## 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**
**10846**

**Project Type**
FSP

**Type of Trust Fund**
GET

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

**Project Title**
GEF GOLD+ Mali: Enhancing the formalization and mercury reduction in the artisanal and small-scale gold mining in Mali

**Countries**
Mali

**Agency(ies)**
UNIDO, CI

**Other Executing Partner(s)**
Ministry of Environment, Sanitation and Sustainable Development (MEADD)- through the Agency for Environment and Sustainable Development (AEDD)

**Executing Partner Type**
Government

**GEF Focal Area**
Chemicals and Waste

**Sector**
Mixed & Others

**Taxonomy**
Focal Areas, Stakeholders, Gender Equality, Integrated Programs, Capacity, Knowledge and Research

**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**
9/16/2022

**Expected Implementation Start**
1/1/2024

**Expected Completion Date**
12/31/2029

**Duration**
60In Months

**Agency Fee($)**
463,501.00

**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 | 5,150,000.00 | 31,651,256.20 |
| | | **Total Project Cost($)** | **5,150,000.00** | **31,651,256.20** |

**B. Project description summary**

## Project Objective

To reduce the use of mercury in the ASGM sector in Mali 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($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 1. Enhancing formalization in the ASGM sector | Technical Assistance | Increased formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization | 1.1. Government ministries, municipalities and community leaders linked to the ASGM sector have improved capacities to promote policies, programmes, regulations, and actions aimed at a greater formalization of the sector<br><br>-<br><br>1.2. Actors in the ASGM sector both at national and local levels as well as and cooperatives strengthened to promote formalization processes in the sector and related activities<br><br>1.3. Jurisdictional Approach (JA) and multi-stakeholder approach piloted at selected ASGM area | GET | 1,450,000.00 | 8,660,566.00 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| | | | 1.4. Women capacities to participate in the project and other ASGM related development activities are strengthened and a public policy agenda is generated towards formalization, gender equality and women empowerment | | | |

| 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 finance options through the attainment of better gold prices facilitated by transparent and responsible supply chains | 2.1. National financial institutions and micro finance institutions strengthened to increase support to ASGM, and ASGM related financial mechanism implemented<br><br>-<br><br>2.2. Individuals and institutional capacities of ASGM actors improved in areas of overall management, sustainable agriculture, entrepreneurship, and financial education<br><br>-<br><br>2.3. Efficiency, control and monitoring of gold commercialization processes increased to build transparent, traceable, and responsible gold supply chains | GET | 1,475,000.00 | 9,523,809.50 |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 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. ASGM miners are supported to acquire and implement technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery | GET | 1,400,000.00 | 8,540,000.00 |
| | | | 3.2. ASGM productive actors? awareness on supply of mercury-free equipment increased and linkages with technology providers created | | | |
| | | | 3.3. Academic centers, universities and institutes strengthened to include responsible gold production as part of the training curricula | | | |

| 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. Inter-institutional mechanisms and platforms where different stakeholders exchange, disseminate and share information related to ASGM in Mali established. | GET | 479,762.00 | 2,969,678.00 |
| | | | 4.2. Information, knowledge, and lessons learned on key ASGM topics generated and disseminated at the national and international levels | | | |
| | | | 4.3. Women?s capacities in leadership are strengthened and regional exchanges among women<br><br>miners in the pilot sites are promoted to increase visibility of gender in ASGM | | | |

| Project Component | Financing Type | Expected Outcomes | Expected Outputs | Trust Fund | GEF Project Financing($) | Confirmed Co-Financing($) |
|---|---|---|---|---|---|---|
| 5. Monitoring and Evaluation | Technical Assistance | Effective and efficient implementation of the project based on GEF and UNIDO requirements | 5.1. The Project and its activities are monitored on a periodic basis in line with GEF, UNIDO and Government requirements | GET | 100,000.00 | 450,000.00 |
| | | | 5.2. Mid-term review conducted | | | |
| | | | 5.3. Terminal project evaluation conducted | | | |
| | | | **Sub Total ($)** | | **4,904,762.00** | **30,144,053.50** |

**Project Management Cost (PMC)**

| | | |
|---|---|---|
| GET | 245,238.00 | 1,507,202.70 |
| **Sub Total($)** | **245,238.00** | **1,507,202.70** |
| **Total Project Cost($)** | **5,150,000.00** | **31,651,256.20** |

**Please provide justification**

**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($) |
|---|---|---|---|---|
| Recipient Country Government | Ministry of Mines, Energy and Water | In-kind | Recurrent expenditures | 11,500,000.00 |
| Civil Society Organization | National Federation of Gold Pans of Mali (FENOM) | In-kind | Recurrent expenditures | 500,000.00 |
| Civil Society Organization | Union of Gold Counters and Refineries of Mali (UCROM) | In-kind | Recurrent expenditures | 1,000,000.00 |
| Civil Society Organization | Chambre des Mines du Mali (CMM) | In-kind | Recurrent expenditures | 500,000.00 |
| Private Sector | Barrick Gold | Grant | Investment mobilized | 10,000,000.00 |
| Private Sector | Kankou Moussa Refinery (KMR) | Grant | Investment mobilized | 1,000,000.00 |
| Private Sector | Marena Gold Refinery | Grant | Investment mobilized | 1,000,000.00 |
| GEF Agency | UNIDO | Grant | Investment mobilized | 101,256.20 |
| GEF Agency | UNIDO | In-kind | Recurrent expenditures | 50,000.00 |
| Recipient Country Government | Ministry of Environment, Sanitation and Sustainable Development | In-kind | Recurrent expenditures | 5,000,000.00 |
| Private Sector | Barick Gold | In-kind | Recurrent expenditures | 1,000,000.00 |
| | | | **Total Co-Financing($)** | **31,651,256.20** |

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

During the project preparatory phase, key national stakeholders and programs with relevance to the ASGM sector were identified. Bilateral consultations were undertaken to present the project, its objectives and planned activities and outputs. The ASGM-related activities and roles of these stakeholders and programs were discussed in detail to gain a full understanding of their operations, identify synergies and avoid overlaps. During these bilateral meetings, co-financing opportunities were also discussed and, where possible, pledges for co-financing were obtained. Project operations for which these co-financing pledges were earmarked were also identified. Therefore, co-financing investment pledges have been mobilized under all the project components. The Government ministries (environment and the mines) have both pledged a combined total of USD15,000,000 of public investment and in-kind contributions to support the development of the national ASGM sector. These ministries will host the project Secretariat, support the development of the national enabling frameworks to facilitate the implementation of the project including leading the national formalization of the ASGM sector and piloting jurisdictional approaches in the selected pilot sites. The Ministries will also provide overall support to the project activities to ensure its implementation success. Barrick Gold has confirmed interest to provide co-financing by handing over some of its LSM concessions to the ASGM sector. Barrick will hand over 5000 hectres of land. Barrick Gold is also willing to integrate structured gold panning into Barrick's Community Development Program and support the ASGM sector. The co-financing amount is determined at USD11,000,000. This amount includes USD10,000,000, which is the value of the concession land, its improvements and the cash amount of USD1,000,000 pledged through the Barrick's Community Development Program to support the ASGM sector. Other private sector entities such as Kankou Moussa Refinery (KMR), Morena Gold Refinery, Union of Gold Counters and Refineries of Mali (UCROM), Marena Gold Refinery, and National Federation of Gold Pans of Mali (FENOM) will provide internal capital investments in order to support the transitioning to cleaner, cost effective and more efficient processing technologies contributing to the overall objective of the project. The total combined pledge is USD 3,500,000. Furthermore, to ensure scale up of the project, national CSOs, cooperatives, NGOs and other local actors will be involved and will contribute to the project results with their ongoing and planned initiatives according to their specific expertise of relevance. For example, the Chambre des Mines du Mali (CMM) will utilize its skills and knowledge to support the identification and deployment of mercury-free technologies. UNIDO will contribute USD151,256.20 grant as co-financing towards the monitoring and evaluation component.

**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($) |
|---|---|---|---|---|---|---|---|
| UNIDO | GET | Mali | Chemicals and Waste | Mercury | 5,150,000 | 463,501 | 5,613,501.00 |
| | | | **Total Grant Resources($)** | | **5,150,000.00** | **463,501.00** | **5,613,501.00** |

**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 ($)**

150,000

**PPG Agency Fee ($)**

13,500

| Agency | Trust Fund | Country | Focal Area | Programming of Funds | Amount($) | Fee($) | Total($) |
|---|---|---|---|---|---|---|---|
| UNIDO | GET | Mali | Chemicals and Waste | Mercury | 90,983 | 8,188 | **99,171.00** |
| CI | GET | Mali | Chemicals and Waste | Mercury | 59,017 | 5,312 | **64,329.00** |
| | | | | **Total Project Costs($)** | **150,000.00** | **13,500.00** | **163,500.00** |

## 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 | 7000.00 | 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) |
|---|---|---|---|

**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) |
|---|---|---|---|
| | 7,000.00 | | |

**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 | 128400 | 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) | | 128,400 | | |
| Expected metric tons of CO?e (indirect) | | | | |
| Anticipated start year of accounting | | | | |
| Duration of accounting | | | | |

**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 | 30.08 | 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) |
|---|---|---|---|
| 30.08 | | | |

**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** | | 6,080 | | |
| **Male** | | 5,520 | | |
| **Total** | 0 | 11600 | 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

(*) An estimated reduction of 30.08 tons of mercury is expected at the end of the project. However, 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. More detailed justification for the GEBs estimation is provided under section 1.a.6. Global Environmental Benefits.

## Part II. Project Justification

### 1a. Project Description

**Describe any changes in alignment with the project design with the original PIF**

The co-financing identified at the concept stage has increased to USD$31,651,256.20 from USD$20,339,570 at the CEO Endorsement stage. Several consultation meetings were held bilaterally to explain the project objectives, activities, and expected outputs/outcomes. The role of the stakeholders was also clarified. This focused consultation has contributed to the buy-in from stakeholders.

Significantly, at the CEO Endorsement stage, Barrick Gold Mali has released a significant piece of land previously under their concession to the Ministry of Mines, Energy and Water. The released land located in Kenieba between Djidjan (village) and Sansamba (village) with surface size of about 20 km2 will be used for the ASGM purposes under the project. The land has all the geological maps, which makes it ideal for piloting SLA/JA approaches. Further, additional sites have been identified with the related co-benefits calculated at the CEO endorsement stage to be at least 7,000 hectares for the project.

At the concept stage, the global environmental benefits (GEBs) identified were mercury reduction and direct beneficiaries. During the project preparatory phase, two additional co-benefit, namely area of landscape under improved practices and climate change and greenhouse gases mitigated, were identified and quantified. The rationale behind the estimations of the direct GEBs and co-benefits can be found in section 1.a.6.

1a. Project Description

**1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description)**

1. Due to its relatively easy access and its stable nature, gold can be mined without the use of advanced tools. When individual miners with limited capital investment undertake mining using hand-held, manual tools and rudimentary processing technics with minimal mechanisation, the practice is referred to as artisanal mining. Some artisanal miners do manage to acquire some basic mechanisation although there remain key bottlenecks in the process, which cause the overall production rate to be comparable to work that has been carried out in artisanal ways. These are the small-scale miners. Together, this type of mining, in gold, is referred to as artisanal and small-scale gold mining, ASGM for short.

