 120 government workers and political office holders (70% men and 30% women).

**Component 2: Access to Finance Enhancing by Financial Inclusion and Responsible Supply Chains**

119. The actualized effectiveness and sustainability of formal access to finance for ASGM Operators will encourage the procurement of Best Available Technologies (BAT) to support mercury-free ASGM in the country.

120. The expected outcome envisaged under this Component is *?Higher availability of financing options for artisanal and small-scale gold miners and gold value-chain players facilitated by transparent and responsible supply chains?.* To achieve this, investments will be channeled to empower financial institutions with capacities to ensure that ASGM co-operatives and operators in Nigeria have access to a full suite of quality financial services, provided at affordable prices, and in a convenient manner. For successful implementation of this component, Nigeria has designed a financial framework for articulating inputs and achieving expected outputs and the component outcome. Prior to this financial framework, the Ministry of Mines and Steel Development in collaboration with the Bank of Industry created an artisanal and small-scale mining financial support fund. The sum of 5 billion naira was earmarked for disbursements as loans to qualified ASM operators with counterpart funding of N2.5billion from the Ministry.

121. Direct or indirect market access is essential for miners to receive a fair price for gold and avoid the black market; this therefore is a major expected outcome the GEF GOLD+ Child Project seek to achieve through the implementation of Component 2, which aims at increasing financing options for miners through the attainment of better gold prices facilitated by transparent and responsible supply chains. ??Financial inclusion means that individuals and business have access to useful and affordable financial products and services that meet their needs ? transactions, payments, savings, credit and insurance ? delivered in a responsible and sustainable way??.

122. Envisaged Benefits of Access to Finance by Enhancing Financial Inclusion and Access to Supply Chain include:

a) Financial mechanisms will be structured and accessible to ASGM groups/cooperatives.
b) Improved access to finance which supports technology assisted mercury-free gold production and supply chain due diligence.
c) Categorized investments (grants, loans investment credits etc.) which will directly improve mercury-free gold production, income generation, ecosystem management through jurisdictional approach and other aspects.
d) Financial institutions will be trained and their capacity built on the ASGM sector.
e) Increased financial management capacities of mining cooperatives and overall traceability of gold marketing activities across the supply chain.
f) Better, efficient and accountable gold marketing across the supply chain.

123. Two (2) major outputs are envisaged and will be achieved as follows:

**2.1. ASGM organizations procured equipment through micro-financing institutions and improved business skills for men and women.**

124. UNIDO and the executing agencies will drive the process of kick-off meetings and strategic planning and coordination with financial institutions identified in the financial assessment report prepared for the GEF GOLD+ Child Project in Nigeria. Capacities of these institutions will be built, specifically on the operations of the ASGM sub-sector and aspects/sections of the ASGM supply

chain where investments and financial services are required and will be allocated proportionately without any form of discrimination. The MMSD will be principally responsible for achieving expected outputs under Component 2 and will work closely with the Bank of Industry in designing the protocol for achieving Output 2.1. Major realistic and achievable activities planned under this output will include:

125. The proposed financial strategy to be adopted for the project will involve a ?loss guarantee loan scheme?. This will be operated by the MMSD, through the Bank of Industry (BoI). BoI will be primarily responsible for executing this credit facility. MMSD will be responsible for subcontracting BoI for the piloting of the loss guarantee funds. BoI presently has funds which was jointly provided with MMSD for Artisanal and Small-Scale Miners. However, the miners are not accessing this fund as the requirement seems too stringent. This project will devise a strategy which will encourage gold miners and subsequently other Artisanal and Small-Scale Miners to access this fund and other available funds in the country.

126. The fund will serve as a guarantee for access to credit loan facilities from ASGM operators who wish to access loan facilities to finance technical and other forms of capacity upgrades linked to mercury-free technology. These will include procurement of Mercury-free application equipment as well as capacity building on man-power and management. Local original equipment manufacturers for Hg-free ASGM equipment may also be considered to access this fund. This guarantee will help to de-risk the level of collateral that is usually demanded by financial institutions. The project fund of about 500,000 USD will therefore serve as a partial guarantee to enable ASGM operators to meet collateral requirements. A committee will be set up to manage the administration of the loss guarantee loan scheme especially ensuring that the scheme adheres to mercury-free processes and procedures. This committee will consist of BoI, UNIDO, MMSD, and other relevant organizations. The committee will have a Terms of Reference that will see to the use of the funds. BoI shall not have more than 30 percent, which is one-third representation in the committee. Under this project, a national guideline for access to finance for ASGM will be developed. There will be capacity building and awareness creation for commercial banks, especially on ASM and for local financial institutions like micro-finance banks on supporting mercury-free gold mining and supply chain in Nigeria especially at ASM level. MMSD will make efforts to identify other local financiers other than the banks and encourage a viable ASGM credit-provision environment in the country .

127. Proposed activities/inputs planned to achieve this output will include:

**I. Understanding the Country?s ASGM and Finance Landscape:** Through the coordination of the MMSD and support by the Bank of Industry, the Child Project will embark on having a comprehensive knowledge of target populations and over 80 local gold/mineral markets in identified landscapes and participating States. This will ensure that a clear picture of the mining operations in these areas obtained before any actions are undertaken, so that specific financial/lending needs can be determined and appropriately administered or provide. Data to be collected will include:

a) **Basic demographic data** on the populations in areas being targeted.

b) **Geological data:** Knowledge of the geological landscape will be essential for identifying and demarcating areas with ASGM-accessible deposits. It may also be used as a basis for supporting applications for finance for ASGM co-operatives or operations operating in those areas by

estimating the size of the gold resource and planning business operations accordingly.

c) **Gold market and supply chain information:** Local small-scale gold mining markets differ in the participating States and nationwide. Strategies aimed at formal financing of gold production will ensure to acknowledge these existing market dynamics and incentive structures, including how gold is bought and sold, influences on pricing, the chain of gold buyers and traders, and the tax and royalty requirements, especially compared to neighboring countries to which gold may be smuggled

II. **Creating/Promoting Enabling Policy Environments at both National and State Levels:** The MMSD working with the Bank of Industry and other stakeholders will achieve this by accelerating formalization efforts; providing sustained technical support and assistance towards use of mercury-free technology. Additionally, research at the local level with finance entities to identify existing SME products that could be tailored to ASGM will be facilitated. Communications efforts will also be supported to ensure the wider dissemination of ?good news? stories.

III. **Development of guidelines for accessing finance and equipment processing through micro-financing institutions** - Approximately 70% of Nigeria?s ASGM operators and miners do not access or have access to formal financial services either because they are unaware of them or the financial institutions lack sufficient knowledge of ASGM and the type of financial support required to drive the sub-sector. Additionally, some financial institutions assume that the economic benefits of ASGM are low, thus their non-involvement in providing financial services relevant to ASGM. The Child Project will bridge this gap by encouraging financial institutions already identified in the financial assessment report (Zenith Bank PLC, Wema Bank, the Bank of Industry etc) to establish commodity based ASGM desks and more robust financial mechanisms to support ASGM co-operatives and operators. Where such mechanisms may exist, their effective operation will be strengthened and optimized. Without access to formal financial institutions, ASGM operators and miners will rely on their own funds or risky informal services that charge excessive fees to invest in their operations. More so, the Bank of Industry will support the MMSD in establishing guidelines for accessing finance and equipment processing to guide finance institutions in service delivery for ASGM. In line with the aforementioned, guidelines for ASGM co-operatives to access finance will also be developed and trainings delivered to ASGM operators and co-operatives on how to apply for funds with major consideration on Mercury-free technology that will be engaged. Application for access to finance will be piloted in the second year, following intense capacity building for financial institutions and ASGM operators in year 1. The MMSD will also champion the standardization of the eligibility criteria for ASGM co-operatives and operators to formally access finance from finance institutions.

IV. **Capacity building for financial Institutions.** Financial institutions at all levels will be trained on;

a. Applying the project guidelines developed under the project

b. The economic, social and environmental importance of financing Mercury-free ASGM business

128. Other planned activities/inputs shall include:

**a)** Matching the Appropriate Source of Finance to the Needs of the Miners
**b)** Developing a National Guideline on accessing finance for Gold Mining and Gold Value-Chain Activities in Nigeria.
**c)** Attracting More Private Investment to the ASGM Sector
**d)** Piloting credit/loan applications process to gold miners, cooperatives and equipment manufacturers
**e)** Building Miner Capacity on Finance; development of capacity of developing viable business proposals for funds application
**f)** Building Capacity of other Actors in the Sector to Support ASGM
**g)** Documenting Results

129. The Child Project plans to support the aspect of procurement to the extent feasible within the 5 years implementation period so that more ASGM co-operatives and operators have financial capacity for the uptake of mercury free alternatives and technologies. Nigeria has identified a potential category of formal finance Providers. This may be expanded as the Child Project is further conceptualized and implementation kick-off. The main categories of potential formal finance providers for ASGM in Nigeria is similar to the planetGOLD category, and include the following:

| **Debt Finance** |
|---|
| •Microfinance (Will be determined)<br>•Local savings and credit schemes (Will be determined)<br>•Commercial banks (Zenith Bank, Wema Bank, Sterling Bank etc).<br>•Cooperative banks (Will be determined)<br>•Government of Nigeria finance Institutions (e.g Bank of Industry) |
| **Equity Finance** |
| •Private equity investors (Tony Elumelu Foundation - TEF)<br>•Impact investors |

**130. It is noteworthy to state that the national steering committee will provide oversight functions for all planned activities under the GEF GOLD+ in Nigeria Child Project.**

131. The project will look to;

? train not less than 8 financial institutions

? pilot not less than 15 credit/loan applications (target not less than 30% applications from women or women cooperatives)

**2.2. Technology-assisted mineral supply chain due diligence developed and tested in target regions**

132. The MMSD will lead the implementation of activities/drive inputs necessary for the achievement of this output. Concept design followed by the development of economic models of processing plant upgrades with mercury-free technology and environmental best practice as well as previously established and well-functioning mercury-free processing plants shall serve as evidence in supporting technology switch through financial intermediaries.

133. The project will pilot a traceable gold supply chain model, including physical and chemical systems following the PlanetGOLD and other responsible ASGM leading standard practices, from some of the four selected states which will build an internationally acceptable documented gold supply and ensure an accepted mercury-free gold standard in the international. The eventual objective is to ensure that accessed financing, supports the procurement of materials and equipment that assure the production of mercury-free gold, with the highest value to attract more investments; catapult the Nigeria gold market, create opportunities to enter the international gold market, and compete at valuable prices. This will help to identify and link buyers who are willing to pay a better price for gold produced according to the standard.

134.The project aims to support capacity building and awareness for business skill for 600 men and 400 women across the selected mining states, interested in seeking opportunities in various models/nodes/aspects of the gold supply chain in the country. This will be achieved through the conduct of several, yet purposeful workshops for knowledge sharing, scenario assessments, and lessons learned.

**Component 3: Enhancing Uptake of Mercury-free Technologies**

135. The expected outcome envisaged under this Component is *?Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners?*.The present gold ore processing technique in Nigeria includes the various activities such as gold ore crushing, sluicing and panning including trading/use of mercury and other chemical reagents.

136. For sustainable mercury-free interventions to be implemented in-country, major stakeholders involved in the planning and development of proposed interventions will need to know what mercury-free practices or technologies are available internationally and meet global best practices. This knowledge advantage will enable the conceptualization, design and implementation on practicable initiatives, effective cost-efficient and meet the objective thereby maximizing the application of mercury-free practices in ASGM.

**137.** Benefits of Enhancing Uptake to Mercury-free Technology include:

a) Local institutions strengthened to support mercury reductions and invest in mining organizations.

b) Assay lab or processing plant and training centers established to promote resource efficient gold mining.

c) Extraction of greater amounts of gold when compared to traditional methods using mercury amalgamation, therefore increasing in-country yield, and Nigeria?s overall contributions to the global gold market.

d) Miners (Owners of ASGM operations) will improve on carrying out environmental and social risk assessments prior to commencement of exploration works at approved sites.

e) Reduced water and land contamination by mercury run-off used in ASGM.

f) Improved education and awareness on the use of mercury-free technologies for the ASGM sector.

138. Tentatively, the project aims at reducing mercury through the elimination of whole ore amalgamation. This will center on practices focused on reducing mercury use and improved practices around mercury-free processing techniques.

139. One of the primary methods the project will support for reducing mercury-use is the **Gravity-based separation**. In the pre-amalgamation stage, the ore can be concentrated using gravity-based separation. This results in a smaller volume of ore with a higher concentration of gold[1]. Estimates show that pre-concentration of the ore to a 10:1 ratio (of ore to gold) can reduce mercury emissions by 90%[2]. Gravity-based separation takes advantage of the difference between the specific gravity of gold, which is the highest, and the other minerals mixed along with it[3].

[1] United Nations Environmental Programme, Squeezing Gold from a Stone: Addressing the Toxic Health Risks and Pollution Caused by Mercury Use in the Small Scale and Artisanal Gold Mining Sector, (2010).

[2] Swiss Agency for Development and Cooperation, SDC Experiences with Formalization and Responsible Environmental Practices in Artisanal and Small-scale Gold Mining in Latin America and Asia (Mongolia) (2011).

[3]Veiga, M. et al., Manual for Training Artisanal and Small-Scale Gold Miners, GLOBAL MERCURY PROJECT (2006).

140. Based on field observations and research, sluicing is already used at some (if not all) mining processing sites in Nigeria. Sluices are the most commonly used gravity-based technology due to their simplicity, affordability, and speed. Jigs are simple as well and additionally require little maintenance. Shaking tables share the same advantages but are limited in their capacity by the range of grain size they can separate and are costly. Finally, centrifuges are highly effective in separating ore and reducing mercury use, but are overall costlier than the other gravity-based separation processes. Some also require electricity, which is not consistently available in rural areas.

141. The second proposed alternative method is a process called ?Cyanidation?, or cyanide leaching, This has been the dominant gold extraction technology since the 1970s. In this process sodium cyanide, in a dilute solution ranging from 100 ppm to 500 ppm or 0.01% to 0.05% cyanide, is used to selectively dissolve gold from ore. The two most common processes that use cyanide for gold recovery are heap leaching and milling, also known as carbon-in-leach (CIL). Although considerable scientific research

has been conducted over many years, no other chemical reagent has been found to come close to exhibiting the superior economic and environmental qualities of cyanide in the recovery of precious metals. As part of their best practices, mines use as little cyanide as possible for environmental, safety, and economic reasons. The cyanide leach process is often carried out following other physical processes like crushing and grinding. Once the gold is dissolved, the solutions are further processed to recover the gold, which is then smelted into gold bullion.

142. Tailings slurries and solutions containing leached material, water, and residual cyanide are treated with different chemical and physical methods to reduce or remove cyanide left over from the gold dissolution process before discharge into a tailings facility. Additionally, different technologies are used to recover and reuse residual cyanide in the aforementioned processing circuits.

143 The solutions that collect in a tailings facility generally have cyanide concentrations that are not harmful to people, birds or animals. While a cyanide concentration of less than 50 ppm is required for compliance with the International Cyanide Management Code to protect wildlife, many mining operations achieve cyanide concentrations of less than 10 ppm in their tailings facilities.

144. Following discharge, the residual cyanide is rapidly diluted and destroyed through natural processes, such as oxidation and ultra-violet-catalysis (by sunlight). Local, state, and national regulations limit the amount and concentration of cyanide that may be discharged into a tailings facility.

**Table 6: Comparative Assessment of the Proposed Alternative Technologies to the use of Mercury in ASGM in Nigeria**

| S/N | Alternative Technology (ies) | Advantages | | | Disadvantages | | |
|---|---|---|---|---|---|---|---|
| | | Environmental | Health | Economic | Environmental | Health | Economic |
| 1. | **Cyanidation** | ? Breaks down fairly readily (in a matter of days), either as a result of natural | N/A | ? Cheap and Affordable; can also be locally sourced. | ? More wastes are generated. | ? Manhandling could predispose workers to cyanide poisoning. | ? Encourages mining of lower grade ores & subsequently wasteful use of |

| S/N | Alternative Technology (ies) | Advantages | | | Disadvantages | | |
|---|---|---|---|---|---|---|---|
| | | **Environmental** | **Health** | **Economic** | **Environmental** | **Health** | **Economic** |
| | | degradation or the various treatment processes employed, they are not persistent. | | ? Offers high gold recovery rate.<br>? Produces efficiency gains via profitable extraction of lower gold deposits. | ? Creation of more vast open pits.<br>? Surface water contamination, death of fishes and other aquatic species.<br>? Spills and Leaching into groundwater can persist for long periods and contaminate drinking water aquifers and also connecting neighboring streams.<br>? Contamination of agricultural land. | ? **Health effects from chronic exposure;** Increase in blood lactate level which may degenerate to metabolic acidosis subsequently leading to kidney and chronic renal failure. | available resources. |
| 2. | **Gravity Concentration;**<br><br>Shaking Table | ? Zero toxicity | ? This method could foster improved health and safety of Miners and ASGM personn | ? Very high increased recovery; different minerals could also be separated.<br>? **Availabil** | N/A | ? Requires manpower thus presenting risks of musculoskeletal problems (low back pains, myalgia, and body | ? **Improved yield** or productivity is not guaranteed using this procedure. Output is neutral (not high or low). |

| S/N | Alternative Technology (ies) | Advantages | | | Disadvantages | | |
|---|---|---|---|---|---|---|---|
| | | Environmental | Health | Economic | Environmental | Health | Economic |
| | | | el in sites following non-exposure to harmful chemicals. | **ity of spare parts**; Most of the components for this equipment are reparable. The motor is sensitive and would always require a competent person to fix it in case of failure. Technicians for this equipment are now available | | pains). | ? **Capital Intensive;** Expensive to install or set up this equipment (costs USD 9000-10,000 on average).<br>? Since the system is powered. It will need an electrician always to check the condition of the motor.<br>? Provision of shelter to protect from direct sun or scratching from vandals. |

145. In several locations (Kebbi, Niger, and Kaduna states) miners tested cyanidation but practices are non-environmentally friendly and the current practices rely on mercury. There is an urgent need for adequate technical assistance to train these miners how to operate and make use of cyanides in an environmentally friendly manner for gold processing

146. In summary, based on the comparative analysis in the table above, the Goldplus Child project in Nigeria will be employing the gravity and cyanidation techniques for the 4 selected pilot states.

147 .Two (2) ASGM cooperatives in each of the selected pilot states will benefit from these techniques at inception. Hence, there is a strong need for the necessary and adequate technical capacities to operate and maintain these operations and the related tailings in an environmentally and socially sound way. The project will provide the technical assistance required by each of the pilot operations, which will include, in addition to technology, aspects related to formalization, traceability, trade to strengthen the overall capacity of ASGM cooperatives.