2. Due to its stable and indestructible nature, all the gold that has ever been mined since the start of civilisation is still available today as *above ground* stocks of gold totalling around 200,000 metric tons

to date[1][1]. Its rudimentary nature notwithstanding, ASGM accounts for around one-fifth of global above-ground (mined) gold[2][2]

3. Since ASGM is carried out using basic hand-held tools and the worker intensity (people per unit of production) is so high, the total number of workers involved in producing ASGM gold is relatively high at around 12 ? 15 million people globally, of whom around 4.5 million (30 ? 38%) are women and children.

4. A common feature of the bulk of ASGM process flows is the use of mercury to amalgamate the gold from the concentrate ore for subsequent recovery by burning off the mercury to leave gold of tradeable purity referred to as *dor?* gold.

5. The use of mercury as outlined above presents two risk points of emission to the environment, namely: risk of emissions to soil and water and to air as follows:

a) *Emission to soil and water*: in older processes the step of amalgamation starts during the grinding process where mercury is added to the mill in larger quantity so that it works through the entire batch of ore amalgamating any traces of gold there. This is the process known as *whole ore amalgamation (WOA)*. In WOA, a lot of mercury is used relative to the amount of product to be produced and the mercury easily finds itself in both the run-off water and the solid materials (soil and stones, together called the *tailings*) arising after separation of the gold from the ore. In newer processes, mercury is only added after the milling stage to the part of the ore from which much sterile soil and stones have been removed, leaving behind a concentrated ore (*concentrate*). In this process, much less mercury is used per unit of product, and much less still is lost as emissions into the tailings. By far the largest share of process types encountered in Mali are the types where only the concentrate is amalgamated. As a result the ratio between mercury and gold product is less than 1.5 : 1

b) *Emission to air*: after the gold has been amalgamated and selected out of the concentrate by the hands of gold panners, it is then roasted (a coarse purification step) to expel the impurities (unwanted materials, including the mercury that had been added for amalgamation) leaving behind the dor? gold. At this stage, the gold is recovered a few grams at a time and not in a standard shape but is still pure enough to be sold. If the burning is done without condensation equipment (commonly a *retort*) then the burned off mercury simply goes into free air.

6. In fact, a UNEP (2018) global mercury assessment estimated that ASGM contributes the largest amount (38%) to global mercury emissions into the environment.[3][3]

7. The National Mercury Inventory of the Minamata Initial Assessment for Mali (MIA: 2018) found total mercury emissions from gold at 264.3 tons per annum, out of which 4.3 tons per annum are

from ASGM mercury amalgamation without using a retort. The total emissions from all anthropogenic activities in Mali calculated to 277.9 tons per annum.

8. The National Action Plan for the ASGM sector in Mali (NAP: 2020) found that the ASGM sector in Mali consumes 33 tons of mercury per annum.[4][4]

9. The results of the MIA 2018 and the NAP 2020 imply that there is a fugitive emission ratio of 13% (4.3 tpa emitted to environment out of 33 tpa used). This figure is necessarily expected to be less accurate because it is derived from two estimates. However, what it communicates without doubt is that there is a significant problem of unaccounted for loss of mercury into the environment from the ASGM sector in Mali.

10. Mercury is highly toxic. Upon reaching the aquatic environment, inorganic mercury can be transformed by bacteria and plankton to an organic form, methylmercury, that enters trophic chains, resulting through bioaccumulation and biomagnification processes, into significant negative impacts on biodiversity and ecosystem functions. Mercury has serious detrimental impacts on human health.

11. Mercury is considered by WHO as one of the top ten chemicals or groups of chemicals of major public health concern.[5][5] The WHO state on their Mercury & Health Advisory website:[6][6]

> *Elemental and methylmercury are toxic to the central and peripheral nervous systems. The inhalation of mercury vapour can produce harmful effects on the nervous, digestive and immune systems, lungs and kidneys, and may be fatal. The inorganic salts of mercury are corrosive to the skin, eyes and gastrointestinal tract, and may induce kidney toxicity if ingested.*
>
> *Neurological and behavioural disorders may be observed after inhalation, ingestion or dermal exposure of different mercury compounds. Symptoms include tremors, insomnia, memory loss, neuromuscular effects, headaches and cognitive and motor dysfunction. Mild, subclinical signs of central nervous system toxicity can be seen in workers exposed to an elemental mercury level in the air of 20 ?g/m3 or more for several years. Kidney effects have been reported, ranging from increased protein in the urine to kidney failure.*

12. For its part, the Minamata Convention on Mercury summarises the pathways of mercury into the human body ? as well as the health risks to the human body ? in the following schematic. It shows that ASGM is just one of many components in the overall problem of mercury emissions. However, with its significance to the Malian economy as well as its prospects for significant increase in the near term, ASGM is a very important factor to the problem of mercury emissions and their impact on human health ? particularly on neurological damage in human beings ? in Mali.

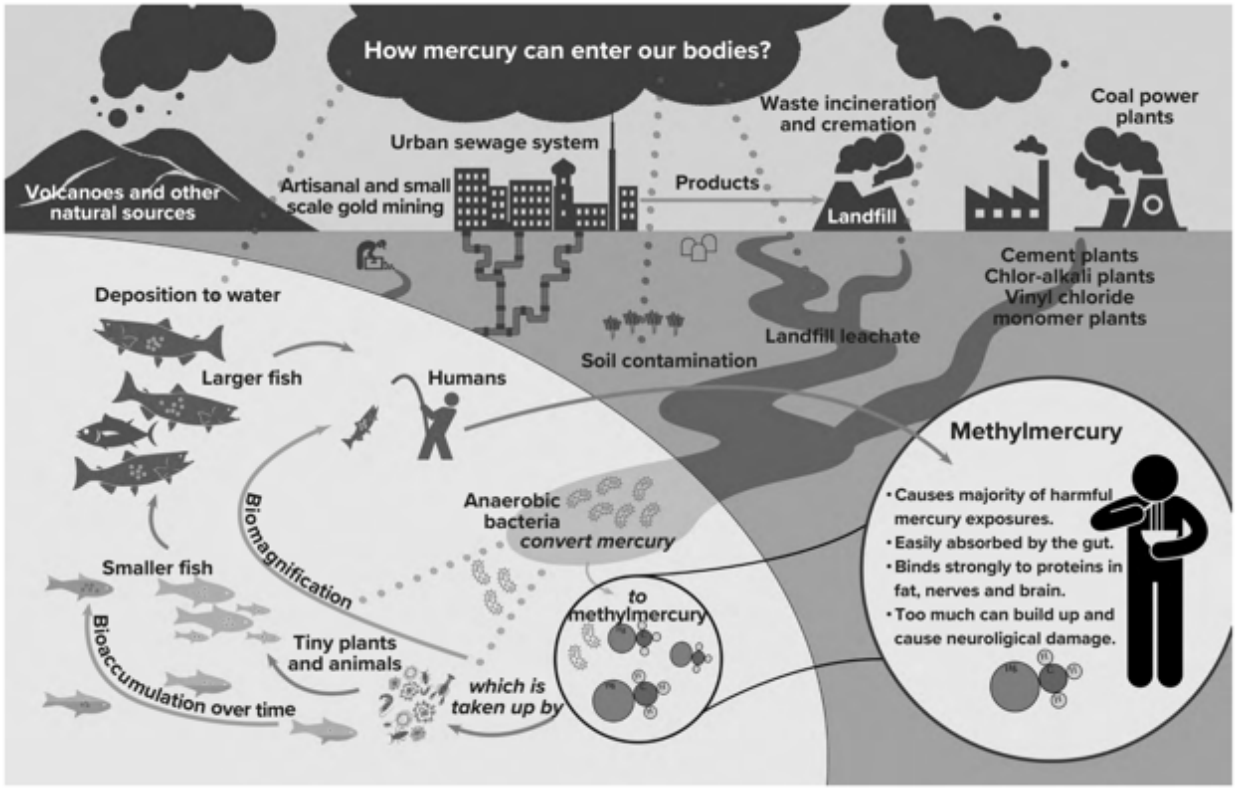



**Figure 1.1.1**: Sources and Exposure Pathway of Mercury. Source: UN Environment/Minamata Convention on Mercury (2019), Guidance on the Management of Contaminated Sites, Secretariat of the Minamata Convention.

13. The neighbouring Burkina Faso has undertaken several initiatives to improve their ASGM activities including replacing the undesirable practice of widespread use of mercury with cyanidation. The ASGM sector in Mali has benefitted from Burkina Faso?s best practices by experience sharing and technology transfer across the border, albeit all through informal routes.

## 1.1 Main Environmental Problems

14. Overall, it must be noted that the ASGM sector in Mali remains an informal activity, therefore there are no incentives for environmental and social protection. Some efforts are being made at formalisation but as yet, there is no success to record in that regard.

15. Furthermore, there is no financial mechanism, trust fund or other financial provision in place to encourage artisanal miners to use mercury-free technologies. As such, mercury use is widespread and the environmental health impacts of mercury are a significant part of this project?s ESMP.

16. Although the use of mercury in gold panning is prohibited by Article 50 of the Mining Code of Mali, the country NAP records that around 33tons/annum of mercury is smuggled in and used in the

country?s ASGM sector. As such, all mercury use in the ASGM sector in Mali is completely uncontrolled.

17. It must be noted that although only 33 tons of mercury is inventoried in the ASGM sector in Mali, there is high uncertainty on this figure as being reflective of the entire country. This is because this amount is counted only for the gold mining sites located in the south of the country. Since 2010, gold panning has been practiced in many areas of the north of the country, which are plagued by war and occupation by violent extremist groups. In these areas, organised research is not possible. As such, it remains unclear whether indeed only 33 tons of mercury is used in the Mali ASGM sector annually. The NAP figure is based on estimates of uncontrolled outlawed imports while there remains a full black-out on any figures from the north of the country.

18. The main environmental problems in the ASGM sector in Mali can be summarised into three categories based on their causative sources as follows:

a) TYPE A: Those that arise directly due to activities exclusive to and within the ASGM sector,

b) TYPE B: Those that arise more or less in equal measure from the ASGM sector as from other anthropogenic activities such as agriculture,

c) TYPE C: Those that arise from outside the ASGM sector but whose impact on the environment is made worse by activities within the ASGM sector,

19. The distinctions/categorisations of 18 (a), (b) and (c) are important because they help with prioritisation of mitigation actions in the Environmental and Social Management Plan (ESMP).

20. Table 1.1.1 summarises the main environmental problems in ASGM industry in Mali. Their broad descriptions follow immediately after. Full details are presented in the ESMP.

| Line | Environmental Problem | Type | Spatial Extent |
|---|---|---|---|
| 1 | Deforestation | B | Every ASGM site |
| 2 | Soil erosion | B | Every ASGM site |
| 3 | Soil degradation | B | Most ASGM sites |
| 4 | Water contamination | C | All panning sites, most dredging operations |
| 5 | Destruction of marine (river) h?bitats by Deep-river dredging | A | All small scale-dredging operations |
| 6 | Ecosystem disturbance (flora and fauna loss) | B | All ASGM sites |

| | | | |
|---|---|---|---|
| 7 | Open-air burning leading to smoke pollution and uPOPs from ASGM mine sites | A | All ASGM sites, especially the larger ones |

**Table 1.1.1**: Main environmental problems in ASGM in Mali

21. *Deforestation*: Practically all ASGM sites have required the cutting of vegetative cover for access roads as well as for excavation works following the mineralisation veins of gold ore.

22. *Soil erosion*: Practically all ASGM sites feature winding heaps of loosened and exposed top soil which, especially but not just in the dry seasons, get blown away continually. Furthermore, practically all access roads are exposed loose gravel surfaces from where soils continue to blow away. Any rain adds to the erosion with the run-off water.

23. *Soil degradation*: As sub-surface soil is exposed, the biological processes that replenish soil vitality are largely terminated. Furthermore, the chemicals ? in this case both mercury and cyanide ? that spill or leak to soil and/or water are terminally poisonous to soil organisms which reduces the vitality of soil, changing both its biological and physical structures.

24. *Water contamination*: This results not just from overburdening with soil particles but also loading with chemical spills, chemical run-off, sewage and solid waste.

25. *Destruction of marine habitats*: In Mali, dredging is used for gold mining in rivers. Dredging causes enormous damage to the environment and contributes directly to the degradation of waterways. The dredger digs deeply into the river bed. This leads to geomorphological changes of the shoreline and causes physical destruction of habitats of several species of living things. Some species adapt but most disappear.

26. Two types of dredging technologies operate in the rivers of Mali. These are the suction dredger and the bucket dredger. The suction dredge is a floating machine equipped with a suction pump and one or two motors. It is manufactured in Mali. The bucket dredge is imported from Asia, and digs and dumps an average of 75 tons of gravel and boulders into the water in a single round in a maximum of 20 minutes. It causes mounds and islands in the river bed and thus accelerates silting. These machines spread chemical products such as motor oil, diesel, gasoline etc... These toxic elements change the chemical loading of the water environment and make it unfit for consumption. This introduction of chemical elements into the ecosystem leads to, among other things, an imbalance in the aquatic fauna and flora, and the slowing down or stopping of reproduction in certain species. Also, once the water is polluted by chemicals, it leads to the disappearance of phytoplankton, oxygen suppliers of the river and base of the food chain. Reduction of phytoplankton leads directly to the non-proliferation of zooplankton. Some dredge users in Mali have been reported to also use mercury in their gold recovery activities. Arguably, some of that mercury ends up in the water.

27. Figure 1.1.2 is a map of Mali showing its neighbouring countries and location coordinates. Figure 1.1.3 is a map of Mali showing all the administrative regions of the country. Figure 1.1.4 is a map of South West Mali focusing on the location of the ASGM sites of interest.


**Figure 1.1.2**. Coordinate Map of Mali showing near neighbours. Source: https://www.mapsofworld.com/lat_long/mali-lat-long.html (02/2022), insert source: https://www.dol.gov/agencies/ilab/resources/reports/child-labor/mali (02/2022)

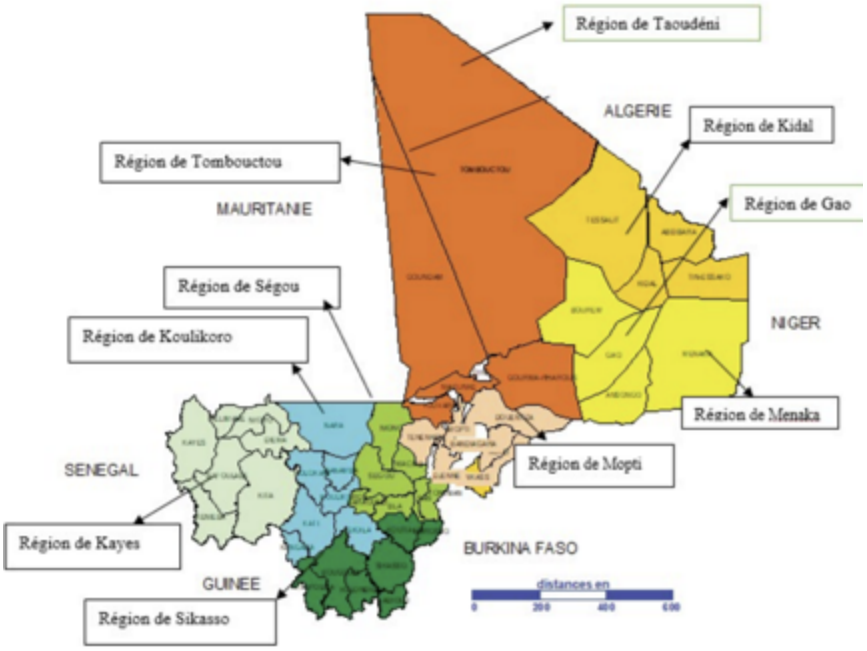



***Figure 1.1.3**. Administrative Regions of Mali. Source: Minamata Initial Assessment 2018 quoting Ministry of Territorial Administration.*

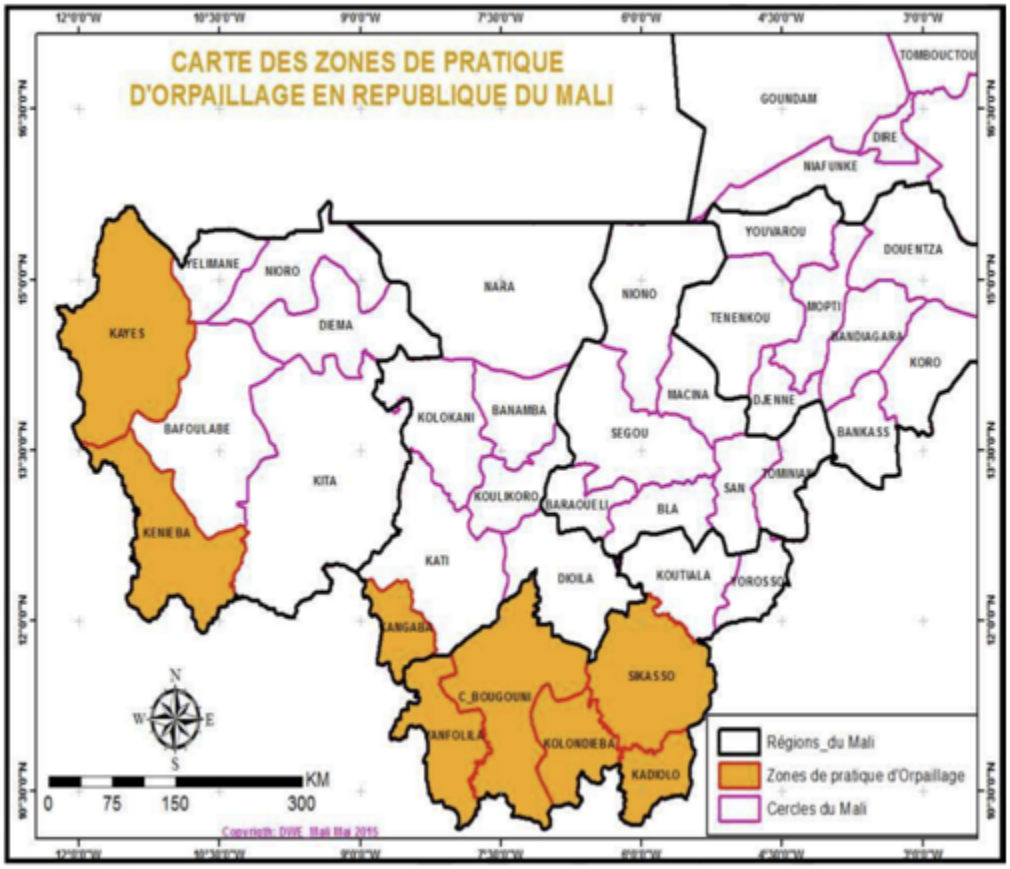


***Figure 1.1.4**. South West Mali ? the Gold Panning Regions . Source: Mali NAP 2020 quoting Ministry of Mines, Energy and Water*

## 1.2 Root Causes

28. The project problem tree shows six distinct root causes, which are sustaining the continued use of mercury in the ASGM sector in Mali and that are leading to suppressed real incomes for individual workers in this sector. Table 1.2.1 summarises.

| Line | Problem | Impact | Detail |
|---|---|---|---|
| 1 | Low literacy | High | 60.4% total population have no formal education |
| 2 | Distorted governance in the mining system | High | No data at all for some regions of the country.<br>Mercury forbidden by decree but 33 ton per annum used |
| 3 | Informal and non-transparent gold value chain | Medium | Mercury traded at 33 ton per annum without any formal audit trails |
| 4 | Lack of incentives for wider uptake of mercury-free technologies | Medium | Cyanidation present but penetration low |
| 5 | Lack of access to finance | High | Financial inclusion in Mali (13%) significantly lower than SSA (29%) and Low Income Country (22%) averages |
| 6 | Lack of access to high quality geological data | High | Trial and error mining patterns in ASGM |

**Table 1.2.1**: Root Causes of continued use of mercury, environmental damage and suppressed worker incomes in the ASGM sector in Mali

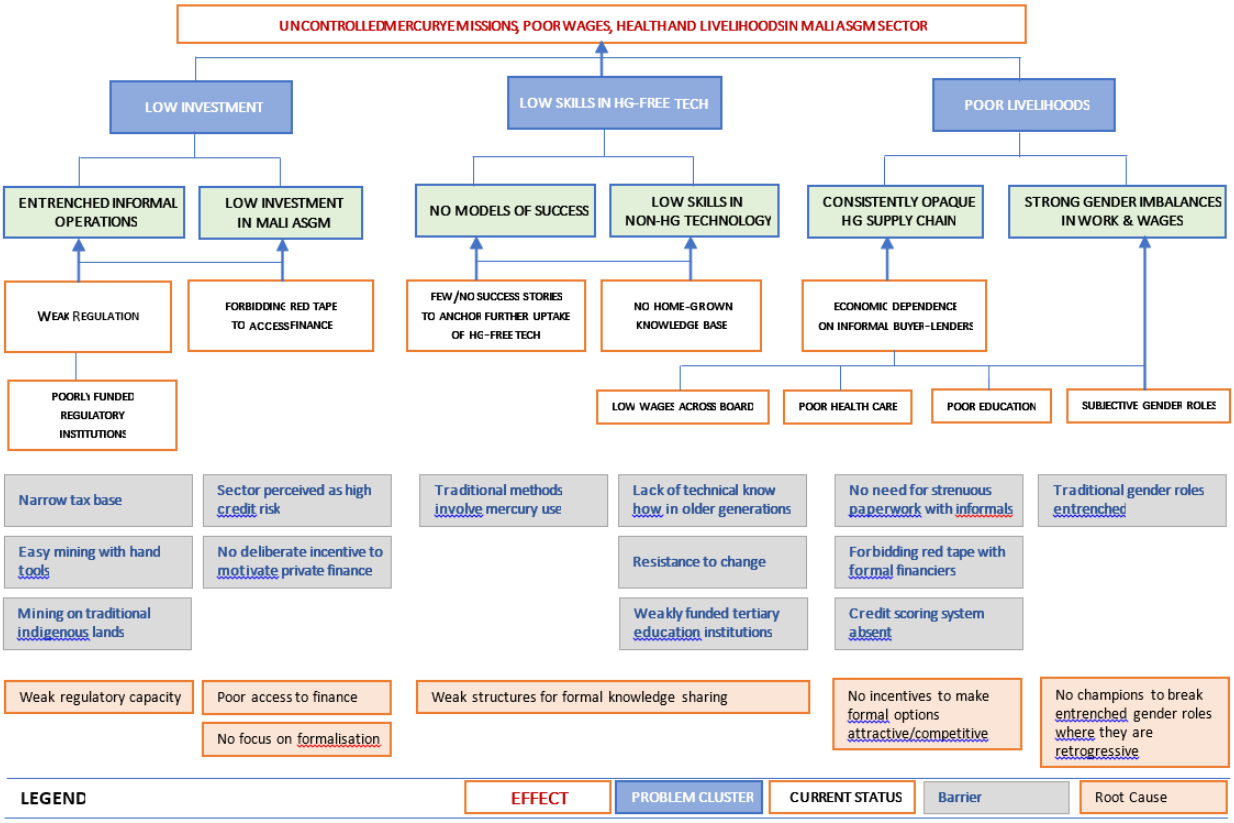



**Figure 1.2.1**: Problem Tree for Mali Gold+

The five (5) root causes are presented in more detail below:

? ***Low Literacy***

29. Table 1.2.2 presents the level of education of the Malian population above the age of 7 years taken for the year 2017. It shows that more than 1 person out of every 2 Malian persons has no formal education at all.

| Level | Females | Males | Aggregate |
|---|---|---|---|
| **None** | 65.4 | 55.2 | 60.4 |
| **Lower Primary** | 23.1 | 27.2 | 25.1 |
| **Upper Primary** | 9.2 | 12.3 | 10.8 |
| **Secondary** | 1.8 | 3.4 | 2.6 |
| **Tertiary** | 0.5 | 1.9 | 1.2 |
| **Totals** | 100 | 100 | 100 |
| **Population** | 7,038,185 | 6,807,876 | 13,846,061 |

**Table 1.2.2**: Education levels in Mali by 2017. Translated from Kekobed Anne Sogoba / FEMIMA (2022) quoting INSTAT, EMOP (2017)

30. The low levels of literacy impact negatively on all sectors of the Malian economy but for the specific case of the ASGM sector, low literacy inhibits the ability of workers to assert their rights, to articulate their ideas and to be involved in active knowledge transfer with the world beyond their most familiar environments. This situation slows down the wide uptake of new technologies.

31. Low literacy inhibits the ability of workers to participate in governance beyond the most rudimentary forms of democratic participation.

32. Low literacy encourages financial exclusion.

? ***Distorted governance in the mining system***

33. All documentary assets leading up to the Mali Gold+ project, including the NAP are based on data for only the southern parts of the country ? largely in Kayes, Koulikoro and Sikasso regions ? where peace prevails, and primary research may be conducted. The north-eastern parts of the country where militant rebel activity is prevalent are excluded for lack of data (although it is known that ASGM activities are present). The governance of mining ? including ASGM ? activities in the northeast of the country is largely unknown.

34. *Article 50 of the Mining Code of Mali* prohibits the importation and the handling of mercury in Mali. Nonetheless, some 33 metric tons per annum of mercury are imported into the country via illicit means and are used to produce some 26 tons per annum of gold, making a significant contribution to the Gross National Product of Mali. The ASGM sector in Mali has been found to employ some 512,605

people. This situation is a travesty because such a significant part of the national economy is known to be sustained by an illegal activity ? the inward trafficking of mercury[7][7].

35. At the level of gender, women?s participation in decision making is disproportionately low[8][8]. In fact, the Institute for Security Studies (ISS)[9][9], takes the gender issue on ASGM sites as a major security concern and states as follows:

> Due to their economic precarity, women build resilience strategies that include licit (water trading and catering) and illicit activities. In Mali, some women are active traders of prohibited drugs like tramadol, diazepam and rivotril, which gold miners widely use. This market maintains cross-border trafficking networks and contributes to the development of criminal economies.
>
> Some women are also involved in prostitution, and others are trafficked.
>
> This lucrative trans-border human trafficking is fed locally by three interlinked factors. First, the constant demand from male miners for sex workers has intensified with the increasing opening of mining sites. Secondly, there?s a local magico-religious belief claiming that ?sexual intercourse prior to gold digging increases chances of finding gold.? Third, research conducted by ISS shows that this illicit market is embedded in a redistributive corruption system that involves officials and community authorities.
>
> Senegal and Mali must urgently implement a policy of positive discrimination to facilitate women?s access to mining land to help reduce their economic vulnerability and encourage their **formalisation** and involvement in the sector?s **governance**.

36. As a result of the above three factors, any change efforts targeting the ASGM sector will face significant barriers at the level of understanding the governance structure in order to work effectively with it.

? ***Informal and non-transparent gold value chain***

37. As stated above, the mercury that is used in the ASGM sector in Mali is known to be 100% illegally imported. It is known that this material is distributed via the gold buyers who use it as part of the currency for buying the gold from artisanal and small-scale miners. This part of the trade is necessarily managed in a secretive manner. It features incomplete or altogether absent documentation.

38. Since a significant part of the product is sold to the informal gold merchants/aggregators who defy full traceability of their activities, it is impossible to carry out a reliable mass balance to account for every gram of gold produced in the country. This is in addition to the unknown production figures from the militarised north-eastern part of the country where primary research is never conducted.

> The above-mentioned gold off-takers have considerable economic power (relative to the financially excluded artisanal miners), which allows them to pre-finance the miners (via loans,

mercury supplies or cash advances) in exchange for capturing their gold supply. In these cases, the affected gold producers usually become so highly dependent on the gold merchants that they become the primary agents obfuscating their own operations and undermining the traceability of Malian ASGM gold supply chain.

? ***Lack of incentives for wider uptake of mercury-free technologies***

39. The Mali NAP recognises that, informally, cyanidation technologies have crossed the border from Burkina Faso into Mali, helping to maintain a low Mercury-Gold Intensity (at 1.44) in the ASGM sector in Mali. Indeed, ambitious targets of 1.15tons and 0.65tons by 2026 and 2029, respectively, have been set for this factor.

40. However, to-date, there are no targeted incentives to encourage neither individual miners nor cooperatives nor their off-takers to pro-actively replace their mercury-based technologies with non-mercury alternatives. There are no financial packages nor widely disseminated training programs in place to achieve this target.

41. The NAP has set the identification of technologies alternative to mercury as a target for 2023 (Action 14.1), the development of an awareness program for 2026 and 2029 (Action 14.3), and the encouragement of financial institutions to provide credit for artisanal miners for 2023 (Actions 5.1, 5.2 and 5.3).

? ***Lack of access to finance***

42. The financial inclusion indicator[10] from 2014 states that Mali has been well-under average of sub-Saharan Africa (SSA) and low-income countries (LIC) for the years 2011 and 2014. The percentage of people owning a financial institution account and with savings compared to the SSA reference is significantly lower. The Technical Note on the Microfinancing Sector in Mali[11] from the World Bank of the year 2015 concludes that Mali lags behind on most key measures of financial inclusion compared to the SSA and LIC references, as Table 1.2.3 shows.

| | Mali | SSA | LIC |
|---|---|---|---|
| Financial Institution Account-2014 | 13.3 | 28.9 | 22.3 |
| Financial Institution Account-2011 | 8.2 | 23.9 | 21.1 |
| Mobile Account | 11.6 | 11.5 | 10.0 |
| Has debit card | 4.0 | 17.9 | 6.6 |
| Has debit card (2011) | 1.8 | 15.0 | 6.3 |
| Saved at a FI in past year | 2.9 | 15.9 | 9.9 |
| Saved at a FI in past year (2011) | 4.5 | 14.3 | 11.5 |
| Borrowed from a FI | 2.7 | 6.3 | 0.6 |
| Borrowed from a FI-2011 | 3.7 | 4.8 | 11.7 |

**Table 1.2.3**: Financial Inclusion Indicators (% of adults older than 15 years). Source: Findex 2014. FI = Financial Institution.

43. It?s important to note that around 25 percent of Malians older than 15 had a mobile money account in 2017 compared to only around 12 percent three years before. Debit card ownership also more than doubled (4,0 to 9,5) during the same period.

44. The rate of borrowing money from financial institutions also significantly increased but still remains at a very low rate of 6,3 percent which is comparable to the general rates in SSA and LIC.

45. In the project preparation phase the stakeholder consultations revealed that the ASGM sector in Mali has very little experience of and almost no interaction with the banking sector. A very limited number of cooperatives and individual goldminers are holding bank accounts, although they may have access to formal or informal micro-financing and to mobile money.

46. The above scenarios combined with the fact that there are no deliberate government incentives facilitating for deliberate access to finance for the ASGM sector means that the ASGM sector currently has little to no access to formal (lower cost) finance and is yet to begin building up a credit history on which decisions may be based for granting access to more impactful levels of finance in the near future.

? ***Lack of access to high quality geological data***

47. A lack of geological data results in lack of mining precision and can lead ASGM miners to enter already large-scale mining concession areas, creating tension between ASGM miners and large-scale mining companies in the area. It can also create difficulties when requesting bank loans or other support services when ASGM miners do not have geological information as collateral. Without access to geological data, those working in the ASGM sector are often left with little to drive their activities except guesswork or trial and error. This often results in low yields, loss of investment and increased environmental degradation. Mapping a country?s potential reserves and land use, and providing access to this data, is crucial to determining appropriate locations for ASGM activities. Benefits to small-scale miners would include more efficiency and longevity at sites, minimized environmental degradation and improved profitability. For Mali, Barrick Gold is handing over a large concessional land together with the geological data. This will significantly help to address the above challenges.

## 1.3 Barriers

48. While [root] causes are independent events or conditions which lead to other events or conditions, barriers are conditions that stand between two events, preventing one from contacting or turning into the other. In this case, the barriers are the conditions which do not in themselves *lead to* continued use of mercury and/or low incomes for the workers in ASGM [in Mali] but which *prevent* workers from earning better wages and/or replacing mercury-dependent technologies with alternative ones.

49. Barriers are conditions that prevent alternative outcomes from arising when the impacts of root causes are competing with the impacts of causes that would lead to different outcomes. In this case, for example, lower literacy could easily lead all Malian youth to seek jobs in unskilled roles in industries other than artisanal mining. However, there may be a barrier of saturated vacancies in other industries

working with that root cause of low literacy to direct more Malian youth into seeking their livelihoods in artisanal gold mining.

50. While root causes may be characterised by either a *presence* or an *absence* of something, barriers are always characterised by a *presence* of something. In this case, for example, while absence of literacy may be cited as one of the causes of low uptake of mercury-free technologies, it cannot be cited as a barrier. There is a stricter criterion for identifying a barrier compared to the criteria for identifying a [root] cause.