148. The pilot processes will be properly documented for dissemination and knowledge sharing among other ASGM operators so lessons learned can be replicated among other miners and benefit

from the knowledge generated. The essence is to encourage technological options for the avoidance of mercury usage. It is envisaged that at least ten (10) mining sites/operations across the selected mining states will replicate the experiences and thus implement new cleaner technologies, at least twelve (12) formalized cooperatives (3 each in the selected states) in these selected states will be equipped technically on the mercury-free technology operations. The identified cooperatives members will be trained in mercury-free technology as the implementation of these new technologies requires quite some trained personnel. In total 1000 cooperatives members will be trained (650 men and 350 women) on the new mercury-free technology.

### 3.1. Local institutions strengthened to support mercury reductions and invest in mining organizations

149. To achieve this, technical assistance will be procured or provided to strengthen institutional capacities of all stakeholders involved in ASGM (currently approximately 180 stakeholder groups) and to continue the identification and mapping of stakeholders relevant to contributing to mercury reduction in ASGM. This will be categorized according to upstream and downstream operations. This will be channeled at stakeholders undertaking a) mining activities ? ASGM co-operatives, b) processing of gold ? processing centers/leaching plants, c) equipment supplies - retailers, d) gold purchasing and retailing e) ASGM governance, administration and monitoring at the state and national levels ? state governments, federal and state level MDAs, f) ASGM financing ? finance institutions, g) ASGM business opportunities ? Miners Association of Nigeria, Women in Mining, private companies etc, h) ASGM advocacy and sensitization - Non-governmental organizations, i) Mining training establishments such as the Nigerian Institute for Mining and Geosciences[1] (NIMG), National Metallurgical Development Center[2] (NMDC) and National Geosciences Research Laboratories[3] (NGRL) including mining experts and academia, etc. This output will be led by MMSD and training materials will be developed according to stakeholder groups. The four State Governments will be well incorporated during the execution of this output as they will be incorporated in the training activities. This will enable them to provide extension services in the area of pollution control. It will be advisable for MMSD to carry FMEnv along for some of the activities as related to managing existing mercury and other pollution materials.

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[1] **Nigerian Institute for Mining and Geosciences (NIMG), Jos, Plateau State:** It is a centre established for mining skill acquisition and specialist training in all aspect of mineral resources development. It has three centres; the temporary/old site at Tundun Wada, the permanent site at Dong Community and the Mining Community Resource Centre (MCRC) at West of Mines. All project locations in Jos are located in Jos North Local Government Area (LGA).

[2] **National Metallurgical Development Center (NMDC), Jos, Plateau State**: The NMDC has the mandate to conduct research and development work on Solid Mineral and Metallurgical Development. The National Metallurgical Development Centre (NMDC), Jos is a parastatal under the Ministry of Mines and Steel Development (MMSD), responsible for carrying out research and development work on solid minerals, as well as on metallurgical processes

[3] National Geosciences Research Laboratories (NGRL) and the Geophysics Lab (NGSA Kaduna): The NGRL, located in Kaduna South LGA Kaduna is one of the Centres of

Excellence (CoE) established by the Nigerian Geological Survey Agency (NGSA) to conduct analytical tests on rocks, minerals and water to support the NGSA in its responsibilities which are to generate, collate, archive and disseminate geosciences data and information. It is located in Barnawa which is in Kaduna South LGA and is bordered by residential areas and an educational institution.

150. Stakeholders need to understand the mercury-free technologies available, their application, comply with global best practices and appreciate the economic, environmental, and social benefits associated with reducing mercury use in ASGM, to lay a foundation for their willingness and cooperation in up-taking these technologies. The Child Project implementation will also aim to encourage ASGM operators and cooperatives to report mercury use on-site and in processing centers to appropriate channels such as the ASM offices in the states. At least four sites will be selected for pilot uptake of Mercury-free technology with preferably one site chosen from each of the four States. However, more than four sites in all may be selected for piloting.

**3.2. Assay lab, processing plant and training center established to promote resource-efficient gold mining**

151. The Child Project through synergies with the executing agencies will leverage the technical capacities of existing laboratories owned by both government and the private sector with expertise in gold assay processes and testing. Steps to seeking policy strengthening and establishment of regulatory frameworks which support achieving this component output will be pursued and followed through. While the BCCC-Africa will lead multi-stakeholder platforms for accelerating statutory lab assay infrastructure development and capacity building. The MMSD will lead the upgrading or establishment of processing plants, and setting up of training centers; and will follow through on strengthening regulatory frameworks to help achieve this output. Complementarily, the MMSD will support opportunities for private sector companies and investors to procure and retail mercury-free technologies in-country. An assessment of possible centers will be developed but if there is no appropriate assay laboratory for upgrading, a good chance is presented for a willing State government to develop a training center for sustainable gold production in Nigeria. The assay lab and training center may be at the same location or may not be at the same location.

152. The MMSD will pilot global best practices in ASGM as well as sustainable mining methods, and drive the process of institutionalizing leaching plants as a major component of the on-site ASGM infrastructure.

153. Establishment of Centre of Excellence on gold production where miners will be trained on mercury-free technologies and better practices that will allow mitigating the negative impact caused by the use of mercury. The training method to be deployed would be both theory (developed training materials and resources) and practical (onsite liberation tests) this will improve miners capability and capacity to achieve related results by themselves.

**Component 4: Knowledge sharing, communication and local capacity building support**

154. The expected outcome envisaged under this Component is ?Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts?. This component will support capacity building, knowledge sharing, and communication across the different components and will include a focus on environmental management and maximizing the impact of communications at the local miner level. This component proposes to maintain the traditional participatory workshops and training approach to help institutionalize sustainable mining methods at the community level.

155. This will be supported by online education and digital marketing tools that will be made available to the respective cooperatives and will be used by the literate and miners with access to the internet. There will be a large degree of focus on building local capacity across different levels of project implementation to ensure knowledge and capacity stays in-country down to the site level. Capacity assessment of different stakeholders and knowledge gaps will be identified. Similarly, institutions of technical knowledge will be identified, and collaborations made. Targeted institutions will be engaged to facilitate the education and awareness campaign on the reduction and elimination of mercury in gold processing and exploration are government bodies (FMEnv, MMSD and other MDAs whose mandate are targeted towards effective chemical management), technical training or vocational education institutes, and ASM organizations. The major output under this component and strategies to achieving it is described subsequently. This component will be jointly executed by FMEnv, MMSD and BCCC.

156. Benefits of Knowledge sharing, communication and local capacity building support includes;

a) Miner and investment focused communication strategies explored, tested, deployed and scaled up towards mercury free gold productions.

b) Fully Implemented project strategy for communications in alignment with the Gold plus global communications strategy.

c) Better organized and strategic platforms/ avenues for knowledge transfer and sharing. Including meaningful stakeholders? engagements and collaborative opportunities to support access to financing and mercury free technologies etc.

**4.1. Miner and investment focused communication strategies explored, tested, deployed and scaled up**

157. Strategies for achieving this output will largely leverage on the communication aspects described in the planetGOLD Communication Strategy. The MMSD will be mainly responsible for driving the country?s project activities related to information sharing and communication management. This will involve strengthening extension services, procuring and using interactive technology and devices which support effective communication dissemination. Specifically inputs will involve *a) the development of project strategy for communication in alignment with global communication strategy for the global GEF GOLD+ program b) utilization of GEF GOLD+ country logo and brand assets for all communication materials, c) adherence to planetGOLD/GEF GOLD+ style*

*guide and messaging guide in production of external materials, adapting global messages to national context, d) sharing and storage of both raw and edited photo files, video files, graphics, and other visual assets in a timely manner with the global project via a shared google drive for global promotion and dissemination*. Country project communications managers will also participate in programme communications networks, including regular (monthly) calls, digital communication platforms, trainings, notification to the global project of significant communications-related activities or story leads at country level and assessment of the various existing information on ASGM at all levels in the country .

158 The communication strategies will be tested and piloted for performance evaluation and lessons learned. Grievance Redress Mechanisms (GRMs), will also be established to address mining host communities? grievances resulting from project implementation. A platform where miners from the selected mining states will exchange and share experiences on how grievances related to the enforcement of national and district regulations on mining will also be set up and encouraged.

159 The communication strategy will focus mainly on information dissemination concerning mercury reduction in ASGM operations. The information will cover responsible ASGM operations with emphasis on formalization, mercury-free technology to support mercury reduction, environmental best practices, and gender equality and inclusiveness. Grievance Redress Mechanisms related to state and federal regulations affecting the ASGM operators will be elaborated for better understanding and access by the ASGM cooperatives.

160. Furthermore, lessons learned from the pilot experiences which include jurisdictional landscape approaches will be shared for knowledge uptake and improvement in ASGM activities. On the aspect of knowledge sharing, country project executing agencies will participate in regular (quarterly) knowledge exchange meetings/networks to evaluate project outcomes, share opinions and make decisions for project sustainability. Recommendations from such workshops will also be shared with the public and critical stakeholders such as the Miners Association of Nigeria, State governments, Women in Mining, etc. so that miners and beneficiaries are knowledgeable on GOLD+ global and in-country communication goals and project implementation outputs.

161. Services of non-governmental organizations will be procured for community-based interactions and advocacy. Communication materials will be developed in prints, social media, audio and visual media. Local language strategies may also be adopted for affected communication as many of the artisanal miners are uneducated. The executing agencies and UNIDO will also seek to encourage public-private partnerships which have the potential to create opportunities for the organization of industry events in ASGM, thereby bringing local content, regional, continental, and global industry investors and other stakeholders to optimize Nigeria?s ASGM potential and as well channel investments to the sub-sector.

162.There will be opportunities for knowledge exchange with other countries and participation at international, regional, and local conferences or relevant meetings. Presentation of project results at district meetings, workshops, and conferences will be encouraged. At least 30% female participation will be targeted for this activity.

163. Information will be shared during training on how women can improve their income and livelihood through entrepreneurial opportunities in ASGM so they can meet with basic family needs and demands while they avoid mercury exposure, as well as protecting the most vulnerable population

(elderly, pregnant women, girls, boys, etc.) in the mining community through health care regulations and guidelines.

164. Capacities of local primary education offices, teachers, and parents (through the parents and teachers association (PTA)) will be strengthened and enhanced on general mining knowledge and the risk of children exposed to mercury

165. An interactive platform on sustainable and mercury-free artisanal gold mining will be set up in ASM communities where possible- so miners will be readily informed, acquire sound management knowledge and have free access to information about technologies on mining, mercury impacts, and practical guide and procedures to eliminate mercury from artisanal mining.

166. The assessment of different methods and communication tools will be carried out considering the different aspects of the project, ranging from technologies, SLA/JA, assay, economic, institutional, and regulatory framework, etc. At least 20 events (during the project) of different types will be carried out. Yearly, at least one blog article will be published and shared with the planetGold to inform the global project on progress made on the Child project in-country. Nigeria?s child project will also coordinate and share information and knowledge with other countries' GOLD Child projects under UNIDO?s implementation.

**Component 5: Monitoring and Evaluation**

167. The expected outcome envisaged under this Component is ?Efficient country-level M&E plans which inform management, implementation, and adaptive management?. The major outputs under this component and strategies to achieving them are described subsequently. Benefits of Monitoring and Evaluation

168. Periodic evaluation of the monitoring indicators and analysis of ASGM program activities.

The project is coordinated and aligned with planetGOLD program objectives and outcomes, through regular coordination activities and reporting.

**5.1. M&E and adaptive management applied to capture lessons learned**

169.The GEF GOLD+ Child Project implementation and outputs need to be monitored very closely. Monitoring is required to ensure:

a) Achievement of project objectives including global planetGOLD program sustainability

b) Report successes, gaps, and failures(if any) identified in the course of project implementation and proper useful recommendations which may be applicable for similar projects in Nigeria and possibly planetGOLD in other countries

170 UNIDO shall be the Implementing and Monitoring Agency while the Federal Ministry of Environment, Ministry of Mines and Steel Development as well as Basel Convention Coordinating Center for Africa Region shall be co-executing Agencies for GEF GOLD+ Child Project.

171 UNIDO will lead the evaluation and adaptive management for GEF GOLD+ Child Project implementation in Nigeria. UNIDO will ensure that executing agencies and partners adopt Child Project programmatic indicators into the results framework and contribute to the submission of annual data, to the global project, as well as other information on project-level achievements per project-specific log-frames. Quarterly reports will also be submitted to Conservation International and GEF by UNIDO on key activities and areas of progress, using templates provided by the global project. UNIDO and the executing agencies will also embark on supervisory and implementation support missions to ascertain state-level project intervention successes and problems encountered; which will feed into adaptive management activities. M&E inputs will also be targeted at ensuring that all Child Project beneficiary mining entities conform with the project quality assurance requirements as established by the steering committee, co-formed by UNIDO, FMEnv, MMSD, and BCCC-Africa. UNIDO and executing agencies will also attend and report on several Programme Advisory Group (PAG) meetings. The Project Steering Committee (PSC) will play an essential role in providing execution guidance and monitoring of the project. The PSC will meet twice yearly to discuss updates and provide direction to the project. When needed they will also embark on field monitoring missions.

172 UNIDO will carry out an external mid-term review and an independent terminal evaluation of the project. This will detail lessons learned and recommend sustainable measures for the project activities, even after the lifespan of the project. M&E will be carried out according to UNIDO?s monitoring and evaluation policy and also GEF?s M&E policies.

**Alignment with GEF focal area and/or Impact Program strategies**

173. This program is directly aligned with the Chemicals and Waste Focal area, Industrial Chemicals Program which seeks to eliminate or significantly reduce chemicals subject to better management, in this case of Mercury in the framework of the Minamata Convention. The relevant focal area element is CW-1-1: Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination. A specific objective within the Chemicals and Waste Focal Area is the reduction and elimination of Mercury from the Artisanal and Small-Scale Gold Mining Sector. GOLD+ Child Project will contribute directly to this objective.

Specifically, the alignment of the child project with the GEF focal area will largely see to a synergy in operations and institutional capacities between the MMSD, FMEnv and BCCC-Africa in ensuring that strategic sustainable systems are put in place to eliminate or significantly reduce mercury releases in ASM or ASGM communities around Nigeria.

**Incremental/ additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing**

174. The Child Project will provide incremental funding for the reduction of mercury use in ASGM in the participating states (Niger, Kaduna, Zamfara, and Kebbi States). It will build on the GEF planetGOLD program that is currently being implemented, through the use of an existing knowledge

platform, lessons learned, capacity building materials, databases, proven technologies, and market opportunities. It will also build on the existing efforts of the UNEP Global Mercury Partnership. In each participating state, the Child Project will coordinate with the work of national partners and contribute to complementing their planned interventions. The Child Projects will consider the implementation of priority actions as identified in the NAP of the Minamata Convention. The child project will closely coordinate with these processes for coherence and complementarity as identified in the NAP. The GEF funding will assure global environmental benefits in terms of mercury reduction that are additional to the Country baseline. Governments and project partners, including the private sector, will provide substantial co-financing for the projects related to the proposed interventions including investments in reducing mercury contamination related to the ASGM sector. Co-financing has been listed in the respective country child projects.

For additional information, kindly refer to Section C on co-financing sources and to the description provided with the output 2.1 narrative of the proposed alternative scenario section.

**Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)**

175. Globally, Mercury reduction targets in each Country are estimated based on mercury use in the respective national ASGM sector final versions of the NAP, Minamata Initial Assessment (MIA), and the Global Mercury Assessment. In Nigeria, estimates on the current national baseline of mercury use, such as the yearly volume of gold production by ASGM in selected project states have been presented in the NAP. The sum of mercury used in ASGM from the four selected States for this project, according to baseline information from the NAP is 15,417.51Kg (15.4 tonnes) i.e. Niger (2,797.12Kg), Zamfara (8,782.24Kg), Kaduna (3,257.08Kg) and Kebbi (581.07Kg). Nigeria proposes in its NAP to effectively reduce mercury use in the ASGM sector, based on the quantities determined in the baseline inventory, by almost 30% by 2026 (4.62 tonnes), this will be in line with the Child Project?s theory of change, which is consistent with the framework proposed for the global project and designed to remove barriers to i) Formalization of the ASGM sector ii) Access to finance iii) Adoption of mercury-free technologies and iv) to share knowledge and lessons learned at the national and global levels.

175 bis Through the establishment of enabling framework conditions, the financial mechanism to be designed and the awareness and dissemination efforts, it is expected that the mercury reduction target will be replicated after the project is finalized. A replication factor of 3 is expected over the 10 years following completion of the project and representing an additional 13,86 tons of mercury reduction, reaching an overall project total amount of 18,48 tons

176. It is expected that contributions to other core indicators will be achieved, for example under core indicators 7 (greenhouse gases mitigated), 10 (reduction, phase out and elimination of chemicals of global concerns) and 12 ( number of direct beneficiaries disaggregated by gender. The targets for those contributions will depend on the specific sites that have been selected for the Child Project using the site selection criteria prepared by UNIDO. Selection of intervention sites will be undertaken through a participatory process with key stakeholders. Important variables will need to be considered such as deforestation rates[1], biodiversity values, and areas of degraded forests and other lands.

176 bis - The amount of GHG emissions expected to be avoided through the intervention in the ASGM sector

Most of the gold mining operations currently use heavy machinery (estimated No. for machinery for 4 sites was 186) that is highly carbon emitting. Often running on heavy fuel oils (HFOs), diesel or gasoline for several hours per day (>10 hours) for mining, milling and concentration process. Technical improvements will be implemented in the metallurgical practices of gold recovery in all the 4 targeted pilot sites, deploying energy efficiency mechanisms to increase productivity. Consequently, it is expected that these processes will effectively reduce monthly fuel consumption in the 4 pilot mining sites and min. 8 mining operators will replicate the good practices by an average of 4,000 liters of hydrocarbons per month resulting in a reduction of greenhouse gas emissions by an estimated 1,998 metric tons of CO2eq. / month, using the multiplication factor 0.00268 tonnes CO2eq/liter of heavy fuel.

Over the entire project lifetime (5 years), an average of 119,880 metric tons of CO2eq will be prevented in addition to the other environmental co-benefits of the project.

176 ter. Area of Landscapes Under Improved Practices was estimated by obtaining geocodes of sites from the respective states for mining activities and processing plants (where available) and via application of Google Earth mapping tool(s). All estimated site areas were summed up. Calculations considered the average size of land versus the size of the total land areas of the actual ASGM sites. Most ASGM sites occupied averagely about 3 acres while the processing centers occupied averagely between one to two hectares. This results an average of 50 hectares for improved practices for each site, taking into consideration jurisdictional land approaches and estimated total of 251.19 hectares of Landscape under improved practices.