51. Table 1.3.1 summarises the key barriers to reduction of mercury usage and improvement of incomes in artisanal and small-scale gold mining in Mali.

| Line | Barrier | Significance | Prevents | NAP Actions |
|---|---|---|---|---|
| 1 | Weak and slow structures for training and knowledge transfer | High | Awareness of benefits and feasibility of obtaining alternative technologies | 1,2,3, 14,15, 16,20, 21 |
| 2 | Opaque gold supply chain to which many artisanal workers are economically connected or even indebted | High | ? Willingness to formalise<br>? Willingness/ability to sell product to more transparent offtake systems<br>? Access to more transparent (and cheaper?) finance | 5,6,7,8,9,10, 31,32 |
| 3 | Impractical (unenforceable) laws on mercury handling in ASGM | High | Open cooperation with researchers and lawmakers | 11,12, 13,17, 18,19 |
| 4 | Misconceived idea of creditworthiness of ASGM sector in general by formal finance | High | Access to finance by individual workers as well as cooperatives of workers in the ASGM sector | 5,33 |
| 5 | Perception of tax and government bureaucracy as sunk costs | Medium | ? Willingness to formalise<br>? Willingness to sell product to more transparent offtake systems<br>? Willingness to connect to formal/transparent finance | 22,23 |
| 6 | Mercury trafficking systems importing tons of mercury into the country | Medium | Formal governance systems, which seek to discourage mercury use | 29,30, 31,32 |
| 7 | Cultural dispositions placing women in less lucrative roles than men regardless of capacity to perform in other roles | High | ? Gender inclusiveness in governance and decision making in ASGM, especially at mining and processing sites<br>? General health and well-being of families in ASGM<br>Overall/aggregate improvement in income levels for all ASGM workers | 24,25, 26,27 |
| 8 | Cultural dispositions allowing child labour on ASGM sites | High | ? Improved formal education levels in ASGM community | 24,25, 27,28 |

| | | | | |
|---|---|---|---|---|
| | | | ? Safety of children in ASGM community<br>? Health and wellbeing of children<br>? Family welfare in ASGM<br>? Improvement in income levels for all ASGM workers | |

**Table 1.3.1**: Key barriers to reduction in the use of mercury and increased worker incomes in ASGM in Mali**[12]**[12]

? ***Weak and slow structures for training and knowledge transfer***

52. In seeking to eliminate the worst ASGM practices, according to the Minamata Convention, the Mali NAP identified the following three as worst practices still observable in Mali:

a) Open burning of amalgam (dispersing mercury fumes into air),

b) Burning of amalgam in residential areas (maximising the chances of human ingestion of the dangerous mercury fumes), and

c) Cyanide leaching of tailings to which mercury had been added without first ensuring that any mercury traces have been removed

53. These bad practices are usually quick wins where the working population is properly sensitised on the ready dangers involved. Thus, the prevalence of these practices proves the lack of knowledge in the general population.

54. Section 11.2 of the NAP further states:

> *A constant in the governance of the gold mining sector in Mali, shared with most West African countries, is the lack of reliable data, ... and the informal and illegal nature of the sector. Current knowledge gaps include:*
>
> *? The sector is poorly or not at all controlled by the state;*
>
> *? The extent of gold production in the Kidal region, as well as the financial flows from artisanal mines that could be under the control of armed groups, are very little known.*
>
> *? The different actors who are supposed to manage the sector do not master it, although some are local institutions, such as town halls, and others are represented at the local level;*
>
> *? There are no data, official or unofficial, on the number of sites in the gold regions or on gold production;*

*? The Department of Geology and Mines is not represented in the major production circles, whether the gold is produced on an industrial or artisanal scale.*

55. The overall picture presented above is of a weak governance structure. This structure acts as a barrier to training and smooth knowledge transfer. It is no wonder then that the worst practices are still persisting in Mali ASGM today.

? ***Opaque gold supply chain to which many artisanal workers are economically connected or even indebted***

56. As has been alluded to in paragraph 52 above, much of the ASGM sector in Mali (and most West African countries) is informal and illegal. Indeed, while the law forbids the importation and handling of mercury, at least 33 tons per annum of mercury are formally known to be crossing the borders into Mali and used for producing up to 26 tons per year of gold. There is no traceability to the mercury used ? neither for taxation purposes nor for assurance of the health and safety of the workers handling this large quantity of hazardous material.

57. Section V (d) of the Mali NAP reads as follows:

*The mercury trade remains one of the least known ASM sector activities in the world. Data on this trade is virtually non-existent. Mali is no exception. Indeed, any imported product is regulated by the Ministry of Commerce, which issues authorizations. But for mercury, the authorization issued by the Ministry of Commerce must be submitted to the MEADD [Minsistry of Environment, Sanistation and Sustainable Development] through the DNACPN [National Directorate for Sanitation, Pollution and Nuisance Control]. In practice, however, the DNACPN is rarely asked to advise on mercury imports, and the Ministry of Commerce does not authorize mercury imports into Mali.*

*Officially, the DNGM [National Directorate of Geology and Mines] is also empowered to authorize imports of mercury as a chemical used in mining, but so far it has not authorized any imports of mercury into the country and the authorities prohibit the use of mercury.*

58. It is known that the supply chain of mercury is closely tied to off-take (future purchase) agreements with the producers of gold; they may be advanced their mercury supplies ? or even cash ? in exchange for future gold production. A web of indebtedness may begin which commits individual workers or even entire cooperatives to, firstly, supplying their gold exclusively to their creditors and, secondly, to sustaining the shroud of secrecy about their real sources of mercury.

? ***Impractical (unenforceable) laws on mercury handling in ASGM***

59. It is a dilemma as to why the law in Mali forbids the open use of mercury while knowingly benefitting from the practice at national level via the foreign exchange earned on exports (albeit directly into the hands of residents without full taxes being paid to the state) and the provision of employment to over half a million nationals.

60. The NAP has recognised this anomaly and generated actions to regularise and regulate the use of mercury in ASGM in Mali while also working on continuously reducing it.

? ***Misconceived idea of creditworthiness of ASGM sector in general by formal finance***

61. On account of the informal nature of ASGM, traditional finance tends to steer clear of the sector, preferring to offer their credit to sectors that are more tractable and amenable to collaterisation and remote follow up such as agriculture, corporate mining, manufacturing and services within the urban areas.

62. However, with the recognition and growth of the self-regulation and group collateralisation available within cooperative settings, financial houses are now more and more willing to entertain ASGM as a real target for credit.

? ***Perception of tax and government bureaucracy as sunk costs***

63. Compounding the problems of low formalisation and opaque operations is the fact that formalisation comes with added administrative requirements and, most notably, audit and taxation. Where the benefits of traceability, regular audit and the payment of taxes are not well clarified for acceptance, the toughest and most intractable resistance to formalisation may come from the artisanal miners themselves.

? ***Mercury trafficking systems importing tons of mercury into the country***

64. The already mentioned illegal trafficking of mercury into the ASGM sector in Mali must be recognised for what it is ? an established supply chain system. Bringing this unknown, untaxed and unregulated system into the mainstream where it will be known, controlled and taxed must also be recognised for what it is going to be ? a difficult change process where the subject of the change will do all within their power to resist the change.

65. Every gain of control by official governance systems will be as a result of direct and proportional loss of control by an invisible and informal governance system. This barrier to change shall only be removed if its most fervent agents are disarmed first, i.e., the artisanal miners shall have to see strong benefits in formalising such as real gains in financial freedom, improved productivity, sustainability, health and safety and inclusiveness in decision making.

? ***Cultural dispositions placing women in less lucrative roles than men regardless of capacity to perform in other roles***

66. A gender analysis has been performed and it has revealed several critical aspects, including:

4 Women are lagging behind the men on all metrics important to personal and family well-being such as education, health, safety, decision making, etc.

4 Moreover, the roles that have been traditionally reserved for women are the most menial and most exposed to occupational hazards (pulling ore up from underground

pits, actual panning in the muddy water and in direct contact with mercury, etc). These roles are much more poorly remunerated than the other roles reserved for the menfolk.

4 Domestic chores are still to be carried out mostly by the women. In covid19 times, the burden on these roles has increased ? longer hours at home for the entire family, etc.

67. The disproportionate yoke placed on the necks of the women tends to reduce the vitality of families, the health of children, the pre-natal wellness of unborn children and, ultimately, the earning potential of entire families across the generations.

? ***Cultural dispositions allowing child labour on ASGM sites***

68. Between 20,000 and 40,000 children are estimated to work in Mali?s artisanal gold mining sector. Some of the children maybe as young as six years old. These children are subjected to some of the worst forms of child labor, leading to injury, exposure to toxic chemicals, and even death[13][13].

69. Children tend to perform tasks such as such as selling foodstuff and other provisions, cleaning up, pushing tri-cycles and fetching items. A significant number of these children perform these duties instead of going to school. They dig shafts and work underground, pull up, carry and crush the ore, and pan it for gold. Many children suffer serious pain in their heads, necks, arms, or backs, and risk long-term spinal injury from carrying heavy weights and from enduring repetitive motion. Children have sustained injuries from falling rocks and sharp tools and have fallen into shafts. In addition, they risk grave injury when working in unstable shafts, which sometimes collapse. Child miners are also exposed to mercury, a highly toxic substance, when they mix gold with mercury and then burn the amalgam to separate out the gold.

70. The majority of child laborers live within the local host communities alongside their parents who send their children into mining work to increase the family income. Some of these children, who are usually poorly paid, work alongside their parents who are artisanal miners themselves.

71. A significant number of these children perform these duties instead of going to school. Many of these children working in artisanal mining never go to school, missing out on essential life skills as well as job options for the future. In cases where some of these child laborers attend schools, they often tend to struggle to keep up with their peers who don?t work in the mines since they spend holidays, weekends, and other spare time working instead of studying.

72. While helping out on the worksite may acquaint the children with the general concept of work and its connection to livelihood, its full replacement of academic instruction removes children from the path of upward social mobility.

73.

**2) The baseline scenario and any associated baseline projects**

## 2.1 Regulatory and institutional policy framework

74. Relevant current legislation related to ASGM in Mali include the following:

**Policy Framework**

75. Mali's commitment to sustainable development has resulted in the adoption of a framework policy of which environmental protection remains a cornerstone. This commitment is reflected in the fundamental law of the country, the Constitution of February 25, 1992. Indeed article 15 of the Malian Constitution provides that ?everyone has the right to a healthy environment. The protection, defense of the environment and promotion of the quality of life are a duty for everyone and for the state. It is in line with this constitutional provision that Mali has developed a legislative, regulatory and administrative framework for the harmonious management of the environment as a guarantee of sustainable development.

# ? Strategic Framework for Economic Recovery and Sustainable Development (CREDD 2019 - 2023)

76. The Cadre Strat?gique Pour La Relance ?conomique et le D?veloppement Durable (CREDD) (Strategic Framework for economic recovery and sustainable development) is the new reference framework for the design, implementation and monitoring of the various development policies and strategies at both national and sectoral level.

77. It is both a reformulation and an extension of the CSCRP 2012-2017 and incorporates the priorities of the various existing strategic frameworks: Strategic Framework for Growth and Poverty Reduction (CSCRP 2012-2017), Government Action Program (PAG 2013-2018), Sustainable Recovery Plan for Mali (PRED 2013-2014), Accelerated Development Program for the Northern Regions (PDA/RN), Specific Development Strategy for the Northern Regions and the new challenges arising from the Agreement for Peace and Reconciliation in Mali. The CREDD (2016-2018) has come to an end and has been replaced by the new CREDD (2019-2023).