177. The core adaptation benefit of the GEF Gold+ project in Nigeria will include but not limited to the following;

a) To motivate the beneficiary mining cooperatives, to progressively implement electrical equipment and renewable energy sources whenever utilities are available. These will help reduce GHG emissions from mining activities and initiatives supported by the project.

b) Encourage artisanal miners operating in forested areas to implement progressive soil rehabilitation plans supported by the jurisdictional approach to sustainable landscape management. Additionally, mining activities will ensure to avoid land contamination, and where this may occur, measures for remediation and sustainability will be put in place. Operations shall be coordinated, formalized. Environmental and economically viable technologies will be adopted, and financial institutions available to support ASGM through increased access to finance.

c) Water availability and usage in areas where mining operations are carried out will be assessed and evaluated through water recycling process and miners will be trained on best water recycling techniques, which will help to prevent water loss and conflicts over water availability and usage and will also reduce other related environmental footprints

**Innovation, sustainability and potential for scaling up.**

178. The application of jurisdictional approaches to increase ASGM formalization is innovative as it has never been tailored or applied in this sector. The selection of specific jurisdictions where ASGM operations coexist with other productive activities and actors will generate important experiences and can be a tool for change.

179. Multiple jurisdictional initiatives will be utilized in the project and will apply to gold production areas where several mining operations (sites) are present and carried out. It will also reflect in the coordination and administration of mining activities at all levels, which corresponds to a sub-national scale where one or more towns/mining sites can be involved. This is the territorial scale where the participation of the different actors and interests linked to ASGM activities is most likely to be contemplated.

180. At the inception of the project, specific sites (mining operation(s)/cooperative(s)) will be selected to apply concrete actions and measures to promote greater formalization, adoption of new technologies, and reduction in the use of mercury, among others.

181. The pre-selection process during the project preparatory phase will result in the need to implement a dual approach: i) integrating the four (4) project components into the JA/SLA piloting in a specific jurisdiction and ii) targeted activities in other ASGM areas in specific prioritized themes. Under this dual approach and building on the analysis of the different mining areas the pilot states all have related intervention topics which are 4 components and Gold mining and protected areas, conservation, and ecosystems; Gender mainstreaming, and women empowerment.

182. The gender assessment/analysis showed that there is a low level of women's participation in mining activities. This project is targeting and has made provisions for women's participation throughout all its components. As such, this is termed innovative, as no previous project has emphasized gender equality and women empowerment in ASGM. Finally, a market-driven holistic approach to gold supply and its value chain will be considered; and how to optimally enhance profits and reduce risks of ASGM operations in the selected mining sites will be adopted.

**Sustainability**

183. The jurisdictional approach also provides the basis for sustainability in the selected states and local government areas as productive actors present in these areas will be engaged via a multi-stakeholder platform that should allow for consolidating the positive changes.

184. Additionally, sustainability of the results will be achieved through a strengthened regulatory framework, which will also enable support in access to finance for ASGM operators through operational financial mechanisms. With a framework for knowledge management put in place by the project, sustainability will also be guaranteed.

185. Furthermore, the economic benefits of mercury-free technology in ASGM cannot be overemphasized and this will ensure sustainability. These benefits will be achieved through the

adaptation of efficient mercury-free technologies and consequent higher gold recovery and responsible supply chains that will ensure access to formal markets and better prices.

186. Mercury-free technologies such as the gravitational, cyanidation, and direct smelting technique do not use any mercury; instead, it utilizes non-toxic, cheap chemicals like borax, sodium carbonate, and silica sand. The process is cheap, quick, suitable for processing small batches of concentrate and the input materials are accessible. It can be used for all types of ores and it has a recovery rate of 99.9 percent thereby giving a higher yield at a cheaper financial input.

187. Human health consequences from mercury pollution manifest in not only the loss of well-being, pain, and suffering, but also privately-captured medical expenses, and loss in worker productivity which in turn has important economic consequences. Increased health benefits from mercury reduction through the use of mercury-free technology as well as better mercury management can result in lower costs for hospitals or wider health care operations, not to mention avoided productivity losses attributable to mercury poisoning.

188. When considered a source of resources, an investment with positive returns, a flow of vital goods and services, ?the environment? can be considered as natural capital that generates valuable goods and services that not only support human life, but also productive livelihoods. An environmental asset base is constructed of healthy, productive ecosystems which generate economically important ?goods? such as timber, fisheries, minerals, etc., and ?services?.

189. In many cases, mercury-containing tailings from ASGM activities are dumped into or besides bodies of water, and this results in the contamination of soil, rivers, stream, ponds, and lakes for long periods, posing a threat to water quality, forestry and biodiversity, and ecosystem functioning. The conflict between miners and other non-mining community members because of incompatibilities in land use between polluting mining activities and other natural-based livelihoods, such as agriculture or aquaculture production. This level of contamination can impact negatively livelihoods from agriculture and aquaculture within the community. This loss can simply be avoided by the application of mercury-free technology.

190. Importantly, the intervention is designed to constantly engage with stakeholders to ensure commitment and ownership, increasing thus sustainability of the project outcomes beyond project completion.

**Potential for scaling up**

191. Ideally, if successful, the jurisdictional approach could be applied in other identified jurisdictions or landscapes allowing for replication of experiences incorporating the lessons learned.

192. The results, particularly the successful demonstration of Mercury-free technologies, will be documented and compiled in the project platform allowing beneficiaries and other relevant stakeholders, including other countries, to benefit from the knowledge produced and experiences generated.

193. The extensive capacity building and awareness-raising will also be designed to contribute to scaling up. In particular, the need to establish excellence and training centers where there will be development and inclusion of technical curricular, combined with an official mining certification scheme that will ensure the growth of relevant knowledge among the miners in the ASGM sector. This will be complemented by a conducive policy framework and the financial mechanism that will be designed, including a project exit strategy. All the successfully implemented components can be scaled-up and replicated in the other Gold-bearing States, especially the ones where Mercury is used. The access to finance may also be mobilized for ASGM miners and be adapted by commercial banks.

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[1] The annual rate of deforestation in Nigeria is 3.5%, approximately 350,000-400,000 hectares per year (Global Deforestation Data, 2021).

**1b. Project Map and Coordinates**

**Please provide geo-referenced information and map where the project interventions will take place.**

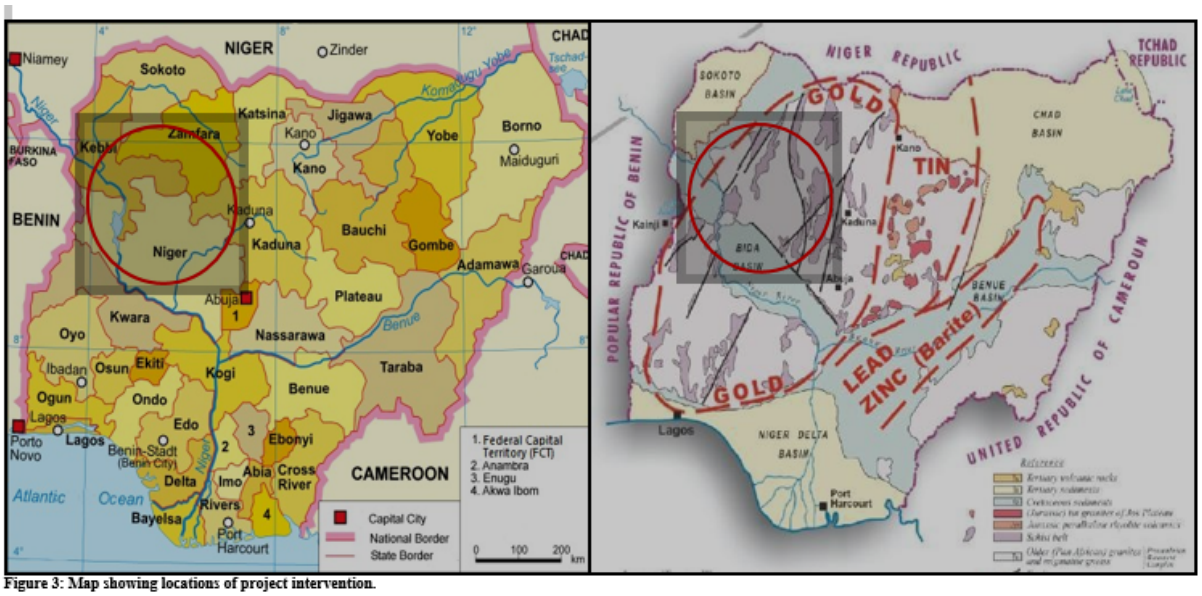



**Figure 3: Map showing locations of project intervention.**

| S/N | Proposed Project Locations | Geo-Coordinates |
|---|---|---|
| 1. | Niger State | N 10°00'0.00" E 06°00'0.00" |
| 2. | Kaduna State | N10°19'59.99" E 07°45'0.00" |
| 3. | Zamfara State | N12°10'0.01" E 06°15'0.00" |
| 4. | Kebbi State | N 11°30'0.00" E 04°00'0.00" |

**1c. Child Project?**

**If this is a child project under a program, describe how the components contribute to the overall program impact.**

Nigeria is one of the participating countries of Phase 2 of the PlanetGOLD program (GEF ID 10569).

The Nigeria child project fully responds to and reflects the GOLD+ Programme?s ToC, by designing interventions that focus on the barriers, preventing the uptake of responsible mining technologies and practices. The child project outputs directly contribute to the PFD, expanding on the work initiated under the GEF-funded PlanetGOLD programme, It explores the various options for financial mechanisms to provide financial products suited to the ASGM sector and pilot a Jurisdictional Approach (JA), following territorial boundaries of mining areas with a commodity focus on responsible gold.

The Project aims at promoting mercury reduction in ASGM through holistic multi-sectoral integrated formalization innovations. The project considers the different stages of the gold production and supply chain, to enable an optimally functioning ASGM sector with the appropriate capacity to reduce mercury use and support sustainability.

The project outputs are structured to target one or more root causes of mercury use and negative impacts on the human health and the environment.

The Child Project and its components are designed to remove barriers to access to finance and adoption of mercury-free technologies, to enhance formalization, and to share knowledge and lessons learned at the national and global level on mercury use reduction. To sustain the expected success from the project, it is expected that the project achievements will be replicated after the lifespan of the project.

The project will support the institutionalization of coexistence between leaching plants and ASGM, pilot commodity specific Jurisdictional Approach (JA) and strengthen Government capacity to promote formalization processes.

It will support micro-financing schemes and improved business skills to enhance uptake of mercury-free equipment as well as technology-assisted mineral supply chain due diligence mechanisms.

Finally, the project will establish assay labs or processing plants as well as a training center to promo?te resource efficient gold mining as well as provide support to local institutions to strengthen support for mercury reduction in mining organizations.

The child project will contribute to the results of the program as a whole, particularly to the global environmental benefits to be achieved.

It will coordinate closely with the global project on knowledge management. Information will be provided upward to the program and downward for systemic branding and reporting of project results. This will allow for lessons and knowledge generated to be available and utilized by subsequent work in ASGM.

**2. Stakeholders**

**Select the stakeholders that have participated in consultations during the project identification phase:**

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities** No

**Private Sector Entities** Yes

**If none of the above, please explain why:**

**Please provide the Stakeholder Engagement Plan or equivalent assessment.**

194.Stakeholders? Engagement is essential in achieving the major objectives of any project implementation and sustainable development. A participatory approach involving identified stakeholders, local communities, government and private sector organizations, NGOs, CBOs, and donors during the project planning and implementation will enhance project policy, ownership, and sustainability and also empower targeted beneficiaries.

195.Stakeholder engagement is a horizontal issue in the Gold+ project as stakeholders will be engaged in several activities through the project cycle. Gold+ project will apply a multidisciplinary collaborative approach (involving collaboration amongst multiple agencies and stakeholders). This is characterized by iterative engagement and communication with multiple stakeholders from all participating communities within the participating states, including representatives of the project communities, financiers, government and international organizations, organized private groups, NGOs, Professional Associations, private and commercial sectors.

196.Three categories of stakeholders were identified under the project: Primary stakeholders (those directly affected by the project as identified in the project components as well as objectives of formalization of ASGM, reduction of the use of mercury in gold mining and adoption of mercury-free technology ASGM), Secondary Stakeholders i.e. ASGM and production centers; Secondary stakeholders (those who are not directly involved in the GoldPlus project but are affected by its actions i.e. Mining Host communities, Non-Governmental Organizations (NGOs), Civil Society Organizations (CSOs), Community Based Organizations (CBOs), the media and independent researchers; Key stakeholders are those who can significantly influence the project, or who are important to the success or failure of the Project i.e. interested individuals and groups, defined by commerce, public interest, or

governmental role. A comprehensive Stakeholders Engagement Plan (SEP) inclusive of the Stakeholder Action Plan has been prepared for the Goldplus project and presented in Annex W.

197. In summary, the Nigeria Gold+ stakeholders engagement plan spells out the role of stakeholders in the project planning, implementation, and monitoring; the mode of engagement, frequency of communication as well as expected output. Stakeholders have been mapped, their profiles analyzed and finally clustered based on their roles and needs. However, the stakeholder list must be updated throughout the project's lifetime as soon as new stakeholders are identified. Stakeholders identified varied and heterogeneous, with different levels of interest or power. Given the above, we based the stakeholder analysis on five criteria to better understand stakeholders; relevance, their relationship to the issue, and relative usefulness for this engagement. These are:

a) Contribution: Does the stakeholder have information, counsel, or expertise on the issue that could be useful to the project? Is their knowledge of value to the project?

b) Legitimacy: How legitimate is the stakeholder?s claim for engagement? Are they affected by the project directly or indirectly?

c) Willingness to engage: How willing is the stakeholder to engage? Are they proactive?

d) Influence: How influential is the stakeholder? Who are they likely to influence?

e) Necessity for involvement: Is this someone who could add value and act as a multiplier of the impact of the project?

198. Contribution and legitimacy refer to the expertise of the stakeholder, while influence and necessity of involvement to the value they bring to the project.

199. Stakeholder mapping concerns were for persons, groups, or organizations with interest, power, or influence, in the mining sector or governance, and whose awareness is valuable to the determination of the success, or failure of the Goldplus project. These as revealed by the stakeholder identification effort, cut across the public (government/governance sector), and the private (non-governmental community members, investors) spectrum, extending to non-governmental, and civil society organizations, development agencies, and non-state actors etc.

200. Stakeholders? interest as earlier mentioned varies, hence, it was necessary to group stakeholders using different classifiers, as duties, business, economic, or professional, etc. Eventually, stakeholders were chosen either for their commercial or governmental relevance, or for their geographical or historical location, or as community members, affected by the mining endeavor.

Table 8: List of Identified Stakeholders for the GoldPlus Project

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 1. | Ministry of Mines and Steel Development (MMSD) | Strengthened organizational capacity in the formalization of ASGM, coordination of access to finance mechanisms with relevant financial institutions and enhanced technical capacity to ensure reduction of mercury use in ASGM. | Demonstrate leadership in the formalization of ASGM.<br><br>Enter into contract with the Bank of Industry (BOI) to accelerate mechanisms that promote access to finance for miners.<br><br>Collaborate with the FMEnv in the application of the JA/SLA at the identified sites.<br><br>Collaborate with the BCCC-Africa in developing training/capacity building program for the implementation of the child project. | Components 1,2,3,4, and 5 | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 2. | Federal Ministry of Environment (FMEnv) | Improved inter-ministerial collaborative capacities and technical proficiencies in the identification, appraisal and institutionalization of mercury-free technologies including land use approaches in the context of the JA/SLA. | Ensure compliance of child project implementation activities to the following; i) National guidelines for EIA Act 86 of 1992: Sectoral Guidelines for Mining (2013) and ii) National Policy on the Environment, (2016).<br><br>Provide oversight functions to NESREA in the enforcement and regulation of environmental standards as concerns implementation of the child project in Nigeria.<br><br>Conduct environmental due diligence and environmental and social audits at selected ASGM sites/locations. | Components 1,2,3,4, and 5 | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 3. | Basel Convention Coordinating Center (BCCC) for Africa. | Improved knowledge base to coordinate and promote training, capacity building and knowledge transfer related to mercury reduction in ASGM. | Conduct trainings and capacity building on application on mercury-free technologies and laboratory assays.<br><br>Provision of technical assistance in relevant subject areas during project implementation. | Components 1,3,4, and 5 | | | | | |
| 4. | National Environmental Standards Regulations Enforcement Agency (NESREA) | Strengthened capacity to enforce environmental standards and sectoral guidelines for mining operations, specifically ASGM. | Enforcement of environmental standards and regulations as applicable to project implementation activities<br><br>Support to sustainability of adopted technologies and process | Components 1,3,4, and 5 | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 5. | Miners? Association of Nigeria | Establishment of collaborative platforms to enable synergy with the MMSD in achieving formalization of ASGM and institutionalization of ASGM cooperatives. | Extending communication of the MMSD to smaller miner groups especially ASGM operators.<br><br>Assist the MMSD in the formalization of ASGM operators and organization of the latter into cooperatives.<br><br>Work with the Federal Mines Officers in the monitoring of ASGM activities across project participating states.<br><br>Assist the MMSD in the quantification, valuation and estimation of mercury-free gold yield from ASGM activities.<br><br>Assist the MMSD and security agencies/stakeholders in the surveillance and profiling of unregistered, informal and prohibited ASGM operators/value chains.<br><br>Mobilization and sensitization of artisanal and small-scale gold miners during field work and stakeholder?s trainings and workshops. | Components 1, 3 and 5 | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 6. | Women in Mining | Enhanced administrative, technical, financial and project management capacity for NGO involvement in ASGM.<br><br>Driving channels which encourage gender differentiated participation in ASGM, particularly female participation in the entire ASGM value chain.<br><br>Improving sectoral guidelines, obligations and responsibilities to reducing Sexual Exploitation and Abuse (SEA) / Sexual Harassment (SH)/ Gender Based Violence (GBV) in ASGM in-country. | Promotion of women participation in mining through dissemination of Information, Education, Communication (IEC) materials.<br><br>Sensitization and awareness on SEA/SH/GBV at identified sites in participating states.<br><br>Assist in statistical assessment as regards Gender differentiated participation in ASGM under the GEF Gold+ Nigeria Child Project. | Components 1, 3 and 4. | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 7. | Global Rights Nigeria. | Allowance for free and fair global NGO participation, monitoring and review of activities associated with the implementation of the Child Project in Nigeria. Therefore, enabling global best practices and assurance of the observation of human rights, governance in mining and social justice. | Collaborate with executing agencies (MMSD, FMEnv, BCCC-Africa), in building platforms for participatory governance in ASGM<br><br>Working with executing agencies during project implementation on a wide range of cross-cutting issues including: Women?s Rights, Access to Finance for ASGM operators, Natural Resource Governance as it applies to JA/SLA, etc.<br><br>Protecting Community Rights during project implementation in relation to the Institutional, Legal and Regulatory Framework for Mining Activities in Nigeria.<br><br>Monitoring key indicators associated with the socioeconomic impacts of the implementation of the GEF Gold+ Child Project in Nigeria. | Components 1,2,3,4 and 5 | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 8. | Kian Smith Trade & Co Gold Refinery | Provision of opportunities/platforms for participatory local content consultancy services and private sector participation in the ASGM value chain. | Participate in the formalization of miners<br><br>Support the pilot of supply chain management under the project | Components 1, 2, and 3 | | | | | |
| 9. | Nigerian Institute of Mining and Geosciences (NIMG), Jos | Training and capacity building of Lab Technicians, Geo-scientists who will handle day to day operations of rehabilitated/renovated laboratories identified by the GEF project to enable Ex-situ analysis of mercury-free Gold samples obtained from ASGM activities in the selected sites. | Support training and capacity building to be undertaken by BCCC-Africa.<br><br>Provision of laboratory services for mercury-free gold obtained from formalized ASGM groups under the Child Project. | Component 4. | | | | | |
| 10. | National Metallurgical Development Centre (NMDC), Jos | | Provision of laboratory services for mercury-free gold obtained from formalized ASGM groups under the Child Project. | Component 4. | | | | | |
| 11. | Nigerian Geological Survey Agency (NGSA) Laboratory, Kaduna. | | Provision of laboratory services for mercury-free gold obtained from formalized ASGM groups under the Child Project. | Component 4. | | | | | |