78. The new CREDD is an operationalization of the long-term vision of the National Prospective Study (ENP) "2040", as a new medium-term reference document, in accordance with the conclusions of the Foresight Day of January 2014. It is also based on the Sustainable Development Goals (SDGs), the review of the implementation of CREDD (2016-2018).

79. CREDD's mission (2019-2023) is to "serve all stakeholders as an integrating framework for sectoral policies and regional and local strategies."

80. Its objective is to promote inclusive and sustainable development in favour of the reduction of poverty and inequalities in a united and peaceful Mali, based on the potential and resilience capacities with a view to achieving the Sustainable Development Goals (SDGs) by 2030. The CREDD is divided into five (5) strategic axes, twenty-one global objectives (21) and fifty-nine (59) specific objectives.

81. In addition to the CREDD, certain sectoral policies are also in place and provide the basis and framework for decision making. These sectoral policies include the following::

## ? National Environment Policy:

82. This policy was adopted by the Council of Ministers on November 13, 2019. It is the reference framework for the environment in Mali. Its goal is to commit the Government and all the people of Mali to integrating environmental protection into all decisions affecting the design, planning and implementation of development policies, programs and activities.

83. The National Environmental Protection Policy (PNPE) constitutes the unifying framework for all policies having an impact on the environment. It is also a framework that provides guidance for effective and sustainable environmental management and planning. It is this framework that allows Mali to intervene in environmental issues both nationally and internationally. To solve environmental problems, action plans have been adopted to take into account all the environmental problems of the country.

84. The PNPE is based on a particular approach which consists in defining the orientations in terms of environment. It is not a question of a multitude of sectoral policies and measures disconnected from other sectors of activity, but rather of cross-cutting lines of action bringing synergy, which make it possible to include the various national policies and programs in a global and coherent framework of intervention, with a view to sustainable development.

85. The implementation of the environmental protection policy should make it possible to provide significant contribution to the fundamental questions concerning the fight against desertification, food security, the prevention and fight against pollution, the fight against poverty which constitute so many constraints to be lifted to ensure the socio-economic development of Mali.

86. The PNPE is based on the following principles:

? The principle of equity and equality;

? The principle of prevention and precaution;

? The principle of involvement / empowerment.

? The principle of internalization of environmental costs; and

? The ?polluter pays? principle.

## ? The National Spatial Planning Policy (PNAT):

87. Adopted by Decree No. 2016-0881/P-RM of November 23, 2016, the National Policy for Territorial Development (PNAT) will have to federate sectoral policies with a view to propagate a balanced and sustainable development. Its implementation will make it possible to ensure a fairer distribution of resources between the different localities of the country on the one hand and sustainable management of natural resources on the other hand. Its overall objective is ?A balanced development of the national territory combining social progress, economic efficiency and the protection of the

environment.? The PNAT tends to create favorable conditions for the development of employment and national wealth, in particular by strengthening the solidarity of companies within their territorial location and reducing territorial inequalities while preserving for future generations available resources and the quality and diversity of natural environments.

88. Other policies considered in the context of Environmental and Social Impact Assessment (ESIA) include the following:

? the National Sanitation Policy,

? the National Forest Policy,

? the National Water Policy,

? the National Wetland Policy,

? the National Health Policy, the National Policy

? the National Property and Land Policy,

? the National Cultural Heritage Policy,

? the National Policy,

? the National Livestock, Agricultural Development Policy, etc.

**Regulatory framework**

89. Texts of the legal, regulatory and administrative framework governing environmental management in Mali have been studied and taken into account so that the project activities take place strictly in compliance with Malian legislation. The national texts applicable to the project are as follows:

? Law No. 01-020 of May 30, 2001, relating to pollution and nuisances;

? Law No. 06-045 of September 5, 2006 on the Agricultural Orientation Law (LOA) Law No. 02-006 of January 31, 2002, on the water code;

? Law N?10-028/AN-RM of July 12, 2010, determining the principles of management of national forest estate resources;

? Law 02-017 of June 03, 2002 governing the possession, trade, export, re-export, import, transport and transit of specimens of species of fauna and wild flora;

? Law 2017 ? 019 of June 12, 2019 on the orientation law for land use planning;

? Law 04-005 of January 05, 2004 establishing the development and protection fund of forests and the fund for the development and protection of wildlife in the forest sector of State;

? Law No. 2018 ? 036 of June 27, 2018 setting the principles for the management of wildlife and its housing;

? Law No. 10-061 of December 30, 2010 amending Law No. 85-40/AN-RM of July 26, 1985, relating to the protection and promotion of the National Cultural Heritage;

? Law No. 02-016/ of June 3, 2002 laying down the general rules for town planning;

? Law 2017-051 of October 2, 2017 on the Local Authorities Code;

? Ordinance No. 2019-022/P RM of September 27, 2019 on the mining code;

? Ordinance No. 02-060 / P-RM of June 05, 2002 establishing the Malian Agency of radiation protection.

? Decree No. 04 607/P-RM of December 30, 2004 setting the terms of implementation of urban planning;

? Decree No. 05 114/P-RM of March 9, 2005 determining the terms of implementation, management and standardization of urban infrastructure;

? Decree No. 05 34/P-RM of July 25, 2005 setting the regulations for equipment urban collectives;

? Decree No. 2015 0889/P RM of December 31, 2015 determining the Organization Plan relief in Mali (PLAN ORSEC);

? Decree No. 2016 0346/ P RM of 19 May 2016 approving the document of national strategy on risk and disaster reduction in Mali;

? Decree No. 2018-0991/PRM of December 31, 2018;

? Decree 2012-311/P-RM of June 21, 2012, setting the terms and conditions enforcement of the law on the mining code;

? Decree No. 01-394/P-RM of September 06, 2001 setting the terms of waste management solids;

? Decree No. 01-395/P-RM of September 06, 2001 setting the terms of water management worn and sludge;

? Decree No. 01-396/P-RM of September 6, 2001 Setting the terms and conditions for managing noise pollution;

? Decree No. 01-397/P-RM of September 6, 2001 setting the procedures for managing pollutants the atmosphere;

? Decree No. 98-415/PM-RM of December 24, 1998, establishing the institutional framework of the management of environmental issues;

? Decree No. 2018-0991 P-RM of December 31, 2018 relating to the impact study environmental and social;

? Decree No. 2018-0993-/P-RM of December 31, 2018 setting the conditions for the execution of the Environmental Audit;

? Decree No. 04-183/P-RM of June 11, 2004 setting the conditions and procedures for obtaining water authorizations and concessions;

? Decree No. 10-387/P-RM of July 26, 2010, fixing the list of forest species protected and economically valuable forest species;

? Decree No. 99-320/P-RM of October 4, 1999, fixing the clearing procedures in the state forest estate;

? Decree No. 275/PG-RM of 04 November 1985, Regulating excavations archaeological sites in Mali;

? Interministerial Order No. 10-1509/MEA-MIIC-MEF, setting the amount, the terms of payment and management of costs relating to activities relating to the Impact Study Environmental and Social;

? Interministerial Order No. 2013-256/MEA-MATDAT-SG of January 29, 2013 setting the modalities of Public Consultation on ESIA;

? Order No. 06-2667/MIC-SG, approving draft Malian standards;

? International agreements, treaties and conventions ratified by Mali

90. ASGM is defined in Ordinance No. 2019-022/P RM of September 27, 2019 on the mining code. Article 25 defines artisanal mining as any small-scale operation which consists of extracting and concentrating mineral substances from primary and secondary outcropping or sub-surface deposits and recovering marketable products using manual or traditional methods and processes, including artisanal gold panning. Article 26 defines small-scale mining (semi-mechanized exploitation) as any small-scale operation which consists of extracting and concentrating mineral substances from primary and secondary outcropping or sub-surface deposits and recovering marketable products using a combination of manual methods and small mechanical means; this includes exploitation by dredging which is defined as an operation which consists of extracting materials from the bottom of watercourses and recovering marketable products using a combination of semi-mechanized and mechanized methods and processes.

91. While Article 27 defines Industrial exploitation as: mining whose activities consist of extracting and concentrating mineral substances and recovering marketable products using modern and highly mechanized methods and processes. While Article 28 defines extraction: all work aimed at extracting mineral substances from the soil and subsoil.

**The Institutional Framework**

92. According to Decree No. 2018-0991/P RM of December 31, 2018, Impact Studies on the Environment must be made according to the terms of reference drafted by the promoter of the project and approved by the competent Malian administration. The implementation of the Environmental and Social Management must also involve the technical services of the State. ASGM requires a lower level of detail.

93. This section specifies the institutions involved in this study.

## ? The Ministry of Mines, Energy and Water

94. The ministry oversees the management of mining policy in Mali through the National Directorate of Geology and Mines (DNGM).

95. National Directorate of Geology and Mines (DNGM): Organization created under the supervision of the Ministry of Mines, Energy and Water by Law No. 90-105/AN-RM of October 11. The 1990 the DNGM is responsible for implementing the policy of research, development, the exploitation and transformation of underground resources.

96. Regional Directorate of Geology and Mines: Created by decree N?02-585/P-RM of December 20, 2002, it is a dismemberment of the National Directorate of Geology and Mines. The Regional Directorate of Geology and Mines mission is to represent the National Directorate of Geology and Mines at the level of the region or district of Bamako.

97. Under the administrative authority of the High Commissioner and the technical authority of the National Director of Geology and Mines, the Regional Directorate of Geology and Mines is responsible for:

? Controlling the application of the regulations on mining substances, quarries and saltworks, explosives, precious metals, steam and gas pressure devices, establishments classified as dangerous, unhealthy and inconvenient;

? Establishing and updating the geological map and the index map;

? Establishing programs for prospecting, monitoring, execution of works and assessment of results;

? Controlling the quality of petroleum products;

? Controlling the execution of geological prospecting programs, mining and of hydrocarbons by mining companies and enterprises; and

? Monitoring the execution of reconnaissance and prospecting work contributing to the evidence of signs of mineralization of solid, liquid or gaseous fuels.

98. The National Directorate of Hydraulics: Created by Ordinance No. 10-001/P-RM of January 18, 2010, the National Directorate of Hydraulics is the central service responsible for carrying out the missions assigned to the Ministry in water load. Its main missions relate to the development of the elements of the national water policy, coordination, and monitoring of its implementation. Its responsibilities include the following:

? Developing the standards governing the water sector and ensuring that they are applied;

? Conducting inventories, assessing and monitoring water resources and hydraulic structures;

? Planning, controlling and developing the public water service;

? Evaluating programs and projects for the construction or development of infrastructures hydraulics; and

? Participating in the promotion of sub-regional cooperation in the field of mastery and water resources management

99. National Water Laboratory: The National Water Laboratory's mission is to determine, manage and protect the quality of waters of the national territory. To this end, it is responsible for the following:

? Perform sampling and physico-chemical, toxicological and microbiological analysis natural waters (surface water, groundwater);

? Analyze sedimentary deposits;

? Promote research and training in the field of water;

? Provide scientific information to populations in the field of water quality;

? Participate in the development of standards relating to water quality;

? Develop and implement hydrochemical isotopic study plans and programs and hydrodynamics on the origin and evolution of water tables;

? Carry out hydro-sedimentological studies of natural and artificial rivers, irrigation canals, navigation and water supply networks;

? Provide advisory support to local authorities in improving the quality of their water; and

? Create a chemical database relevant to the water sector.