| S/No | Critical Stakeholder | GEF Project Institutional Strengthening Contributions | Key Responsibilities | Applicability to Component | Timeline | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Yr 1 | Yr 2 | Yr 3 | Yr 4 | Yr 5 |
| 12. | State Governments (Niger, Kaduna, Zamfara, Kebbi). | Strengthened institutional capacity at the state government levels to apply JA/SLA at identified sites.<br><br>Technical assistance in the installation of mercury-free technologies, equipment and materials required for processing plants operation.<br><br>Sensitization and awareness to enable state government design suitable and project specific OHS approaches that support labour and working conditions, as well as community health and safety in ASGM. | Application of JA/SLA.<br><br>Demonstrate leadership in monitoring of ASGM activities at the state levels and uptake of mercury-free technologies.<br><br>Assure community health and safety during project implementation.<br><br>Work synergistically with the MMSD, FMEnv, and Miners Association of Nigeria (MAN). | Components 1, 2, 3, and 5. | | | | | |
| 13. | Bank of Industry | Participation in enabling financial mechanism for ASGM sector investments | Provision of financing mechanism for ASGM private sector participation | Components 2 | | | | | |
| 14. | Yankari Global Infrastructure Ltd. | Investment support assistance in the installation of mercury-free technologies, equipment and materials required for processing plants operation. | Provision of technical assistance and investments in relevant sites for commissioning of mercury-free technologies | Component 3 | | | | | |

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

201. The proposed dissemination strategy for stakeholders? engagement will enable project acceptance by identified target groups, through both passive (e.g. web site, information leaflets, newsletters), and active means (e.g. Townhall meetings, workshops, and by direct liaisons with other projects). In addition, a communication strategy making use of a campaign-based approach will help to target a broader range of stakeholders as well as the general public to maximize the impact of the project.

202. During the implementation of the project activities, it is likely that disputes/ disagreements between project implementers and affected persons would occur. The GoldPlus Project will prepare a Grievance Redress Mechanism for the identification and redress of various levels of grievances concerning the project.

**Select what role civil society will play in the project:**

**Consulted only;**

**Member of Advisory Body; Contractor;** Yes

**Co-financier;** Yes

**Member of project steering committee or equivalent decision-making body;** Yes

**Executor or co-executor;** Yes

**Other (Please explain)**

**3. Gender Equality and Women's Empowerment**

**Provide the gender analysis or equivalent socio-economic assesment.**

***Gender Equality and Women?s Empowerment***

203. An estimated 40.5 million people globally were directly engaged in ASM in 2017, up from 30 million in 2014, 13 million in 1999, and 6 million in 19931. About 300 million people in more than 70 countries depend indirectly on ASM. Even though a global data gap exists on ASM,

women are estimated to represent 30 ? 50% of the global ASM workforce. 40 ? 50% of the ASM workforce in Africa are women.

204. In Nigeria, there is the absence of reliable data that represents the number of women in ASM. It is estimated that over 260,000 miners are directly involved in ASGM in Nigeria and over 1,290,000 are indirectly involved. Incidentally, reliable sex-disaggregated data in the ASGM sub-sector, as well as the ASM sub-sector, is not available. However, available data show the estimates of miners, directly and indirectly, involved in ASGM in Zamfara, Kebbi, Niger and Kaduna states seen in Table below.

Table 9

| State | No. of miners directly involved in ASGM | No. of miners indirectly involved in ASGM |
|---|---|---|
| Zamfara | 133,492 | 665,780 |
| Kebbi | 7,600 | 38,000 |
| Niger | 58,429 | 292,145 |
| Kaduna | 33,803 | 169,015 |
| Total | 233,324 | 1,164,940 |

205 .A typical ASGM structure has miners or laborers who work on-site at the lower cadre and dealers, financiers, or sponsors who are usually off-site at the upper cadre. Indeed, men dominate both cadres, women, and men, as a result of their gender differences, have been seen to take on different roles and responsibilities in ASGM. Key informant interviews of women leaders in Zamfara, Kebbi, Niger and Kaduna reveal the particular roles women carry out in ASGM in their respective states.

Table 10.

| State | Number of registered women members and employees | Number of registered men members and employees | Number of registered persons with disability members and employees | |
|---|---|---|---|---|
| | | | Women | Men |
| Zamfara | 41 | 1,350 | - | - |
| Kebbi | - | 38 | - | - |
| Niger | 100 | 9,690 | - | - |
| Kaduna | 31 | 256 | 31 | 4 |

206. Typically, in developing countries, women?s responsibilities in ASM range from crushing, grinding, sieving, washing and panning, to amalgamation and amalgam decomposition in the case

of gold mining. Less commonly, women are concession owners, mine operators, dealers, buying agents, and equipment owners.

207. Women are often overlooked by initiatives and development programs directed at catalyzing the transformation of artisanal mining. Due to their critical role, not only in mineral production but also in the development of sustainable communities, combined with susceptibility to poverty, enhancing the role of women in artisanal mining may be a means to ?bridge the gap? between the well-conceived technical and socio-economic challenges often prescribed for the artisanal mining sector.

208. In addressing these gender gaps that accentuate the disparity and inequality between women and men?s conditions due to their position or role in society and emphasize inequalities in terms of their participation, their access to opportunities, rights, power to influence and make decisions, incomes, and benefits, and control and use of resources, the GEF approved a policy on Gender Equality that sets out the guiding principles and mandatory requirements for mainstreaming gender across the GEF?s governance and operations to promote gender equality and the empowerment of women and girls in support of the GEF?s mandate to achieve global environmental benefits. The GEF Policy on Gender Equality, which will be applied in the Gold+ project, outlines a set of mandatory requirements[1] for mainstreaming gender throughout the GEF project cycle.

209. UNIDO has advanced further its resolve to addressing gender inequalities, harnessing women?s full potential as leaders and economic change agents, and transforming economies, and generating inclusive growth through the development and adoption of the Strategy for Gender Equality and the Empowerment of Women, 2020-23. The Strategy provides a framework for UNIDO programmatic work and organizational practices that will accelerate progress in delivering on her gender equality commitments.

210. For the Gold+ project, a gender analysis (Annex H) was carried out to understand the gender issues in the ASGM sector for gender mainstreaming and in view, develop a gender response action plan with gender mainstreaming indicators. These gender mainstreaming indicators (Annex H) are focused on;

- Prospecting and exploration component,
- Mining Component,
- Processing Component,
- Goods and Services Component,
- Marketing of Gold Component, and;
- Extension Services Component.

[1] Guidance to Advance Gender Equality in GEF Projects and Programs, GEF, 2018

211. The gender indicators that are used to monitor progress on gender mainstreaming throughout the project were partly derived from the Gender and ASM Framework, drawing from the components of the ASGM value chain.

212.These are itemized under each project component as outlined below;

**Component 1: Enhancing ASGM formalization**

a) Number of laws, regulations and policies governing ASGM reviewed and assessed

b) Percentage of laws, regulations and policies governing ASGM reviewed and assessed that enshrines barriers to gender equality and effective gender mainstreaming.

c) Number of laws, regulations and policies governing ASGM that are gender responsive.

d) Number of women and men artisanal small-scale miners? associations and cooperatives formed and formalized.

**Component 2:** Access to finance enhanced by financial inclusion and responsible supply chains

a) Number of women and men operators, cooperatives and associations that received financial and technical assistance to procure and operate mercury-free technologies.

**Component 3:** Enhancing uptake of mercury-free technologies

a) Number of grassroot community sensitization activities conducted to improve knowledge of harmful effects of mercury.

b) Number of women and girls reached through the community sensitization activities conducted to improve knowledge of harmful effects of mercury.

c) Number of women and men cooperatives and associations that received technical assistance to transit from worst practices to reduced mercury use and zero mercury process.

**Component 4:** Knowledge sharing, communication and local capacity building support

a) Number of stakeholders identified with cross-cutting responsibilities in the ASGM sub-sector.

b) Number/methods of effective communication means specific to women and men in the ASGM sub-sector and communities identified.

c) Communication tools and methods for sensitization of women and men ASGM operators on mercury-free technology and benefits designed and developed.

**Component 5:** Monitoring and Evaluation

a) Effectiveness of gender mainstreaming components in the project monitored and evaluated.

213.ASGM is unlikely to improve without gender mainstreaming. Working with this premise, identifying the opportunities and entry points for mainstreaming gender into the project would transform ASGM into a formal, professionalized activity that more directly contributes to development. This would make access to the benefits of ASGM equitable. To achieve this, the program components of the Gold+ project?s log frame is mirrored to develop a Plan of Action that will include gender-specific project components, gender-responsive targets and indicators, timelines, assigned responsibilities, and implementation arrangements.

**Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?**

Yes

**Closing gender gaps in access to and control over natural resources;** Yes

**Improving women's participation and decision making** Yes

**Generating socio-economic benefits or services or women** Yes

**Does the project?s results framework or logical framework include gender-sensitive indicators?**

Yes

**4. Private sector engagement**

**Elaborate on the private sector's engagement in the project, if any.**

214. The project creates opportunities for involving private sector consulting firms for their services on gold mining in the areas of research, training, awareness, and advocacy.

214bis. Specific to the Component 2 and access to finance, stakeholders from the financial sector will be involved. The Bank of Industry contribution through its specific programme providing access to finance for ASGM sector will play a major role and will provide a model for other potential financing stakeholders. The project will build on the advocacy processes to raise interest and awareness on the importance of financing responsible ASGM for profit, sustainability, and corporate social responsibility purposes. The awareness on the ASGM sector is expected to generate promotion of financial incentives and the progressive engagement of the financial stakeholders with the ASGM operators will enhance the opportunities of cooperation among operators and financing institutions.

215 The involvement of private sector fabricators and suppliers of equipment will provide proper technologies along with capacity-building sessions for ASGM cooperatives on the operation and maintenance of the equipment. There are linkages with equipment and machinery providers. The project will actively approach these actors to generate awareness on cleaner and more efficient technologies or how to use equipment and machinery for a more responsible mining sector. Win-win schemes where equipment suppliers provide proper technologies along with capacity building sessions

on operation and maintenance in exchange for procurement and usage on the miners?side promoting environmentally responsible management plans in their operations will be explored.

216. In terms of responsible supply chains, the involvement of the private sector will be linked with intermediary companies that deal with gold commercialization in the country as well as international buyers and users that could potentially be interested in buying responsible gold. International refiners, jewellers and electronics companies will be informed on the ASGM sector in Nigeria and relevant data related to the project progress and milestones will be shared through the Programme Advisory Group (PAG) meetings . Information on gold sourcing due diligence programs implemented by these actors will also be shared with the gold mining with the gold mining cooperatives to raise awareness on the importance of responsible ASGM

217.Privately owned leaching plants will be involved as drivers for adoption of mercury-free technological changes thereby ensuring best practices and local capacity are in place. These plants could potentially be involved as possible drivers of technological changes ensuring responsible practices and local capacity are in place. This can be an essential vector for mercury reduction.

**5. Risks to Achieving Project Objectives**

**Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):**

218.The environmental and social risks associated, as well as climate change risks were assessed and are described in detail in Annex I, have been rated and are presented in the table below:

Table 11

| Risks | Rating | Mitigation measures |
|---|---|---|
| **Climate change risks** | | |
| Greenhouse gas emissions from fossil fuel use | Low | Motivate beneficiary mining organizations to progressively implement electrical equipment and renewable energy sources |

| Risks | Rating | Mitigation measures |
|---|---|---|
| Vulnerability to extreme climatic events | Low | The impacts of climate change have been considered for all the proposed mining areas and will be closely monitored during the execution; The technologies introduced through the project will involve recycling of process water and miners will be trained on better water recycling techniques. This will not only prevent water loss but will reduce other related environmental footprints |
| Generation of deforestation and bio-diversity loss due to mining activity | Low | Encourage beneficiary mining organizations operating in forested areas to implement progressive soil rehabilitation plans |
| **Operational risks** | | |
| Change in the political and/or economic situation that negatively impact the ASGM sector | Moderate | The Government of Nigeria has established a national committee on mercury that will be guiding the execution of the NAP.<br><br>The fluctuation of the international price of gold over the years had had little effects in the number of miners involved in the sector |
| Political priorities will and /or buy-in are not adequate for execution of key project activities | Moderate | The institutionalization of project activities will be encouraged.<br><br>The government and the mining federations will be engaged through project development to ensure that national priorities are reflected in the design. Continuous communication and updates will be provided to ensure support |
| Migration of miners after exhaustion of gold ore which jeopardize long-term stability and livelihoods of rural communities | Low | The validation of selected target communities during the inception phase will consider the presence of alternative livelihoods.<br><br>In addition, through the introduction of mercury free technologies, increased gold yield will bring miners additional income which can in turn be invested in social and environmental improvements for the community |

| Risks | Rating | Mitigation measures |
|---|---|---|
| Armed conflict, armed groups and/or tax-seeking behaviour impeding the planned interventions | Moderate | The project will focus its intervention in areas with low security risk and where formalization initiatives are already underway, and safety precautions will be given priority in considering the replication of the interventions in other areas |
| **Social risks** | | |
| Continued disregard for the environmental and health impacts of existing mining activities | Moderate | Awareness raising campaigns will be developed and conducted for government and private sectors as well as the public to engage key community authorities and vulnerable groups (e.g. youth, Indigenous communities) |
| Prevailing cultural norms and practices (negative views on outsiders, resistance to change) prevent project activities | Moderate | These risks will be mitigated through cultural orientation, community consultation, and miner-miner consultations. |
| Economic displacement of informal sector workers through formalization of ASGM, including loss of jobs for intermediaries that could lead to threats and/or criminal activities | Moderate | Communities/relevant experts and the informal sector will be engaged in the execution of the project?s activities to ensure that developed and implemented strategies provide new economic opportunities as well as job opportunities in the formalized artisanal gold supply chain |
| Mercury trade | Considerable | Policy makers and enforcement agencies like Customs service, NAFDAC, Ministry of Trade should be trained on Mercury trade, monitoring and diversion towards ASGM |
| **Occupational health and COVID-19 risks** | | |

| Risks | Rating | Mitigation measures |
|---|---|---|
| Health hazards from noise, dust and worksite accidents on humans in the project area | High | A health and safety plan will be developed in respect of construction worker safety<br><br>Personnel shall be trained in basic site procedures<br><br>A Health and Safety Officer shall be employed to monitor project activities and adherence to HSE requirements<br><br>Appropriate PPE shall be provided for site workers; and the use of the PPE shall be strictly enforced<br><br>Dust shall be suppressed on access roads, mine site and crushing areas during dry periods by regular application of water spray as practicable<br><br>Work equipment shall be maintained at optimal operating condition<br><br>All employees shall be provided ear protection devices (earmuff, earplugs, etc) as necessary<br><br>Use of protective gear provided to workers shall be enforced<br><br>Workers shall be appropriately trained/made aware of the hazards inherent in their jobs, protection devices and consequence of non-compliance with procedures<br><br>Audiometric test shall be carried out periodically on workers in high noise areas to determine effectiveness of noise control programmes<br><br>Appropriate and effective mufflers/silencers shall be fitted to earth moving and other vehicles on site.<br><br>First Aid facilities shall be on hand at all times in accordance with international practice. |

| Risks | Rating | Mitigation measures |
|---|---|---|
| Sanitary restrictions on mobility and planned activities | Low | Effectively apply teleworking for the implementation of some of the project's activities, as well as the creation of virtual platforms for the dissemination of information to project stakeholders |
| Increase in COVID-19 cases at mining sites | Moderate | Carry out rigorous planning for the project's field interventions, considering the implementation of strict biosafety protocols for all personnel |
| Lack of medical care and awareness at mining sites | High | Support with biosafety material and awareness programs at the mining sites, generating strategic alliances with the health insurance companies delegated by the gold mining federations |
| Influence of the COVID-19 pandemic on the gold mining sector | Moderate | Local capacity building will support the mitigation of the impacts and an improved gold value chain and the protection of nature in the country |
| **Technical risks** | | |
| Failure to identify an appropriate investment model ensuring sustainability post-intervention | Moderate | Development and communications on the Minimum Work Programme and related documentations on Investment cost, Feasibility studies and EIA/EPRP studies done for the project especially in accessing credit/loan facilities. |
| Language barrier communication/low education in the mining communities when the training workshops take place | Low | The project will develop easy access and understandable information workshops prepared by local governments that will maintain close communication with mining communities |

| Risks | Rating | Mitigation measures |
|---|---|---|
| Low absorption capacity of trainees on technical and difficult site accessibility | Low | To mitigate the risk, the project will employ skilled experts (local and international) to provide trainings and then hand-on guiding.<br><br>As the project progresses, the participants trained under the project can offer their acquired expertise to peers.<br><br>Concerning the accessibility, a prescreening of area, combined with proper budgeting, transportation arrangement and communication support mechanisms will be applied. |
| Willingness of miners, processing centers, NGOs and mining companies to adopt new technologies and practices | Low | The project will cooperate with Miners Association of Nigeria, State Ministry of Environment, Mining and Natural Resources and other relevant stakeholder groups to sensitize the miners and other stakeholders of interest.<br><br>Risk assessment or projections of each introduced technology will be developed and worked through with the miners, who will become advocates for the project and introduced technologies and practices. |

**6. Institutional Arrangement and Coordination**

**Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.**

219. The Implementation arrangement for the GEF GOLD+ Project in Nigeria is provided as follows;

220. The Global Environment Facility (GEF) will be the funding partner and the implementation agency for Nigeria will be the United Nations Industrial Development Organization (UNIDO) with Oversight functions by Vienna Headquarters and the Nigeria Regional office. UNIDO will deplore its international experience and its several experiences from working in Nigeria on Gold Mining and other chemicals of concern to implement this project. The presence of a UNIDO field office will also greatly help in the implementation of the project and monitoring of project activities.

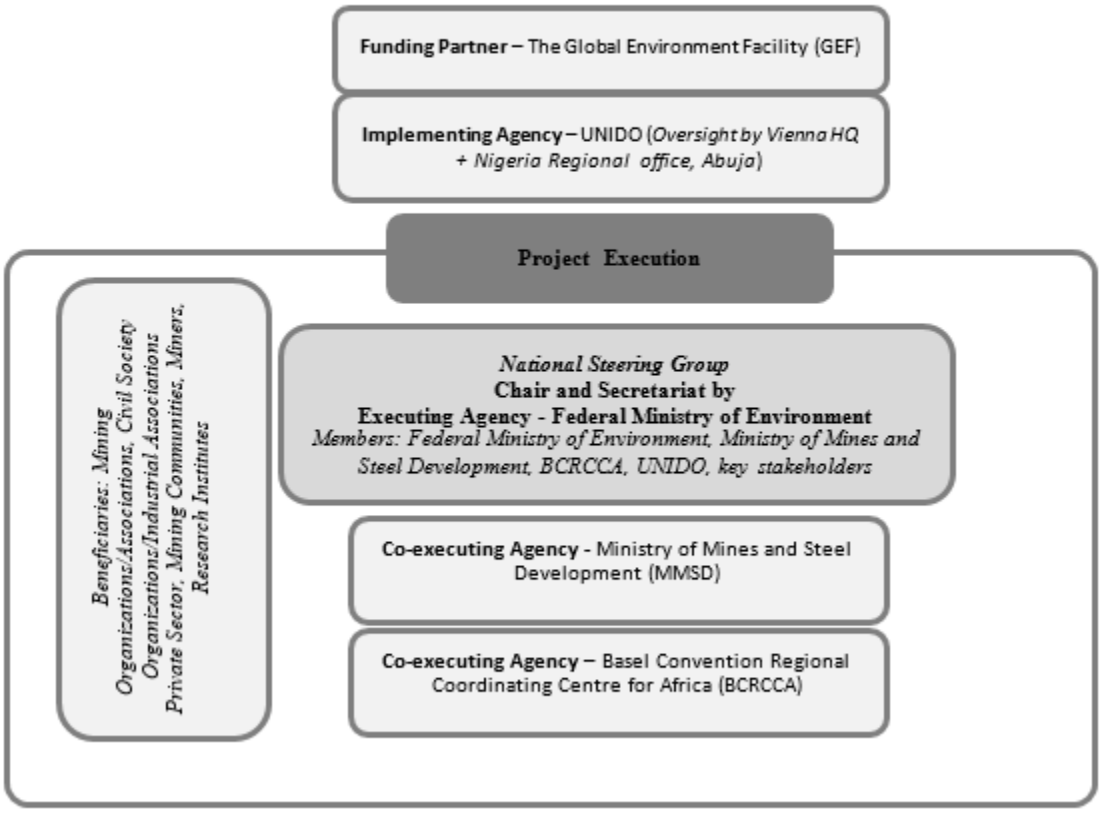
221. For project execution, FMEnv will be the principal executing agency while the co-executing agencies will be MMSD and BCCC-Africa. FMEnv will provide general administrative guidance to the project, as the designated Minamata Convention National focal point. It will also act in areas of pollution abatement, sustainable coordination of Mercury pollution management, and jurisdictional approach. MMSD will be

responsible for leading several outputs relating to legal frameworks, technology promotion, formalization, etc. BCCC-Africa will provide capacity-building programs especially in outputs related to chemicals management

222. FMEnv will establish the project a project management unit (PMU) for achieving undertaking the above responsibilities.

223. The project will have a Project Steering Committee that will be chaired by the Federal Ministry of Environment (FMEnv) with members as representatives from FMEnv, MMSD, BCCC-Africa, UNIDO, and other key stakeholders carefully selected from different stakeholders groups, as indicated in Annex W. The chair of the PSC will not influence the decision making process, but will act to ensure secretariat role (voting right will be one per organization).

224. Beneficiaries of the GEF GOLD+ Implementation in Nigeria will include Gold Miners and value chain players, Gold Mining Organization/Associations, Civil Society Organization, Industrial Association, Experts, Private Sector, Mining Communities, Miners and Research Institute, State Governments, relevant Ministries, Departments and Agencies of Government. The Project is planned for an implementation period of 5 years.




Project Implementation Structure Chart for GEF GOLD+ Nigeria

225. Legal clause - The present project is governed by the provisions of the Standard cooperation Agrement agreement between the United Nations Industrial Development Organization and the Government of the Federal Republic of Nigeria concluded on 4 December 2001, and extended in June 2014

226. Transfer of assets - Full or partial ownership of equipment/assets purchased under the project may be transferred to national counterparts and/or project beneficiaries during the project implementation as deemed appropriate by the government counterpart, in consultation with the UNIDO Project Manager.

**7. Consistency with National Priorities**

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

227. The consistency of the project with national strategies, plans and assessments under relevant Conventions is assessed and summarized in Table 12 below.

| **Conventions + National planning frameworks** | **Date of ratification / completion** | **Consistency of projects with national strategies and plans.** |
|---|---|---|
| National Action Plan for Adaptation (NAPA)under LDCF/UNFCCC | Nil | Nil |
| National Action Plan (NAP) under UNCCD | Nil | Nil |
| ASGM NAP (Artisanal and Small-scale Gold Mining) under Mercury | 2021 | The NAP is consistence with the project strategy and plans. It buttressed the challenges of ASGM formalization in Nigeria, the country?s goals, objectives, reduction targets and implementation strategies for the reduction and eventual elimination of mercury use in the ASGM sector. |

| Conventions + National planning frameworks | Date of ratification / completion | Consistency of projects with national strategies and plans. |
|---|---|---|
| Minamata Initial Assessment (MIA) under Minamata Convention | 2017 | Minamata Initial Assessment (MIA) report was developed to provide a structured process, to enable Nigeria undertake a situational analysis and a basis for subsequent work, towards implementation of the convention. The report highlighted Artisanal and Small-scale Gold Mining (ASGM) sector as a major focal area to reduce and eventually phase out mercury in Nigeria which is in consistency with the project. |
| National Biodiversity Strategies and Action Plan (NBSAP) under UNCED | December 2015 | The revised NBSAP was developed to guide the conservation and sustainable utilization of biodiversity, access to genetic resources and the fair and equitable sharing of the benefits arising from their utilization. It outlines the situation of biodiversity, the actions adopted in Nigeria in line with global requirements and the country?s determination to address the threats to biodiversity through the implementation of the NBSAP for the sustainable benefit of Nigerians. This is consistent with the project by its objective of sustaining biodiversity through mercury reduction. |

| **Conventions + National planning frameworks** | **Date of ratification / completion** | **Consistency of projects with national strategies and plans.** |
|---|---|---|
| National Communications (NC) under UNFCCC | March 2020 | Nigeria has been actively engaged in international climate policy negotiations since it became a party to the United Nations Framework Convention on Climate Change (UNFCCC) in 1994. It ratified the Kyoto protocol in 2004 and the Paris Agreement in 2017. Nigeria submitted its first National Communication in 2003, Second National Communication in February 2014 to honour the reporting obligations and recently within the framework of the Paris Agreement its National Determined Contributions (NDC) commitments in November 2015. |
| Technology Needs Assessment (TNA) under UNFCCC | Nil | Nil |
| National Capacity Self-Assessment (NCSA) under UNCED, UNFCCC, UNCCD | Nil | Nil |

| Conventions + National planning frameworks | Date of ratification / completion | Consistency of projects with national strategies and plans. |
|---|---|---|
| National Implementation Plan (NIP) under POPs | April, 2009 | Under Article 7 of the Convention, Nigeria Committed to develop and implement a National Implementation Plan (NIP). The purpose of the NIP is to inform the Conference of the Parties and the public regarding national initiatives and projects designed to meet the requirements of the Stockholm Convention. These initiatives include the preparation of legislation, regulations, voluntary programmes, standards, policies, plans, programmes and other actions by the Nigerian government to manage and eliminate POPs from the environment. The project aims at formulating a National Implementation Plan in order to protect human health and the environment from POPs chemicals. Though related to POPs as mercury is persistent, but mercury is not an organic pollutant. However, this is consistency with the project on mercury reduction. |
| Poverty Reduction Strategy Paper (PRSP) | December 2005 | Nigeria developed the Poverty Reduction Strategy Paper? National Economic Empowerment and Development Strategy (NEEDS) in response to the development challenges of Nigeria. The goal of NEEDS is to mobilize the resources of Nigeria to make a fundamental break with the failures of the past and bequeath a united and prosperous nation to generations to come. This is consistent with the project through maximizing benefit from ASGM activities by more yield through use of more efficient mercury-free technology. |
| National Portfolio Formulation Exercise (NPFE) under GEFSEC | Nil | Nil |

| Conventions + National planning frameworks | Date of ratification / completion | Consistency of projects with national strategies and plans. |
|---|---|---|
| Biennial Update Report (BUR) under UNFCCC | March 2018 | The Government of Nigeria developed the Biennial Update Report, to implement an all-inclusive national response to Climate Change through emission reduction, adaptation to the changing climate, and contributing to global discussions on optimal solutions to climate change response. |

**8. Knowledge Management**

**Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.**

228. The Knowledge management approach for the Child project will be consistent with the overall project for the global program and the planetGOLD project; and will capture precisely aspects of knowledge sharing and management relevant to the Nigerian scenario. The budget allocation for knowledge management for the Child project is estimated at USD 470,000 and shall be implemented over a 5-year period (January 2022-December 2027).

229. The goal of the communications and knowledge management is to increase awareness and knowledge to deepen mercury reduction and improve the understandings of the public sector, the private sector, mining communities and the general public on the ASGM sector.

230. The project will capture, store, and distribute knowledge products, experiences and lessons learned to all stakeholders at the national and international levels to contribute positively to a responsible ASGM sector. These products will at a minimum be disseminated through the planetGOLD platform which will continue to be the hub of knowledge gathered by the programme.

231. Effective communications will be important over the lifecycle of the project as it aims to rally a wide range of stakeholders and audiences around supporting artisanal and small-scale miners.

**Knowledge management and Synergy with the global programme:**

**232.** The Nigeria communication manager will be responsible for providing updates, featuring country-specific results, developing communication materials and updates related to project activities related to innovations in formalization such as jurisdictional/landscape approaches to formalization, market access and technology transfer. Lessons learned and documentation of country efforts, and other ASGM related themes

for consideration include biodiversity, land-use planning, occupational health and safety, mercury-free gold production and due diligence in gold supply chains.

233. The knowledge products will take varying formats. Technical publications will include policy overviews, technical case studies, evaluations, resource toolkits, manuals, guidelines and guidance notes and datasets. Non-technical knowledge products will include research reports (qualitative and quantitative), strategy documents, and insights papers: best practice, non-technical case studies, infographics, and perspectives papers on ASGM themes and topics. These will be shared via the PlanetGOLD platform and the project will use the standards and guidelines from the programme when developing knowledge products.

234. The country-specific page in the PlanetGOLD website will provide access to best practices, knowledge, insights, lessons learned and success stories that will encourage ASGM stakeholders to engage in networking activities and inform and educate the global development community, general public, and decision makers on the major issues, challenges and solutions related to the ASGM sector in Nigeria.

235. Through the GOLD+ global project, knowledge, learning and experience exchanges will be organized amongst the different country projects, particularly at the regional level. The project will take part in the planetGOLD events such as the Global Forums, Annual Programme Meetings (APMs) and other relevant events organized at the program level.

236. The PEEs and the IA will maintain regular and consistent communication to obtain updated information and share results of other project components to ensure effective implementation of the activities.

237. The project will contribute to the global program quarterly and annual report which will include narrative as well as quantitative reporting on achievement of project level and planetGOLD program-level indicators.

**Knowledge management in Nigeria**

238. The project will build on the communication strategy developed at the program level ensuring consistent messaging and branding alignment. However, the strategy will be adapted to the Nigeria context selecting specific audience groups, objectives, key messages and calls to action and key channels.

239.The joint and participatory development of the strategy will build around mapping, documenting, systematizing, and disseminating information, knowledge, experiences, and lessons learned related to ASGM in Nigeria.

240. Jointly with the relevant national stakeholders, a sustainable exchange mechanism to generate and socialize knowledge and information on ASGM will be designed in a participatory manner including all interested stakeholders that express their willingness in contributing. It will be hosted by a local partner and will build on ongoing initiatives ensuring that the information cascades down to the community and mining site levels.

241. The communication strategy will identify the most appropriate means to engage the key stakeholders (e.g. Government institutions, gold mining associations and cooperatives, individual miners, vocational

training centres, universities and technical schools, gold buying entities, finance and banking sector, and related NGOs and development organizations) based on the local context, cultural differences, and messages that may already be used by parallel ASGM programmes in the country and region.

242.The outreach communication strategies developed will ensure other local key stakeholders such as cooperative members and workers, mayors of municipalities, local authorities, women and youth associations, and indigenous people have access to the project information.

243.Tailored key messaging for each audience group, delivered through designated channels and communication tools, will help to shift perceptions, change unproductive ASGM sentiments over time and empower stakeholders involved in the formalization process.

244. In this regard, the project will make use of traditional media (radio, press and television), specialized audio-visual media used by financial institutions, or social media as appropriate. As mentioned above, the knowledge will also be accessible through a dedicated project website under the GEF GOLD global website with searchable content and program/project social media pages (i.e., Facebook page). Radio programs, community forums and other communication channels will be explored as means to reach mining organizations throughout the territory.

245.The project will participate in and organize outreach activities including working groups, technical committees, industry events, training courses, workshops, seminars, and other awareness raising activities while collaborations and partnerships will be explored.

246. Three groups have been pre-defined to target specific outreach activities: i) ASGM production referring to the productive, organizational and formalization processes of the mining cooperatives, organizations of cooperatives and associations that can be internalized and used by other productive actors; ii) Jurisdiction referring to the knowledge generated under the pilot of the jurisdictional approach and will involve the various stakeholders at the local scale (local authorities and productive actors present in the territory, including gold mining cooperatives); and iii) Government referring to the institutions at the national and local levels. Due to their specific attributions and functions in relation to management, policy-making and control, specific actions must be designed to further enhance formalization and mercury reduction.

247. Positive impacts and results achieved under ongoing initiatives and outcomes of the NAP on ASGM will be highlighted and these lessons will be integrated in GOLD+.

Table 13: Child Project Knowledge Management Approach and Budget

| S/N | Knowledge Management Activities | Key Deliverables | Timelines | | | | | Institutional Responsibility | Budget ($) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | | |

| S/N | Knowledge Management Activities | Key Deliverables | Timelines | | | | | Institutional Responsibility | Budget ($) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | | |
| 1. | Capacity Building on knowledge sharing and management approaches/strategies to support improved ASGM practices as perceived by the Child Project | Capacity Building reports and training outcome assessment | | | | | | MMSD, BCRCC-Africa.<br><br>FMEnv | 70,500 |
| 2. | Development/Strengthening of social media platforms supporting information sharing on ASGM activities (especially social media platforms owned and operated by the executing agencies and other stakeholders associated with ASGM and the Child project). | Established/strengthened effective and accessible social media handles communicating ASGM information | | | | | | MMSD | 23,500 |
| 3. | Facilitation of public private partnerships to promote platforms such as workshops, conferences, summit, etc. channeled at sharing ASGM information and data with National stakeholders as well as the international communities. | Organized workshops trainings, seminars, etc.<br><br>International Conferences/Summits | | | | | | FMEnv, MMSD, BCCC-Africa. | 131,000 |

| S/N | Knowledge Management Activities | Key Deliverables | Timelines | | | | | Institutional Responsibility | Budget ($) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | | |
| 4. | Planning and logistics arrangement to support knowledge sharing platforms and events. | Creation of technical workshops for knowledge exchange meetings especially between consultants (finance, gender, technologies, environment, climate change, etc.). | | | | | | FMEnv, MMSD, BCCC-Africa. | 60,500 |
| 5 | Sharing of relevant (non-confidential) project materials, approaches and documents that may provide relevant information or serve as examples/models to other countries e.g. mercury processing systems; due diligence pilot results, training materials, etc. | Production of Training manuals, training modules, flyers, radio jingles, TV commercials, etc. | | | | | | FMEnv, MMSD, BCCC-Africa. | 37,000 |
| 6 | Design and development of the GEF Gold website for Nigeria. | Uploading of all relevant documents on the GEF Gold+ (global and national) website, including UNIDO website. | | | | | | UNIDO | 23,500 |
| 7 | Collation and gathering of Geological data and relevant information as regards Gold and ASGM sites in the context of JA/SLA. | Establishment of a mining information management systems (including geological database, Decision Support System [DSS], Environmental Information Management System [EIMS], etc.). | | | | | | FMEnv, MMSD. | 124,000 |

| S/N | Knowledge Management Activities | Key Deliverables | Timelines | | | | | Institutional Responsibility | Budget ($) |
|---|---|---|---|---|---|---|---|---|---|
| | | | Y 1 | Y 2 | Y 3 | Y 4 | Y 5 | | |
| 8. | Ensuring Governments, Mining Communities and General public have a shared understanding of the ASGM sector | Stakeholder view/assessment reports and action plans to support stakeholder opinions, suggestions and feedbacks. | | | | | | FMEnv, MMSD. | 23,500 |
| | **Total** | | | | | | | | **470,000** |

**9. Monitoring and Evaluation**

**Describe the budgeted M and E plan**

Monitoring

248. The monitoring and evaluation will be done following the GEF policy on monitoring and UNIDO?s monitoring and reporting policy. Continuous monitoring of the project activities, outputs and outcomes is required to track the progress and achievements of targets as well as overall project performance. It will also contribute to the early detection of potential issues and the related development of corrective measures. The monitoring will improve the performance of project activities and facilitate adapting to changes that might occur in the project environment.