## ? The Ministry of Environment, Sanitation and Sustainable Development

100. Ministry of Environment, Sanitation and Sustainable Development has overall mandate and responsibility for environmental management in Mali. The National Directorate for Sanitation, Pollution and Nuisance Control (DNACPN), the Regional Departments of Sanitation, Pollution Control and Nuisances (DRACPN), the National Directorate of Water and Forests (DNEF), the Agency for Environment and Sustainable Development (AEDD), the National Agency for the Management of Wastewater Treatment Plants in Mali (ANGESEM) are departments with specific functions under the overall oversight of the Ministry.

101. The National Directorate for Sanitation, Pollution and Nuisance Control (DNACPN): Created within the Ministry of the Environment by Ordinance N?. 98-027/P-RM of August 25 1998, and by Decree No. 09-211 of May 8, 2009 setting the organization and terms of functioning, the mission of the DNACPN is to develop the elements of the national policy in terms of sanitation and the control of pollution and nuisances and to ensure execution. The DNACPN is responsible for the following:

? Monitoring and ensuring the consideration, through sectoral policies and plans and development programs, environmental issues and the implementation measures taken in this regard;

? Ensuring the supervision and technical control of the procedures for Impact Studies on Environment (EIA);

? Developing and ensuring compliance with national standards for sanitation, pollution and nuisances;

? Ensuring control and compliance with legislation and standards in terms of sanitation, pollution and nuisances;

? Ensuring the training and awareness of citizens on the problems of insalubrity, pollution and nuisances, in relation to the structures concerned, the communities? authorities and civil society; and

? Ensuring that the relevant institutions with mandates are monitoring the state of environment in the country.

102. The DNACPN has overall responsibility of the administration of the environmental and social impact studies in the country.

## ? Environment and Sustainable Development Agency (AEDD)

103. Created by Law No. 10-027 of July 12, 2010, the Environment and Sustainable Development Agency (AEDD) is a National Public Establishment of an administrative nature, whose mission is to coordinate the implementation of the National Policy for the Protection of the Environment (PNPE) and ensure the integration of the environmental dimension in all policies. AEDD is responsible for the following:

? Strengthen the capacities of actors involved in environmental management, the fight against desertification, climate change and sustainable development in through the development of modules, information, education and communication, training, information and awareness sessions;

? Monitor the financial mechanisms and the mobilization of funding concerning the protection of the environment, the fight against desertification, changes climate change and sustainable development;

? Coordinate and monitor the implementation of Conventions, Agreements and Treaties international agreements ratified by Mali in terms of the environment, the fight against desertification, climate change and sustainable development;

? Contribute to taking into account the environmental dimension in the design of development programs and projects and regional development plans for through the development of guides for the consistency of environmental actions, the support advice to local authorities;

? Prepare the National Report on the state of the environment;

? Monitor the implementation of the recommendations formulated by the National Council of the environment ;

? Collect data and produce statistics on the Environment and the Sustainable development ;

? Disseminate the results of research on biotechnology relating to the safeguard of the environment, the fight against desertification as well as climate change and sustainable development; and

? Participate in the implementation of the programs of the Environmental Action Plan.

104. As part of communication activities, the Agency publishes the quarterly magazine ?Notre Environment ". It organizes an annual ?Environment Fortnight? with demonstrations in all regions of Mali.

105. National Directorate of Water and Forests (DNEF): Created within the Ministry in charge of the environment by law N?09-028 of July 27, 2009, it has for mission the elaboration of the elements of the national policy in terms of conservation of water and soil, fight against desertification, and ensure the coordination and control of its Implementation. As such, it is responsible, among other things, for:

? The development of the implementation of forest management and restoration plans, parks and reserves; and

? The development of legislation relating to the conservation of nature and to ensure their Implementation;

106. Support for local authorities in the management of forest resources and wildlife. It centralizes statistical data on natural resources (forests and wildlife), ensures their processing and distribution. It has decentralized services at the level of the region, circle and commune.

107. The National Agency for the Management of Wastewater Treatment Plants of Mali (ANGESEM), was established by Ordinance No. 2020 ? 007/PT-RM on November 18, 2020. ANGESEM is a national public agency which is semi-autonomous with its own legal entity and and financial autonomy. The mandate for ANGESEM is to ensure the sustainable management of wastewater treatment plants and structures.

108. Therefore, ANGESEM is responsible for the following:

? ensure delegated public project management for studies, construction works and rehabilitation of sanitation infrastructure and equipment;

? provide technical assistance to operators in the sanitation sub-sector at their request;

? to contribute to the strengthening of communication for the promotion of Sanitation; and

? contribute to the development of elements of water management policy and strategies worn and sludge.

## ? The Ministry of Territorial Administration and Decentralization

109. The National Directorate for Territorial Planning (DNAT): Created by Ordinance No. 04-009/P-RM of March 25, 2004 and ratified by Law No. 04-025 of 16 July 2004. Its mission Develop and implement the national land use plan, by

? Coordinate and harmonize land use plans at the national level, regional and local,

? Define at the national level, in relation with the other actors, the major centers of activity,

? Ensure development and territorial balances in terms of demographics, economic and environmental,

? Set up and manage a land use planning information system.

? Develop the elements of the National Planning Policy of the Territory (PNAT) and to ensure its execution.

## ? The General Directorate of Territorial Communities (DGCT)

110. Created by Law No. 2011-053 of July 28, 2011 creating the General Directorate of Local Authorities, its mission is to develop the elements of the policy national decentralization of the territory and participation in its implementation. She ensures the coordination and control of the action of the administrative authorities, services and public bodies involved in the implementation of this policy. As such, she is responsible for:

? Contribute to the definition of decentralization implementation strategies territorial;

? Participate in the development of tools for exercising supervision over local authorities territorial;

? Define, control and apply the regulations relating to local authorities;

? Participate in the implementation and monitoring of skills transfers and devolution property and heritage to local authorities in liaison with the ministries concerned;

? Monitor the exercise of supervision by local authorities and the legal regularity of acts of guardianship of state representatives;

? Carry out studies for the improvement and strengthening of decentralization;

? Develop and apply the regulations relating to the public service of communities territorial;

? Participate in the drafting of legislation on local and regional planning;

? Promote solidarity between local authorities;

? Promote and evaluate the decentralized cooperation actions and the actions of cooperation between communities;

? Encourage and organize technical and financial support for local authorities in administration and development.

111. It should be noted that the missions certainly exist in the law of creation but that a sub-directorate of DGCT, in particular the SDRH, created and erected as the national directorate of the Civil Service, and the missions related to the public service to the said directorate.

## ? The Ministry of Security and Civil Protection

112. The General Directorate of Civil Protection (DGPC): Created by Ordinance of Law 06 - 004 of January 6, 2006, its mission is to develop the elements of the national civil protection policy and to ensure the implementation of this policy; as such, it is responsible for:

? Organizing, coordinating and evaluating prevention and relief actions in the event of disaster;

? Participate in the development and implementation of emergency and protection plans and ensure the protection of people, property and the environment in the event of accidents, claims and disasters in conjunction with other services concerned;

? Ensure public awareness and information;

? Participate in actions in favor of peace and humanitarian assistance;

? Participate in civil defence;

? Contribute to the training of personnel in charge of civil protection;

? Develop claims management plans and implement them;

? Manage the logistical means assigned to the execution of its missions;

? Coordinate and control the rescue actions of the services responsible for executing the national civil protection policy.

## ? The Ministry of Health and Social Development

113. The General Directorate of Health and Public Hygiene (DGS-HP): The General Directorate of Health is created by Ordinance No. 01-020 / P RM of March 22 2001 and erected into the General Directorate of Health and Public Hygiene by Law No. 2018-052/PRM of July 1, 2018. Its mission is to develop the elements of the national health policy public health, public hygiene and sanitation, and to ensure the coordination and control of regional services and attached services which contribute to the implementation of this Politics. To this end, it is responsible for:

? Design and develop strategies for public health, public hygiene and healthiness;

? Develop regulations, contribute to the development of standards and ensure their application;

? Carry out all the necessary research and studies;

? Prepare projects, programs and action plans and ensure the execution of the said programs; and

? Coordinate, supervise and control the activities of the execution services and evaluate their results.

## ? The National Directorate of Social Protection and Solidarity Economy

114. Ordinance No. 2016-002/P-RM of February 15, 2016 creating the National Directorate of Social Protection and the Solidarity Economy repeals Ordinance No. 00 ? 63/P ? RM of September 29, 2000 establishing the National Directorate of Social Protection and Solidarity Economy. The National Directorate of Social Protection and Solidarity Economy Its mission is to develop the elements of the national policy of social protection and solidarity economy and ensure its implementation. As such, it is responsible for:

? Develop projects, programs and/or action plans for the extension of the regimes of social welfare, social security, health insurance and safety net mechanisms social;

? Develop, monitor and evaluate projects, programs and/or action plans for the expansion the solidarity economy sector;

? Promote strategies for the extension of social welfare, social security social security, health insurance and social safety net mechanisms,

? Coordinate, monitor and evaluate the implementation of protection programs social;

? Contribute to the development and capacity building of cooperative societies, social mutuals, associations and other groups;

? Contribute to the development of favorable conditions for access to diapers vulnerable to microcredit;

? Develop legislation and regulations relating to social mutuals and companies cooperatives;

? Ensure the application of the regulations relating to social mutuals, companies cooperatives, associations and other groups involved in the field of the social and solidarity economy.

? Contribute to the production of statistics in order to establish security indicators social security, health insurance and social and solidarity economy; and

? Conduct studies and research/development in the field of social protection.

## ? The National Directorate of Cultural Heritage

The National Directorate of Cultural Heritage is a service attached to the Ministry of Culture. It was created under Ordinance No. 01 ? 027/P-RM of August 2, 2001. The National Directorate of Cultural Heritage's mission is to develop the elements of the national policy in the field of cultural heritage and ensure the coordination of the related services and the control technical support of regional and sub-regional services. To this end, it is responsible for:

? solidarity economy;

? Develop and update national registers of beneficiaries of protection social and solidarity economy; and

? Ensure the implementation of all measures relating to the improvement of the quality of social protection benefits.

## ? The Ministry of Culture, Handicrafts and Tourism

? Identify and inventory the elements of cultural heritage throughout the territory;

? Protect, restore and promote the national cultural heritage; and

? Ensure the dissemination of information on the national cultural heritage.

## ? The Ministry of Agriculture, Livestock and Fisheries

115. National Directorate of Agriculture : Created by Law N?05 ? 012 of February 11, 2005 within the Ministry of Agriculture; The direction Nationale de l?Agriculture is responsible, among other things, for:

? Design and monitor the implementation of measures and actions aimed at increasing the production and improve the quality of agricultural, food and non-food goods;

? Ensuring the promotion and modernization of agricultural sectors;

? Design and monitor the implementation of training, advice, popularization actions; communication for farmers;

? Develop and ensure the application of regulations relating to phytosanitary control and packaging of agricultural products;

? Participate in the definition and application of the agricultural research policy;

? Develop and implement measures to enhance and promote the products of picking ;

? Contribute to the design and implementation of the training policy for human resources in the agricultural sector;

? Participate in the development and monitoring of quality standards for agricultural products and inputs; and

? Ensure the collection, processing, and dissemination of data in the agricultural field.