249. The monitoring activities are developed in line with the GEF Policy on Monitoring and UNIDO Monitoring and Reporting Policy. However, the day-to-day monitoring of the project is the responsibility of the PEE.

250. In order to provide input into monitoring and evaluation of the planetGOLD programme as a whole, the project will provide regular reporting to the global project on key indicators, activities and areas of progress. Furthermore, the project will also actively participate in various internal program-wide coordination events, to enhance ongoing communication and knowledge sharing among the projects of the planetGOLD program.

251. The project will submit data once per year to the global project on:

? The programme level indicators: i) Amount of mercury avoided; ii) Amount of finance mobilized (disaggregated by gender); iii) Amount of responsible gold sold to formal markets; and iv) Number of beneficiaries assisted in formalization by the project (disaggregated by gender);

? Additional global environmental co-benefits for which the project has set targets; and

? Key achievements on project-specific outputs and activities, using template provided by global project, including reporting on efforts to ensure that all PlanetGOLD beneficiary mining entities conform with the PlanetGOLD Criteria for Environmentally and Socially Responsible Operations.

252. The project will also provide narrative reporting quarterly to the global project on key activities and areas of progress towards achieving the program and project-specific indicators, using a template provided by global project.

253. The PEEs will prepare an annual progress report as part of the reporting to the GEF (Project Implementation Report ? PIR). The annual progress report will include (i) a narrative report on the progress of activities and outputs against the targets and desired outcomes using the means of verification and impact indicators; and ii) a financial report according to UNIDO accounting procedures, in order to ensure proper supervision by the IA. The narrative reports will be shared with the GEF OFP, Government entities, the PlanetGOLD global project and other relevant stakeholders. A quarterly meeting between UNIDO and the PEEs will be organized by the latter through teleconference to discuss the progress status, challenges faced and mitigation measures as well as planned next steps.

254. UNIDO Field Office in Nigeria will assist and participate in the relevant monitoring and evaluation activities and visits.

255. During the inception phase, the PEE( FMENV), in consultation with other project stakeholders, will elaborate a monitoring plan that will be approved by the IA and later on updated annually. The monitoring plan will include the tracking of progress, performance and accomplishments related but not limited to:

    ? Implementation of project activities;

    ? Initiatives of project partners to eliminate the use of mercury in ASGM;

    ? Impact of the enforcement of the regulatory framework;

    ? Mobilization of stakeholders;

    ? Environmental and Social Management Plan (ESMP); and,

    ? Gender action plan.

    .

256. The national project steering committee (PSC) consisting of the main project stakeholders (refer to section 6, Institutional arrangements and coordination) will meet at least annually to (a) review progress made against M&E indicators as stated in the project results framework, (b) review interim and final deliverables, (c) approve annual work-plan for the following year, and (d) assess any gaps or challenges and make appropriate adaptive management decisions

257. In addition, the project will participate annually in global annual program meetings (APM) (5 meetings).

**Evaluation**

258. In line with the UNIDO Evaluation Policy and the GEF Evaluation Policy, the project will be subject to an independent Terminal Evaluation (TE). The UNIDO Independent Evaluation Office will be responsible for the TE.

259. Additionally, a mid-term Review (MTR) will be conducted at the project?s mid-point by an independent evaluator under the responsibility of the IA. The objectives of the MTR are to review the progress of the activities, outputs, and outcomes and to assess the effectiveness of the implementation according to the indicators presented in the project results framework. The findings and recommendations will be incorporated into the implementation strategy for the remaining duration of the project.

260. The TE will focus on the project performance regarding the attainment of objectives based on different criteria such as design, relevance, effectiveness, efficiency, sustainability and impact, partners? performance, and gender mainstreaming. The TE will (i) ensure project accountability and (ii) develop recommendations for UNIDO staff, partners, and other relevant stakeholders.

261. The TE will typically be initiated after the project?s operational completion or during the final six month of operation. The draft TE report will be sent to project stakeholders for comment. Formal comments on the report will be shared openly and transparently, and the final evaluation report will be publicly disclosed.

262. In the framework of the TE, all project partners and contractors are obliged to (a) make available studies, reports and other documentation related to the project and (b) facilitate interviews with staff involved in the project activities.

263. More detailed information on monitoring and evaluation activities, related budget and timeframe is summarized below:

Table 14. Monitoring and evaluation budget

| M&E activity | Purpose | Responsible | M&E Budget | Timeframe |
|---|---|---|---|---|
| Inception workshop and report | Adaptation of project activities, outputs and outcomes and proposed indicators and work-plan | PEE | 0 | Within three (3) months of project start |

| | | | | |
|---|---|---|---|---|
| Project Steering Committee (PSC) meetings | Review of progress against work-plan and budget.<br><br>Provide oversight to ensure the project achieves desired outputs and outcomes.<br><br>Provide guidance on proposed changes or revisions of project | PEE | 0 | Annually (5 meetings) |
| Quarterly reports | Assess narrative and financial progress made and ensure resources are being utilized properly | PEE | 0 | End of March, June, October, December |
| Annual Progress Reports (APRs) / Project Implementation Reports (PIR) | Progress and effectiveness review for GEF<br><br>Documentation on lessons learned | PEE / IA | 0 | 30 June; 31 December |
| Ongoing monitoring (project execution) | Monitor continuously the execution of the project and gather data against indicators | PEE | 0 | Ongoing (5 years) |
| Mid-Term Review (MTR) | Assess project progress and recommend corrective actions | UNIDO | 40,000 | At mid-term of the project implementation |

| | | | | |
|---|---|---|---|---|
| Final Report | Measure progress against baseline<br><br>Highlights technical outputs<br><br>Identify<br><br>lessons learned and likely design approaches for future projects, assesses likelihood of achieving design outcomes | PEE | 0 | At the end of project implementation |
| Terminal Evaluation | Review project performance and coordination mechanisms<br><br>Identifies lessons learned and actions for future projects<br><br>Highlight technical achievements | UNIDO | 50,000 | No later than three (3) months after project activities completion |
| **Total M&E** | | | **90,000** | |

**10. Benefits**

**Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?**

264. Mercury reduction is the project's main objective and key benefit for both the environment and human health. Considering that Nigeria is currently one of the main mercury-importing hubs where the use of this chemical is high, the contribution of the project in terms of global environmental benefits will be significant as well as the contribution to the country?s obligations under the Minamata Convention on Mercury.

265. In addition, several socioeconomic benefits are anticipated under the GEF Gold+ Project in Nigeria, these socioeconomic benefits are envisaged to positively impact at national, state and local government levels.

266. At the national level, the potential socio-economic benefits will include:

? Sales of processed gold at internationally obtainable prices and an improvement in the quality of gold produced in the participating states due to uptake of mercury-free technologies and institutionalization of leaching plants which will ensure efficient and environmentally safe management of tailings.

? Improved opportunities for Nigeria to compete in the global gold market especially due to quality assurance of gold processing activities not dependent on mercury use.

? Considering that Nigeria is the largest economy in Africa, larger opportunities for foreign investments in the ASGM sector will be created specially based on the enhanced formalization of ASGM, access to finance, uptake of mercury-free technologies amongst mining cooperatives, etc. The fact that the country is adapting to global best practices in ASGM, and strengthening its quality assurance and control processes in the sector present wide short and long-term opportunities for value to the country?s economy, especially its roadmap for economic diversification through improvements in the mineral/mining sector.

**267. Nigeria is a federation. At the States level, specific socio-economic benefits are to be accounted**

? Mineral buying centers will be encouraged to purchase gold in higher quantities due to the integrity and quality of gold produced and sold by ASGM cooperatives. Additionally, other individuals and entities may be interested in venturing into gold purchases from ASGM cooperatives due to the improved gold processing systems and envisaged financial benefits associated with the national, regional, and global gold markets.

? State governments stand to benefit from revenue, generated through ASGM activities within their state.

? Envisaged indirect socioeconomic benefits may be associated with opportunities for state government-assisted vocational training camps, focused on transferring knowledge and skills on ASGM to unskilled persons, groups, and communities.

? The elimination or significant reduction in the use of mercury and improper disposal of mercury-contaminated tailings is likely to reduce contamination of major environmental media such as surface and groundwater, soil, and air. Consequently, this tends to contribute to a lower incidence and/or occurrence of endocrine, reproductive and genetic disorders/diseases associated with mercury intoxication in communities within the participating states.

? Applicability of SLA/JA which considers the jurisdictional influences of stakeholders within landscapes associated with ASGM or proposed for ASGM pilots under the Child Project.

**268. Benefits to be considered by the Local Government**

? Opportunities for improvement in the livelihoods of members of ASGM communities are envisaged. Mainly job creation and cash inflow into communities, creating additional demands and therefore additional business opportunities. In participating states such as Kebbi and Niger states, fishing communities where ASGM activities are likely to be carried out could benefit from the influx of workforce, who will depend on fish as a source of protein. Likewise, in Zamfara state where irrigated rice farming is usually practiced, rice-producing communities are likely to gain from an increase in sales to ASGM cooperatives and groups assigned leasing rights (SSML).

? Agricultural communities can supplement low agricultural income in times of drought with mining income thereby improving livelihoods. In the overall, the application of SLA/JA will enable a balance of all these production systems within selected landscapes.

? Better accountable stakeholder engagement which identifies stakeholder needs, expectations, concerns and suggestions especially at the community level.

? SLA/JA pilots will consider stakeholder participation from communities and their roles in the multi-stakeholder platform (MSP).

? Environmentally safe ASGM practices consistent with global best practices will improve opportunities for other socioeconomic developments in ASGM communities e.g. petty trading, catering, equipment/PPE sales, food vending, etc.

269. The project will promote a scenario in which the ASGM sector can increase its economic incident and impact at the local and national level for the thousands of families that depend primarily, secondarily, or temporarily on this activity. Additional economic gains will be achieved through more efficient technologies and consequent higher gold recovery and responsible supply chains that will ensure access to formal markets and better prices. The economic gains can then translate to social well-being and livelihood security.

270. Specific to women miners, the project will improve their access to finance, savings, and entrepreneurship, which will lead to economic empowerment that contributes to their well-being and their families. Gender mainstreaming activities will reduce gender inequalities among project beneficiaries.

271. The transition towards more efficient and/or cleaner recovery technologies and the introduction of better practices will improve the working and living conditions of the miners including women and vulnerable population, leading to a better health for all. Better mining practices will also improve the quality of water, and therefore host communities will have access to cleaner water.

272. The miners and communities will increase their skills and knowledge, leading to improved education in mining areas. Furthermore, promoting formalization processes will also allow miners to access social and financial services. Proper development of the ASGM sector can reduce conflicts over land use or linked to environmental pollution.

273. Finally, and in line with the innovative approach followed by the GOLD+ programme, apart from mercury reduction, the project will allow for better land management and proper handling and disposal of mine tailings, which will benefit biodiversity and will make communities more resilient to climate change.

## 11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

**Overall Project/Program Risk Classification***

| PIF | CEO Endorsement/Approval | MTR | TE |
|---|---|---|---|
| | Medium/Moderate | | |

**Measures to address identified risks and impacts**

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Land degradation and abandonment of minesites | - Develop and implement of the Environmental Protection and RestorationPlan (EPRP)<br>- Ensure detailed mine closure plan<br>- Ensure technical and biological restorationof sites after mining completed<br>- Ensure that topsoil is being stripped in new working areas and stockpiled for future rehabilitation.<br>- Encourage use of alternative construction materials and heating<br>- Water inflow into the mine pits where aquifers are intersected would require pumping out (dewatering) to maintain dry, safe and efficient working environment for equipment<br>- | - Land restoration methodology and guideline for artisanal mining, approved by Federal Ministry of Environment (FMEnv) and Ministry of Mines and steel development (MMSD)<br>- Government regulations on Mining (as captured in chapter 2) | Selected mining areas | All time of operations | ASGM, Project Managemen tunit (PMU), state mines inspector and FMEnv | Cost details in EPRP |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| **Deforestation** | - Encourage reforestation activities in the EPRP<br>- Encourage use of alternative construction materials and heating<br>- Ensure detailed mine closure plan<br>- Ensure technical and biological restorationof sites after mining completed<br>- | - Land restoration methodology and guideline for artisanal mining, approved by Federal Ministry of Environment (FMEnv) and Ministry of Mines and steel development (MMSD)<br>- Government regulations on Mining (as captured in chapter 2) | Selected mining areas | All time of operations | ASGM, Project Managemen tunit (PMU), state mines officer, FMEnv | Cost details in EPRP |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Uncontrolled use of ground and surface water. Mining and ore processing within or near surface water | - Ensure that water being used for processingis recycled.<br>- Monitor water pumping from groundwaterwells<br>- Detail EIA for processing/milling plants<br>- Development and implementation EPRP and Environmental monitoring protocol forsoil and water resources<br>- .<br>- Liquid spills of lubricant, fuel and oil should be attended in order to minimizeland & groundwater contamination.<br>- Strict application of the law on the non-use of mercury | - Regulation and methodology for EIA approved by FMEnv and MMSD<br>- Template for Environmental Management Plan | At the subproject site both for miningand processing | All time of operations | ASGM, PMU, local inspector, Environmental Agency, consultant company, MET | Cost details in EIA |
| Discharge of tailings and contaminated effluents to the environment | - Detail EIA for processing/milling plants<br>- Promote and enhance pavement of sluicingareas and containment of effluents<br>- Strict application of the law on the non-use of mercury | - Gold mining waste management plan<br>- EIA approved by FMEnv | At the subproject site both for miningand processing | All time of operations | ASGM, PMU, State mines officer, FMEnv, State Environmental Agency, consultant company, | Cost details in EIA |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| - Impacts on soil from mining operations. Further decrease in organic matter, reduced fertility and water infiltration capacity (likely) decrease in arable land and increase in orphan sites (likely)<br><br>Increased soil erosion (probable) | - Strict application of the law on the non-use of mercury<br>- Communication campaigns to disseminate awareness of existing laws and rationale for those laws<br>- Establishment of local communities and services<br>- Mobilization of local actors in the dissemination of rights and laws (local and traditional authorities, communication relays: health workers, teachers, traditional rulers, NGOs | - EIA approved by FMEnv<br>- Community based approach guidelines | At the subproject site both for miningand processing | All time of operations | ASGM, PMU, State mines officer, FMEnv, State Environmental Agency, MMSD | Cost details in EIA |
| Improper handling of<br><br>mined materials (oreand waster rocks | - .<br>- Ensure waste rocks and tailings aredisposed in designated areas. | - EIA approved by FMEnv<br>- Gold mining waste management plan | At the subproject site both for miningand processing | All time of operations | MMSD, FMEnv | |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Improper handling of chemicals $HNO_3$ - Nitric acid , $N?_2B_4O_7$ - Sodium borate | - Ensure that all chemicals are being stored in a proper manner to reduce interaction with environment<br>- Ensure that all chemicals spillages are being contained and cleaned<br>- Dispose all obsolete chemicals in consultation with experts<br>- Ensure that all chemicals have material safety data sheers and the chemical containers are well labeled<br>- Complete chemical risk assessment and implement recommendations<br>- Use of protective equipment when handling chemicals<br>- Use of chemicals in equipped laboratories in compliance with national standards andrequirements<br>- Frequent monitoring and inspection of laboratories and disposal sites. | - Chemical risk assessment and mitigation measures according to EIA requirement<br>- Standards on hazardous and toxic chemicals | At the subproject site for processing (milling plants) | All the time of operations | ASGM, PMU and local inspector | Cost details in EIA |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Emission of air pollutants (possible emissions of Hg) | - Promote and facilitate wet mining technologies to reduce dust emissions<br>- Change in mining operations that limit inhalation of suspended particulate matter<br>- Strict monitoring of non-usage of Mercury | - Occupational health assessment<br>- Project design of modern environment-friendly technologies | At the subproject site both for miningand processing | All the time of operations | ASGM, FMEnv, MMSD, BCRCCA | Cost details in EIA |
| | | | | | | - |
| Climate Risk - carbon footprint due to use of energy and fuel in gold mining (production and processes) (see Annex I for more details). | Support the gold mining companies to replace direct site-generated electricity from fossil fuels with grid connectivity and increase use of renewable energy sources | growing decarbonisation of electricity supply through use of renewables rather than fossil-fueled generators | Mining and processing areas | During mining activities | Government, Mining Agency, ASGM, PMU, mining companies, international partners | - |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Occupational Healthand Safety Issues. Noise generation during mining and processing of ore from use of drillers, blasters and milling equipment could pose direct hazard to workers and surrounding Communities | Health monitoring of ASGM<br><br>Increase awareness among ASGM regardinghealth risks of mercury<br>Promote formalization of the ASGM and project support restricted to formalized ASGMs<br>Ensure appropriate training and safefacilities for workers<br>Provision and wearing of appropriate personal protective equipment | - Government regulation on Artisanal Mining<br>- Template for Environmental Management Plan | Mining areas, At the subproject site both for miningand processing | All time of operations | ASGM, PMU, and local inspectors | Cost details in EPRP and EIA |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Impacts on conservation values in protected areas<br><br>Loss of biodiversity | Commitment to site rehabilitation ? including participation in associated capacity development ? will be a condition of project participation<br><br>Dissemination and awareness raising of rehabilitation law, including rationale for that law<br><br>Mobilization of local actors in the dissemination of rights and laws (local and traditional authorities, communication relays: health workers, teachers, etc.) | - Jurisdictional Approach plan<br>- Biodiversity plan according to approved EIA | Mining areas, At the subproject site both for miningand processing | All time of operations | FMEnv, State Environmental Agency | Cost details in EPRPand EIA |
| Insufficient involvement of women potentially negatively impacting existing inequalities | Gender assessment and mainstreaming planneeded to be developed and implemented | Gender assessment and plan | At the subproject site both for mining and processing | All time of operations | ASGM, PMU | Cost details in Project funding<br><br>- |
| Children in mining | Child labor is illegal and should not be allowed<br><br>Determine age distribution of gold mining operators | The Nigeria Mining Act | At the subproject site both for mining and processing | All time of operations | MMSD | Cost details in Project funding |

| E&S risks | Mitigating Measure | Technical Details | Location | Timeline | Responsibility | Cost of Mitigation |
|---|---|---|---|---|---|---|
| Infections with COVID-19 resulting from project activities | **Adherence to government guidelines, social distancing, use of PPEs, encourage vaccination** | National and State governments COVID-19 guidelines | At the subproject site for mining, administration and processing | All time of project duration | MMSD, FMEnv, BCRCCA | |
| Economic displacement of informal sector workers through formalization of ASGM | Communities/relevant experts and the informal sector will be engaged in the execution of the project?s activities to ensure that developed and implemented strategies provide new economic opportunities for informal workers | Nigeria?s National Action Plan (NAP) on Hg in ASGM Sector | All project locations | All time of project duration | MMSD, State governments | |
| Loss of jobs for intermediaries could lead to threats and/or criminal activities | Providing job opportunities in the formalized artisanal gold supply chain | Nigeria?s National Action Plan (NAP) on Hg in ASGM Sector | All project locations | All time of project duration | MMSD, FMEnv, State governments | |

Potential COVID-19 related community health, safety and security risks that may emerge from physical activities of this project will be duly considered in the implementation and execution of the project. All necessary prevention and mitigation measures will be undertaken to minimize the risks, including, amongst others, the use of personal protective equipment, physical distancing, personal hygiene, cleaning and disinfection, ventilation and other administrative and engineering controls, and will be updated on an ongoing basis following the national government's guidelines and recommendations.

**Supporting Documents**

Upload available ESS supporting documents.

| Title | Module | Submitted |
|---|---|---|

| Title | Module | Submitted |
| --- | --- | --- |
| **Nigeria-Annex I- ESMP** | **CEO Endorsement ESS** | |

**ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).**

| **Project Strategy** | KPIs/Indicator/<br><br>UNIDO IRFP<br><br>Indicator | **Baseline** | **Target mid-term** | **Target (for the entire project duration)** | **Means of Verification** | **Assumptions** |
|---|---|---|---|---|---|---|
| **Objective:** To reduce the use of mercury in the ASGM sector in the participating states and eventually the country at large, through a holistic, multi-sectoral integrated formalization approach, and increasing access to finance leading to adoption of sustainable mercury-free technologies and access to traceable gold supply chains. | Number of anthropogenic tons of mercury from ASGM to the environment avoided [ENV.2]<br><br>Number of direct beneficiaries reached [KASA.1] | 0<br><br>0 | 5<br><br>5,500 | 18,48 tons of mercury avoided<br><br>11,506 direct beneficiaries reached<br><br>(50% women) | Inception report, mid-term review, and terminal evaluation | |
| | **Component 1. Enhancing formalization in the ASGM sector** | | | | | |

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| **Outcome 1.** Enhancing ASGM formalization | Number of policies, policy instruments, or regulatory frameworks with contributions from the project to improve ASGM formalization at national/local level developed [POL.3] | 0 | 2 policies, policy instruments or regulatory frameworks | At least 4 policies, policy instruments or regulatory frameworks with contributions from the project to improve ASGM formalization | Resolutions, decrees, ordinances, and other instruments of law and/or regulations submitted for enactment | There is political will to develop and approve the regulations required for a responsible ASGM sector in Nigeria |
| | Number of miners supported in their formalization process (including gender-disaggregated data) [KASA.2] | 0 | 400 miners (200 women and 200 men) | At least 800 miners supported in their formalization process (400 women and 400 men) | Analysis report on formalization status and progress for the different cooperatives | Stakeholders are willing to engage in formalization processes |
| | Number of actors gaining awareness/knowledge on formalization [KASA.1] | 0 | 800 actors (400 women and 400 men) gaining awareness/knowledge | 1,600 actors (800 women and 800 men) gaining awareness/knowledge on formalization | Progress reports<br>Training reports | |
| | Landscape area under improved practices (hectares) | 0 | 0 | 251,19 hectares | Knowledge products on JA<br>Progress reports | |
| **Output 1.1.** 1.1. ASGM and leaching plants coexistence institutional | Number of ASGM policy document drafted [PAO.1] | 0 | 1 ASGM policy document drafted | 1 ASGM policy document drafted and endorsed | Policy document prepared and endorsed by relevant authorities | Government officials are interested and able to promote formalization processes for ASGM |

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| ized by the Governmen t of Nigeria | Number of capacity building events conducted for public sector officials [TCO.1] | 0 | 4 | At least 8 capacity building events conducted for public sector officials | Training reports, minutes, and training support material on formalizati on capacity building processes | |
| **Output 1.2.** Commodity specific Jurisdiction al Approach (JA) piloted with a focus on ASGM and leaching plants coexistence . | Number of knowledge products developed on jurisdictional and landscape approaches to strengthen formalization in ASGM sector[PAO.2] | 0 | 2 | 3 knowledge products developed on jurisdictional and landscape approach to strengthen formalization in ASGM | Knowledg e products elaborated and disseminat ed | A jurisdiction where all the pre-conditions are in place for a successful pilot is selected |
| **Output 1.3.** Sufficient capacity by the government to assess, plan, and implement sustainable and mercury-free intervention s in target ASGM regions | Number of capacity building events conducted for ASGM leaders and cooperative members [TCO.1] | 0 | 8 | At least 16 capacity building events conducted for ASGM leaders/coopera tive members | Training reports, minutes and training support material for technical assistance, and advisory processes | |
| | Socioeconomic baseline of women in ASGM in the selected areas [PAO.2] | 0 | 1 | 1 socioeconomic baseline on women in ASGM in the selected areas | Questionn aires, surveys, interviews<br>Socioecon omic baseline report | Data allows for informed decision-making for gender-related issues<br>Women are able and willing to participate in the |

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| | Number of capacity building events conducted for women miners [TCO.1] | 0 | 4 | At least 8 capacity building events conducted for women miners | Training reports, minutes and training support material for technical assistance, and advisory processes | activities |
| | **Component 2. Access to finance enhanced by financial inclusion and responsible supply chains** | | | | | |
| **Outcome 2.** Access to finance enhanced by financial inclusion and responsible supply chains | Number of actors gaining awareness/knowledge on access to finance and responsible supply chains [KASA.1] | 0 | 600 actors (200 women and 400 men) gaining awareness/knowledge | 1000 actors (400 women and 600 men) gaining awareness/knowledge on access to finance and responsible supply chains | Progress reports | Stakeholders are able and willing to participate in awareness raising/capacity building on access to finance |
| | Number of financial mechanisms developed, influenced, or supported [INV.1] | 0 | 1 | At least 2 financial mechanisms developed, influenced, or supported | Inception report, mid-term review, and terminal evaluation<br>Reports submitted by financial entities working in the sector in coordination with the project | Financial institutions are interested in developing and implementing adequate financial mechanisms for ASGM |
| | Amount of funds (in USD) made available to ASGM through financial mechanisms (disaggregated by gender and indigenous people) [INV.3] | 0 | USD 2,000,000 | USD 5,000,000 | | |
| | Amount of mercury-free/ responsible gold sold to formal market (Kg) | 0 | 60 Kg | 200 Kg of gold sold to formal market | Progress reports | Miners and traders are willing to share information on gold supply chains |

| | | | | | | |
|---|---|---|---|---|---|---|
| **Output 2.1.** ASGM organizations procured equipment through micro-financing institutions and improved business skills for men and women. | Number of analytical reports on gold supply chain produced [PAO.1] | 0 | 1 | 1 analytical report on the gold supply chain in Bolivia produced | Analytical report based on primary and secondary data | The Government maintains political, economic, and social stability<br>The Government prioritizes economic reactivation, boosting the take-off of ASGM |
| | Number of capacity building events conducted for financial entities [TCO.1] | 0 | 2 | At least 4 capacity building events conducted for financial entities | Training reports, minutes and training support material for technical assistance, and advisory processes | |
| **Output 2.2.** Technology-assisted mineral supply chain due diligence developed and tested in target regions | Number of capacity building events conducted on financing and accounting for miners and cooperatives [TCO.1] | 0 | 25 | At least 50 capacity building events conducted on financing and accounting | Training reports and lists of attendance | There is interest in the ASGM sector to articulate with the financial sector |
| | Number of capacity building events on alternative livelihoods conducted for women miners [TCO.1] | 0 | 5 | At least 10 capacity building events conducted for women miners on alternative livelihoods entrepreneurship | Training reports and lists of attendance | |
| | **Component 3. Enhancing uptake of mercury-free technologies** | | | | | |
| **Outcome 3.** Enhancing uptake of mercury-free technologies | Number of pilot projects implemented and operationalized in the selected mining sites [TEC.3] | 0 | 4 | 8 pilot projects implemented and operationalized in the selected mining sites to reduce and/or eliminate mercury | Progress reports | ASGM cooperatives/individual miners are willing and able to implement changes in gold recovery technology |
| | GHG mitigated | 0 | 59,940 metric tons of $CO_2eq$ mitigated | 119,880 metric tons of $CO_2eq$ mitigated | Progress reports | |

| | | | | | | |
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| | Number of miners trained in mercury-free processes (disaggregated by gender) [KASA.2] | 0 | 400 miners (120 women and 270 men) trained | 800 miners (240 women and 540 men) trained in gold recovery technologies where mercury is reduced or eliminated | Training reports, minutes and training support material for technical assistance and advisory processes | |
| | Number of actors gaining awareness/knowledge on mercury-free technologies [KASA.1] | 0 | 900 actors (270 women and 630 men) gaining awareness/knowledge | 1,800 actors (540 women and 1260 men) gaining awareness/knowledge on mercury-free technologies | Progress reports | |
| | Number of training institutions in clean technologies for gold recovery strengthened [KASA.2] | 0 | 1 | 1 training institutions in clean technologies for gold recovery strengthened to include responsible gold in its curricula | Progress report | |
| **Output 3.1.** Local institutions strengthened to support mercury reductions and invest | Number of capacity building events based on diploma courses organized [TCO.1] | 0 | 3 | 4 capacity building events based on diploma courses organized | Capacity building report<br>List of participants on diploma courses | ASGM cooperatives/individual miners are willing and able to implement changes in gold recovery |

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|---|---|---|---|---|---|---|
| in mining organizations | Number of capacity building events for miners [TCO.1] | 0 | 15 | 30 capacity building events will be conducted for miners in hg-free and OHS | Training reports, minutes and training support material for technical assistance and advisory processes | technology |
| **Output 3.2.** Assay lab or processing plant and training center established to promote resource efficient gold mining | Number of events on equipment for cleaner technologies for gold recovery organized [CPO.1] | 0 | 1 | 2 events on equipment for cleaner technologies for gold recovery | Event reports | There is interest from the private sector and supply is available in the country/region |
| | **Component 4. Knowledge sharing, communication and local capacity building support** | | | | | |
| **Outcome 4. Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts** | Number of actors gaining awareness/knowledge on the dangers of mercury and ways to avoid/eliminate its use in ASGM [KASA.1] | 0 | 1,500 actors (450 women and 1050 men) gaining awareness/knowledge | 3000 actors (900 women and 2100 men) gaining awareness/knowledge on the dangers of mercury and ways to avoid/eliminate its use in ASGM | Progress reports | |
| | Number of people reached with awareness raising materials, by mode of communication (e.g. online, in-person, via SMS, WhatsApp, etc) and by gender [REA.1] | 0 | 50,000 (25,000 women and 25,000 men) reached with awareness raising materials | 100,000 (50,000 women and 50,000 men) reached with awareness raising materials | Metrics on communication outreach | There is interest, participation and involvement of the different stakeholders |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Number of original publications (blogs, news articles, events, photo essays, videos, etc) on planetgold.org or on other planetGOLD digital communication platforms | 0 | 4 | 10 original publications (blogs, news articles, events, etc.) on planetgold.org or other planetGOLD digital communication platforms | Blogs, news articles, events or other publications available on planetGOLD website | |
| **Output 4.1.**<br>Miner and investment focused communication strategies explored, tested, deployed and scaled up. | Number of strategies to develop a sustainable exchange mechanism for the ASGM sector hosted by a local partner developed [TCO.4] | 0 | 1 | 1 plan to develop a sustainable exchange mechanism for the ASGM sector hosted by a local partner developed | Progress reports | There is sufficient technical and financial support to build the sustainable exchange mechanism |
| | Number of events[1] related to responsible ASGM at national and jurisdiction level organized [CPO.1] | 0 | 15 | 30 events carried out | Meeting reports systematized in a knowledge management platform | Pilot experiences generate relevant lessons learned to be disseminated and replicated<br>Links with the media are generated |
| | Number of ASGM technical formation with government approved competency-based certification [TCO.3] | 0 | 2 | At least 4 technical formation have approved competency-based certification | Documents approved by the Ministry of Education | |
| | Number of capacity building events on leadership organized [TCO.1] | 0 | 5 | 10 capacity building events on leadership organized | Training reports | Women miners are engaged<br>General public has an interest on gender aspects in ASGM |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Number of physical/virtual regional events for women miners organized [CPO.1] | 0 | 3 | At least 5 physical/virtual regional events for women miners organized | Meetings reports | |
| | Number of physical/virtual regional events for women miners organized [CPO.1] | 0 | 3 | At least 5 physical/virtual regional events for women miners organized | Meetings reports | |

[1] Events could be symposiums, workshops, conferences and others.

## ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Review of the project execution agreement responds to the United States of America specific comment at PIF .

The GOLD+ Nigeria project did not receive other specific comments at concept phase, however the project has taken into account the comments received by the GOLD+ global programme, which are detailed in Annex B

| ***Comments from the STAP*** | | |
|---|---|---|
| **Comments** | **Response from GOLD+ Nigeria** | **Reference in documents** |
| STAP Comment<br><br>• This project will involve the convening multi-stakeholders with the associated challenges (see World Bank, 2014, page 5-7 for examples of these challenges – https://www.wiltonpark.org.uk/wp-content/uploads/WP1314-Report1.pdf). For example, the proposed landscape/jurisdiction approach will involve engaging different actors, such as governments, communities, the private sector, and civil societies. STAP wishes to refer the project proponent to its latest publication on "multi-stakeholder dialogue for transformational change" (https://stapgef.org/publications), which presents principles of multi-stakeholder dialogue (MSD), analyses the context of MSD, and highlights the process of designing an effective MSD. | Refer to Stakeholder Engagement Plan of the GOLD+ Nigeria project. | Annex I – Stakeholder Engagement Plan |
| STAP Comment<br><br>• The project will adopt the jurisdictional approach (JA) as a framework for structuring interventions. The second paragraph on page 28, however, highlights some of the challenges associated with the JA, including unrealistic expectations, political turnover, limited public sector capacity, and lack of broader support and incentives. Yet, the PIF is silent on how the project will overcome these challenges to ensure success. STAP recommends that this should be done. | Refer to assessment of jurisdictional approach for the GOLD+ Nigeria project and output 1.2 of the logical framework. | CEO Endorsement document |
| STAP Comment<br><br>• Component 4 will support capacity building, knowledge sharing, and communication, including "using online education and digital marketing tools to support the traditional participatory workshop and training model to help institutionalize sustainable mining methods at the community level." It is, however, unclear how online education and digital marketing tools will be used given the remoteness of ASGM operations (as noted in the last paragraph of page 19). Does this project intend to provide digital access to ASGM miners? The details of how this component will be achieved need to be elaborated. | Incorporated under component 4 of the GOLD+ Nigeria project. | CEO Endorsement document |
| STAP Comment<br><br>• As rightly noted in the risk section of the PIF, the introduction of new technologies or ensuring mercury-free gold mining may inadvertently result in loss of livelihood. In such cases, alternative livelihood strategies may be required to achieve the project objectives. This is particularly important because mercury-based ASGM may be more profitable than other alternative sources of livelihoods in the targeted communities. Hence, a well-considered strategy may be needed to wean miners from their current practices. The proposal, however, seems not to put enough emphasis on interventions for addressing this issue. | Incorporated under component 3 of the GOLD+ Nigeria project. | CEO Endorsement document |
| STAP Comment<br><br>• It is good that the PIF acknowledged that the project would contribute to other GEF core indicators, including the area of land restored, area of landscapes under improved practices, and greenhouse gas emission reduction. The PIF did not, however, present clearly how the interventions will lead to these benefits. We encourage that the project proponent elaborates further on this and provide a detailed estimation of all expected GEBs at the PPG stage (as promised in the PIF). | Refer to GEB core indicators of the GOLD+ Nigeria projects for co-benefits. | CEO Endorsement document |
| STAP Comment<br><br>• For a project that will depend on significant multi-stakeholder engagement for its success, the stakeholder section of the PIF is inadequate. Please provide a detailed analysis of stakeholders expected to be engaged in the project in the participating countries. Please, also highlight how they will be engaged, their expected role in the project, and whether they have been engaged already or if this is ongoing. | Refer to Stakeholder Engagement Plan of the GOLD+ Nigeria project. | CEO Endorsement document – Stakeholders Engagement section |
| STAP Comment<br><br>• It is good that the PIF acknowledges the potential impacts of projected climate change, for example, desertification on achieving project objectives. The effects of climate change may also influence decisions on ASGM sites? We recommend that a detailed analysis of climate risk and management strategy should be presented for the project. | Refer to climate change-related risks included in the Environmental and Social Management Plan (ESMP) for the GOLD+ Nigeria project. | Annex I – Environmental and Social Management Plan |

| ***Comments from the United States*** | | |
|---|---|---|
| **Comments** | **Response from GOLD+ Nigeria** | |
| **US Comment on Nigeria child project**<br>• Within the Nigeria child project, the executing agency is also the Basel Convention Coordination Center for Africa Region. While they are at least based in Nigeria, we have similar concerns as above about their suitability for these issues, including if they have the contacts or substantive understanding of the ASGM sector to effectively manage the projects. We understand the EU is supporting an effort across Africa to build capacity in the small-scale mining sectors, especially of the geological survey agencies. This may be a more effective way to make progress on mercury in ASGM. | Review of the project execution agreement responds to the United States of America comment at PIF. The proposed institutional and execution arrangement involving national executing partners are explained in the CEO Endorsement Document. | CEO Endorsement document |
| US Comment<br>• Overall, for Program component 6, Global coordination, knowledge management and outreach, there seems to be a lack of focus on the private sector gold buyers and users. Large companies (refiners, jewelers, electronics) can benefit from GOLD+ data and other insights as they increase implementation of gold sourcing due diligence programs. If this program can better consider and be sensitive to ongoing private sector due diligence policies and programs, then the program's sustainability can be greatly amplified. Eventually, funding for these types of projects, and demand for responsible mercury free gold, will come from the downstream supply chain. | Incorporated in the private sector section of GOLD+ Nigeria project. | CEO Endorsement document |
| US Comment<br>• A related supply chain concern is that in our view, the current program potentially hides supply chain issues under the "lack of access to finance" heading. While they are related, lack of access to finance is not completely a supply chain question, and vice versa. Critical supply chain issues that should be considered include transparency, customs and trade, consumer demand (how do we mainstream responsible gold for the final consumer), responsible production, and coordination with company due diligence measures (OECD DDG). To couple these supply chain issues with another large issue like access to finance dilutes the importance of both of these barriers. | These aspects are considered under output 2.3 of the GOLD + Nigeria project. | CEO Endorsement document |
| ***Comments from the Minamata Secretariat*** | | |
| **Comment** | **Response from GOLD+ Nigeria** | |
| Minamata Secretariat Comment<br>• While this project clearly advances implementation of the Minamata Convention, the program description provides limited attention to the Convention requirements, and we are concerned that the various governmental and non-governmental partners going forward will therefore not gain sufficient understanding and advancement of their Convention obligations. We would like to ensure that the child projects clearly focus on Article 7 and Annex C requirements and finalization and implementation of NAPs. | Coordination between the implementation of adopted NAP Nigeria and the GOLD+ Nigeria project is expected as Nigeria Child project was designed based on the NAP Nigeria findings. | CEO Endorsement document |
| Minamata Secretariat Comment<br>• Gender - Is the gender distribution noted here a widely used metric when very specific community-based data is not available? Or is it simply a placeholder? We note that gender impacts will be more thoroughly evaluated in the child projects. It would also be useful to ensure good estimates of populations "directly" involved (working in ASGM) as well as impacted by ASGM. | Refer to the Gender Analysis and Action Plan of the GOLD+ Nigeria project. | Annex H – Gender Analysis and Action Plan |
| Minamata Secretariat Comment<br>• Component 1: all the participating countries will already be party to the Convention so not clear what the phrase about ratification refers to – we assume implementation of their MC obligations.<br>Regional cooperation was referred to earlier in challenges description and should be a more prominent part of the project, eg, enhancing ECOWAS or UEMOA actions. | Regional cooperation with other countries in the Africa regions will be explored. | CEO Endorsement document |
| Minamata Secretariat Comment<br>• Component 2: The activities on collaborating with local financial institutions should also involve linkages with the formalization efforts, such that formalization schemes and financial products are mutually reinforcing. | Interlinkages between formalization and mercury-free technologies and access to finance have been considered in the GOLD+ Nigeria.<br>Refer to component 2. | CEO Endorsement document |
| Minamata Secretariat Comment<br>• Component 3: In section on enhancing uptake of mercury-free technologies, we note that cyanide is appropriately listed as one of the technologies in the chart. However, no mention is made of the Convention's requirement that ASGM National Action Plans elaborate actions to eliminate "cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury." This requirement should be prominently featured such that any support for cyanide operations focuses on this critical need. | These actions have been considered under component 3 of the GOLD+ Nigeria project. | CEO Endorsement document |
| ***Comments from Germany*** | | |
| **Comment** | **Response** | |
| Germany Comment<br>• To include the international multi-stakeholder working group on Women and Mining (www.womenandmining.org) as a global knowledge-sharing partner on gender aspects of the proposal. | The GOLD+ Bolivia project has considered Women and Mining as one of the partners in its Stakeholder Engagement Plan and Gender Analysis and Action Plan for gender-related aspects. | Stakeholder Engagement section of the CEO document<br>Annex H – Gender Analysis and Action Plan |

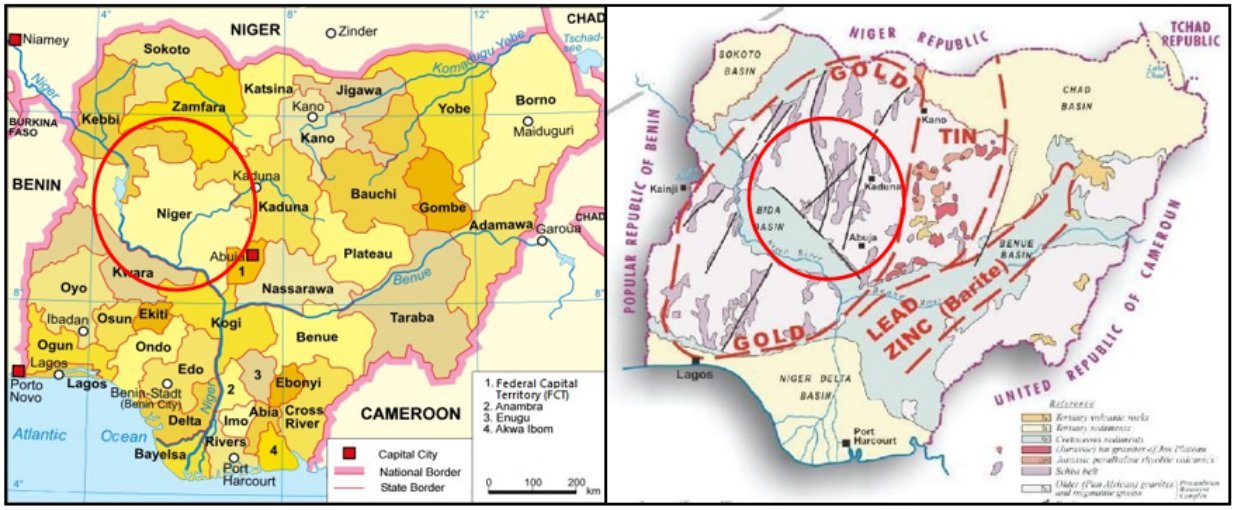
## ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

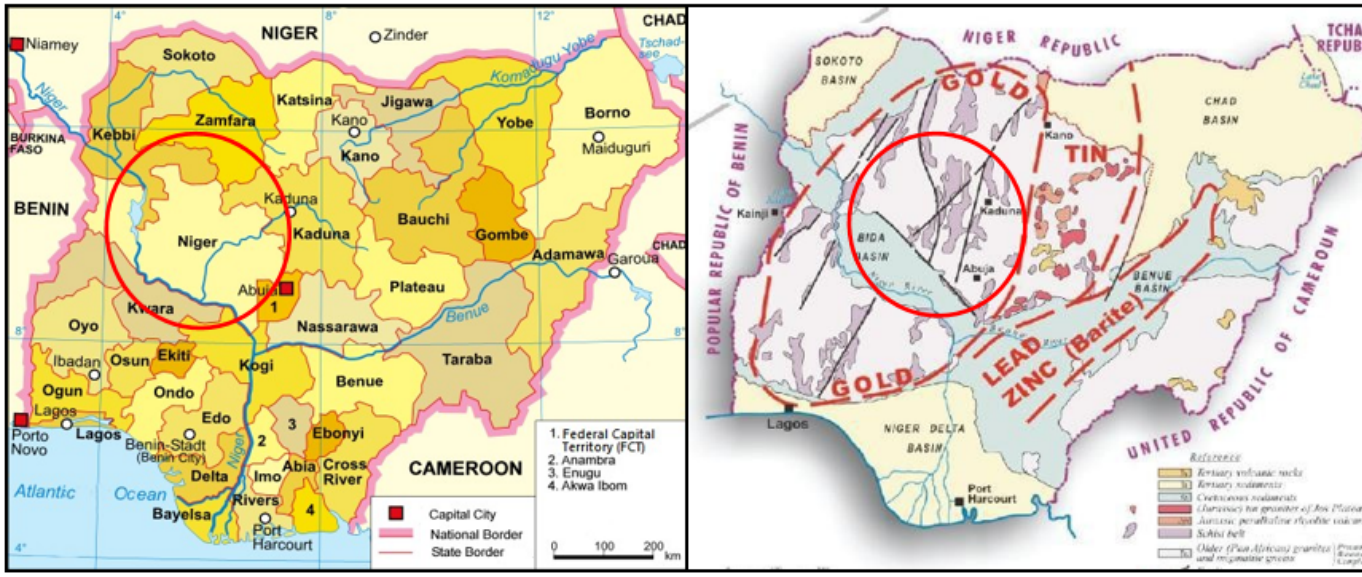
| Project preparation activities | Budgeted amount | Amount spent |
|---|---|---|
| Inception workshop | 10,000 | 12,067 |
| Stakeholders engagement activities | | 3,000 |
| Preparation of Stakeholders engagement Plan | | 3,000 |
| Baseline Data collection | 40,000 | 16,000 |
| Study on Financial Mechanisms | 15,000 | 15,000 |
| ESMP development | 10,000 | 12,000 |
| Gender assessment | 10,000 | 8,000 |
| Follow-up on co-financing commitments | 5,000 | 5,000 |
| PEE assessment | 15,000 | 3,000 |
| Validation workshop | 5,000 | 10,000 |
| TOR for execution preparation | | 3,000 |
| Development of project workplan and project document | 10,000 | 21,700 |
| Total | 120,000 | 111,767 |

As per the 2020 Guidelines on the Project and Programme Cycle Policy, the remaining PPG funds, i.e. USD 8,233, will be used on the eligible expenditure items under PPG as presented in Table 1, p. 10 within one year after the project has been CEO Endorsed. Thereafter, any unused PPG funds will be returned to the Trustee, for credit to the respective GEF Trust Fund.

## ANNEX D: Project Map(s) and Coordinates

## Please attach the geographical location of the project area, if possible.




| S/N | Proposed Project Locations | Geo-Coordinates |
|---|---|---|
| 1. | Niger State | N 10?00'0.00" E 06?00'0.00" |
| 2. | Kaduna State | N10?19'59.99? E 07?45'0.00" |
| 3. | Zamfara State | N12?10'0.01" E 06?15'0.00" |
| 4. | Kebbi State | N 11?30'0.00" E 04?00'0.00" |

Geo-reference of project locations

## ANNEX E: Project Budget Table

## Please attach a project budget table.

**A detailed budget break-down is attached as Annex E . Below table summarizes its content**

| Cost Categories | Detailed Description | Component (USD) | | | | | | | | Responsible Entity |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Component 1 | Total Component 2 | Total Component 3 | Total Component 4 | Sub-total | M&E | PMC | Total GEF | |
| Local consultants | Lead Mining / Mineral Processing Expert | 75,000 | 64,594 | 75,000.00 | 29,000 | 243,594 | 0 | 0 | 243,594 | MMSD FMEnv BCCC |
| | NPC - Monitoring Specialist (PMU) | 0 | 0 | 0.00 | 0 | 0 | 0 | 90,000 | 90,000 | FMEnv |
| | NTC - National Technical Coordinator (PMU) | 0 | 0 | 0.00 | 0 | 0 | 0 | 60,000 | 60,000 | FMEnv |
| | Gender Expert | 10,100 | 9,600 | 16,080.00 | 4,700 | 40,480 | 0 | 0 | 40,480 | MMSD FMEnv BCCC |
| | Communications Specialist | 17,000 | 9,000 | 37,452.00 | 12,300 | 75,752 | 0 | 0 | 75,752 | MMSD BCCC |
| | EIA/JA Expert | 58,100 | 2,000 | 4,000.00 | 0 | 64,100 | 0 | 0 | 64,100 | FMEnv |
| | Project Assistant | 0 | 0 | 0.00 | 0 | 0 | 0 | 30,000 | 30,000 | FMEnv |
| | Financial Expert | 1,595 | 9,500 | 11,518.00 | 0 | 22,613 | 0 | 0 | 22,613 | MMSD FMEnv |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | 0 | |
| | **Sub-total Local Consultants** | **161,795** | **94,694** | **144,050.00** | **46,000** | **446,539** | **0** | **180,000** | **626,539** | |
| International consultancy / Event Organization | Chief Technical Advisor | 103,000 | 57,050 | 58,140.00 | 39,000 | 257,190 | 0 | 0 | **257,190** | MMSD FMEnv BCCC |
| | Principal Technical Backstopper | 11,000 | 13,000 | 5,860.00 | 14,659 | 44,519 | 0 | 0 | **44,519** | MMSD FMEnv BCCC |
| | Senior Technical Backstopper | 5,000 | 4,000 | 0.00 | 1,886 | 10,886 | 0 | 0 | **10,886** | FMEnv BCCC |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | |
| | Mid-Term Review consultant | 0 | 0 | 0.00 | 0 | 0 | 40,000 | 0 | **40,000** | UNIDO |
| | Terminal Evaluation consultant | 0 | 0 | 0.00 | 0 | 0 | 50,000 | 0 | **50,000** | UNIDO |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | |
| | **Sub-total International Consultants** | **119,000** | **74,050** | **64,000.00** | **55,545** | **312,595** | **90,000** | **0** | **402,595** | |
| Contractual Services | Drafting ASGM policy document (1.1) MMSD | 24,460 | 0 | 0.00 | 0 | 24,460 | 0 | 0 | **24,460** | MMSD |
| | Applying formalization tool to mining cooperatives 1.2 | 61,665 | 0 | 0.00 | 0 | 61,665 | 0 | 0 | **61,665** | FMEnv |
| | Producing knowledge products on JA/SLA (1.2) | 19,555 | 0 | 0.00 | 0 | 19,555 | 0 | 0 | **19,555** | FMEnv |
| | Preparing socioeconomic baseline women ASGM | 10,000 | 0 | 0.00 | 0 | 10,000 | 0 | 0 | **10,000** | FMEnv |
| | Assessing financial mechanism(s) for ASGM (1.3) | 31,520 | 0 | 0.00 | 0 | 31,520 | 0 | 0 | **26,060** | MMSD |
| | Gravitational mercury free technology - equipment co-financing component (1.3) | 70,244 | 5,000 | 0.00 | 0 | 75,244 | 0 | 0 | **75,244** | FMEnv |
| | Designing initiatives to promote repsonsible gold supply chains (2.1) | 5,600 | 186,522 | 0.00 | 0 | 192,122 | 0 | 0 | **192,122** | MMSD |
| | Technology-assisted mineral supply chain due diligence developed and tested in target regions (2.2) | 0 | 476,275 | 0.00 | 0 | 476,275 | 0 | 0 | **476,275** | MMSD |
| | Local institutions strengthened to support mercury reduction (3) | 3,000 | 5,000 | 26,111.00 | 0 | 34,111 | 0 | 0 | **34,111** | BCCC |
| | Processing plant and training center for responsible use of cyanidation (3) - Training kits development | 0 | 0 | 67,428.00 | 41,700 | 109,128 | 0 | 0 | **109,128** | FMEnv |
| | Processing plant and training center for responsible use of cyanidation (3) -Cofinancing of cyanidation technology | 0 | 3,000 | 325,600.00 | 133,440 | 462,040 | 0 | 0 | **40,000** | MMSD BCCC |
| | Knowledge sharing and communication (4) | 20,000 | 0 | 0.00 | 33,564 | 53,564 | 0 | 0 | **50,000** | FMEnv |
| | **Sub-total Contractual Services – Company** | **246,044** | **675,797** | **419,139.00** | **208,704** | **1,549,684** | **0** | **0** | **1,480,304** | |
| Travel | International travel FMEnv | 16,450 | 0 | 2,000.00 | 0 | 18,450 | 0 | 0 | **18,450** | FMEnv |
| | Local travel FMEnv | 80,750 | 17,500 | 9,500.00 | 0 | 107,750 | 0 | 0 | **107,750** | MMSD FMEnv |
| | International travel MMSD | 2,500 | 22,000 | 2,875.00 | 4,460 | 28,335 | 0 | 0 | **28,335** | MMSD |
| | Local travel MMSD | 42,050 | 34,000 | 16,125.00 | 4,000 | 97,550 | 0 | 0 | **97,550** | MMSD |
| | International Travel BCRCCA | 0 | 0 | 20,000.00 | 23,310 | 47,435 | 0 | 0 | **47,435** | MMSD BCCC |
| | Local travel BCRCCA | 0 | 0 | 16,000.00 | 11,230 | 27,230 | 0 | 0 | **27,230** | MMSD BCCC |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | BCCC |
| | **Sub-total Travel** | **141,750** | **73,500** | **66,500.00** | **43,000** | **326,750** | **0** | **0** | **326,750** | |
| Office Supplies | Office supplies | 0 | 0 | 0.00 | 0 | 0 | 0 | 3,333 | **3,333** | FMEnv |
| | | 0 | 0 | 0.00 | 0 | 0 | 0 | 0 | **0** | |
| | **Sub-total Office supplies** | **0** | **0** | **0.00** | **0** | **0** | **0** | **3,333** | **3,333** | |
| Training/workshop/ Web portal related/meeting | Meetings PSC | 17,000 | 0 | 0.00 | 0 | 17,000 | 0 | 0 | **17,000** | FMEnv |
| | Capacity building for public sector officials (1.1) | 98,000 | 0 | 0.00 | 0 | 98,000 | 0 | 0 | **98,000** | MMSD |
| | Capacity building for ASGM cooperatives (1.2) | 81,500 | 0 | 0.00 | 0 | 81,500 | 0 | 0 | **81,500** | FMEnv |
| | Capacity building for women miners (1.2) | 40,155 | 0 | 0.00 | 0 | 40,155 | 0 | 0 | **40,155** | FMEnv |
| | Capacity building for public sector officials (1.3) | 72,256 | 0 | 0.00 | 0 | 72,256 | 0 | 0 | **72,256** | FMEnv |
| | Capacity building for financial entities (1.3) | 72,500 | 0 | 0.00 | 0 | 72,500 | 0 | 0 | **72,500** | MMSD |
| | Capacity building for miners (2.2) | 0 | 107,600 | 0.00 | 0 | 107,600 | 0 | 0 | **107,600** | MMSD |
| | Capacity building for women miners (2.2) | 0 | 74,359 | 0.00 | 0 | 74,359 | 0 | 0 | **74,359** | MMSD |
| | Local institutions strengthened to support mercury reduction (3) | 0 | 0 | 107,813.00 | 0 | 107,813 | 0 | 0 | **107,813** | FMEnv BCCC |
| | Processing plant and training center for responsible use of cyanidation (3) - Training | 0 | 0 | 153,165.00 | 33,360 | 186,525 | 0 | 0 | **186,525** | MMSD |
| | Knowledge sharing and communication (4 - FMEnv) | 0 | 0 | 0.00 | 25,541 | 25,541 | 0 | 0 | **0** | FMEnv |
| | Events on responsible ASGM (4 - MMSD) | 0 | 0 | 0.00 | 31,500 | 31,500 | 0 | 0 | **0** | MMSD |
| | Capacity building on leadership (4- BRCCA)) | 0 | 0 | 0.00 | 26,350 | 26,350 | 0 | 0 | **0** | BCCC |
| | **Sub-total Training/workshop/meeting** | **381,411** | **181,959** | **260,978.00** | **116,751** | **941,099** | **0** | **0** | **0** | |
| | **TOTAL YEARS 1-5** | **1,050,000** | **1,100,000** | **956,667.00** | **470,000** | **3,576,667** | **90,000** | **183,333** | **3,850,000** | |

**ANNEX F: (For NGI only) Termsheet**

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

not applicable.

**ANNEX G: (For NGI only) Reflows**

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

not applicable.

**ANNEX H: (For NGI only) Agency Capacity to generate reflows**

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).

not applicable.