116. To regulate the sector and mitigate conflicts, *Ordinance No. 2019-022, the Mining Code of Mali*, stipulates that artisanal gold mining or traditional gold panning is carried out by holders of an artisanal mining permit. This authorization is evidenced by the issuance of a gold panner's card. Artisanal mining permits are the responsibility of local authorities. They are issued exclusively to Malian citizens. They are issued either to individuals or to groups, for a period not exceeding 3 years, and are renewable for the same period.

117. Traditional gold panning is practiced in gold panning corridors. The conditions are set by a joint order of the *Minister of Mines* and the *Minister of Local Government*. Traditional gold panning may be practiced in areas without mining titles or in the perimeter of areas with mining titles, subject to the express authorization of the holders of these titles. An order of the Minister in charge of Mines sets the conditions and modalities for artisanal exploitation of other mineral substances.

## 2.2 Actors in the gold mining sector in Mali

118. Table 2.2.1 is part of the Stakeholder Mapping for Mali ASGM focusing on the persons ? natural and/or legal ? who are actors. Stakeholders who are mere impacted persons (recipients of information, secondary respondents, interested third parties) are not shown.

| Entry | Person | Impact | Actions |
|---|---|---|---|
| 1 | Gold ***buyers*** | High | Assure the off-take of all production. Ready market. |
| 2 | The ASGM ***site leaders***: village chiefs, site chiefs, imams, raffles (safety officers) | High | ? Maintain the peace at ASGM sites<br>? Resolve conflicts<br>? First point of judicial recourse<br>? Religious and social leadership |
| 3 | ***Miners*** (gold diggers, holders of artisanal gold washers? cards) | Medium | Dig the ore.<br>Keep the Washer?s Cards current. |
| 4 | ***Direct mining support*** (gold processing teams): team leaders, team secretaries, rope pullers, crushing hands, panners, ?pimps? (gold ore handlers), amalgam burners, | Medium | Move the ore and process it to recover best purity dore?. |
| 5 | ***Claim owners and controllers***: well owners, and financiers | High | ? Facilitate Access to the site.<br>? Stabilise cost of inputs. |
| 6 | ***Ancillary service providers*** on ASGM sites: restaurants, pharmacies, fuel suppliers, mechanised crusher owners/operators, tricycle pushers, etc. | Low | Provide all business needs for continued human activities at ASGM sites. |
| 7 | ***Government Ministries*** and ***Regulators***:<br>? Ministry of Mines, Energy and Water, Ministry of Commerce,<br>? Ministry of National Education,<br>? Ministry of Trade and Industry,<br>? Ministry of Environment, Sanitation & Sustainable Development,<br>? Ministry of Employment and Vocational Training,<br>? Ministry for the Promotion of Women, Family and Children,<br>? Local Authorities | High | ? Implement central government policy using various legal instruments<br>? Issue Gold Washer?s Cards (by Ministry of Mines, Energy and Water through decentralized channels)<br>? Issue land titles and mining licenses to larger operators<br>? Facilitate training and knowledge transfer |

| | | | |
|---|---|---|---|
| | | | ? Mainstream and promote gender equity as well as protection of children?s welfare<br>? Regulate Flow of inputs to the value chain, most notably mercury trade, cyanide trade and gold sales |
| 8 | ***Advocacy groups, NGOs and CSOs***:<br>? Federation of Development Associations of the Commune of Dialafara in France<br>President: Mr. Moussa SISSOKO, +33625397068.<br>? Grouping of Associations for the Defense of the Environment and Sustainable Development in the circle of K?ni?ba (R.A.D.E.C.K)<br>President: Mrs. Aissata MACALOU, +22366616166.<br>? Grouping of Associations for the Defense of the Environment and Sustainable Development in the circle of K?ni?ba (A.P.E.C.K)<br>President: Mr. Mady Mamadou Lamine TRAORE, +22374741127.<br>? WASSATON K?ni?ba<br>President: Mr. Alou DIALLO, +223 68 81 43 22 | Medium | ? Advocacy on various themes of interest to them<br>? Fundraising to support their chosen themes<br>? Lobbying policy makers on their chosen themes<br>? Research of various kinds, including ASGM matters |

**Table 2.2.1**: Extract of project Stakeholder Map showing the Actors in Mali ASGM

119. ASGM in Mali is highly significant to the extent of providing at least 7% of the national Gross Domestic Product in US Dollar terms ($1.23bn of $17.39bn). As such, the actors cited above are influencing overall a highly significant part of the Malian economy and welfare.

**Associated Baseline Projects and Initiatives**

The relevant projects and initiatives with strong linkage to Gold+Mali Child Project include the following:

? PACT implemented and USAID sponsored project: ?Promoting Mercury-Free Mali (Pro-MFM)?: The project aims to reduce mercury use and reliance, while strengthening supply chains in Mali?s small-scale gold mining sector. The project brings together miners, industry and government stakeholders in an integrated approach to help resource-dependent communities and artisanal and small-scale gold miners to be safer as well as more formal and productive. The effort includes technical support for mercury abatement, increased transparency and resiliency for the ASGM sector, and incentivizing and realizing responsible ASGM supply chains. The project works with miners, investors and gold traders interested in adopting mercury-free business models, in K?ni?ba Cercle in the Kayes Region of Western Mali.

? The ILO implemented project:? Accelerating action for the elimination of child labour in supply chains in Africa (ACCEL AFRICA).? This is a Dutch funded regional project and focuses on specific supply chains implemented by the ILO from 2019 to 2022. The Project addresses the root causes of child labour and has the overarching goal to accelerate the elimination of child labour in Africa. The focus of the project activities in Mali are Cotton and ASGM sectors. The project has identified four inter-related components: three outcomes and one cross-cutting knowledge component. The proposed three Outcomes are the following:

- Outcome 1: Policy, legal and institutional frameworks are improved and enforced to address child labour in global supply chains
- Outcome 2: Innovative and evidence-based solutions that address the root causes of child labour in supply chains are institutionalized
- Outcome 3: Strengthening partnership and knowledge sharing among global supply chain actors working in Africa

? Barrick Gold is willing to integrate structured gold panning into Barrick's Community Development Program and support the ASGM sector. The Gold+Mali Child project will strongly coordinate with this initiative.

## 2.3 Financial sector and ASGM

120. There are two key aspects of the ASGM sector which must be clearly separated: informality and illegality.

121. While the sector by deep-rooted nature is informal (being carried out as it is by individual miners using hand tools and rudimentary technologies that are relatively cheap to access) ? a benign and acceptable reality ? it regularly comes into intimate contact with activities that may be illegal such as trafficking of prohibited materials (mercury in some countries is a prohibited material, prescription and restricted drugs, etc.), trafficking of humans (sex workers, etc.) and tax evasive practices such as under-declaration of production, etc.

122. It is critical that the informality is embraced but encouraged to advance toward transparency which can then advance toward formality in a natural line of progression, while the illegalities are addressed from a carefully planned different approach. The alternative would be to ostracize the very workers who, if they had cooperated would be able to resolve both matters far more efficiently and effectively. These are the artisanal miners who have a profound understanding of their environment and operations.

123. Lessons from other countries indicate that a successful national strategy for formalisation and removal of illegalities depends on four characteristics: ***continuity***, ***stability***, ***multiple dimensions***, and involvement of ***multiple stakeholders*** in finding solutions. The National Action Plan for Mali ASGM appears to embrace these four aspects well. It has involved a multiplicity of stakeholder types (government, the artisanal miners and their families, social workers, the education sector, technology providers, financiers, gender workers, etc); it is embracive of the artisanal workers, their social leadership structures as well as their existing supply chains (stability) and is not disruptive in nature but is encouraging the artisans to discover the benefits of better technologies and to seek formalisation for its benefits (continuity) even though it recognises and openly points out the illegalities involved in some aspects of the sector. In choosing to work this way, the Malian government has taken a Jurisdictional Approach to the problems of its ASGM sector.

124. The financial inclusion indicator[14][14] from 2014 states that Mali has been well-under average of sub-Saharan Africa (SSA) and low-income countries (LIC) for the years 2011 and 2014. The percentage of people owning a financial institution account and with savings compared to the SSA reference is significantly lower. The Technical Note on the Microfinancing Sector in Mali[15][15] from the World Bank of the year 2015 concludes that Mali lags behind on most key measures of financial inclusion compared to the SSA and LIC references. *See Table 1.2.3*

125. Nevertheless, microfinance grew extensively and numbered 1 million deposit accounts in 2015, on par with the banking sector, that was holding 97% of the assets compared to 3 % of the microfinance institutions (MFI) at that time. The mobile money sector was also growing rapidly as well. Both developments can be interpreted as an indication of positive progress on access to finance in Mali.

126. The financial indicators showed a declining trend in the two surveys conducted between 2011 and 2014 due to the armed conflict that occurred in that period, but on the other hand it is also potentially attributed to the so called ?microfinance crisis? and the resulting mistrust in financial institutions.

127. The microfinance crisis in Mali started in 2009 and reached its high in 2012 with two major actors going bankrupt. A high number of low-income depositors lost their savings, and lost faith in the integrity of the banking system.

128. Refinancing from the banking sector and other governmental activities dried up and left the microfinance sector in disaster. Weaknesses in the former regulatory and supervisory framework was said to be the main cause of the crisis. An emergency plan has been developed to recover the sector with a newly adopted National Strategy for Microfinance (2016-2020). The document was prepared by the Microfinance Promoting Structure (CPA/SFD) under the guidance of the Ministry for Promotion of Investment.

129. The new microfinance strategy covered four themes namely:

a) Restructuring the sector
b) Protecting clients and promoting access to financial services for a widespread and diverse clientele
c) Capacity building of MFIs
d) Strengthening promotion and supervision of the microfinance sector (legal framework).

130. The failure to refinance MFI?s during the crisis remains a constraint to future activities in financial inclusion. A solid refinancing strategy seems crucial to secure a sustainable path for improving access to finance in Mali and to win back confidence in the financial sector as well as the government in general.

131. An analysis of the financial inclusion indicators from 2017[16]16 (newest set), however, shows Mali as having caught up. The rate of people older than 15 having a financial institution account rose by around 12 percent annually compared to around 4 percent in SSA and 3 percent in LIC. With a continuous annual growth rate of around 12 % until 2022 and with an estimated 28 percent (extrapolation) of Malian population older than 15 years expected to have a financial institution account by this year. This would be a major improvement compared to just 8,2 percent around ten years ago. New improved numbers are expected by the World Bank in 2022.

132. It is important to note that around 25 percent of Malians older than 15 had a mobile money account in 2017 compared to only around 12 percent three years before. Debit card ownership also more than doubled (4,0 to 9,5) during the same period.

133. The rate of borrowing money from financial institutions also significantly increased - although still relatively low at 6,3 percent, compared to SSA and LIC averages.

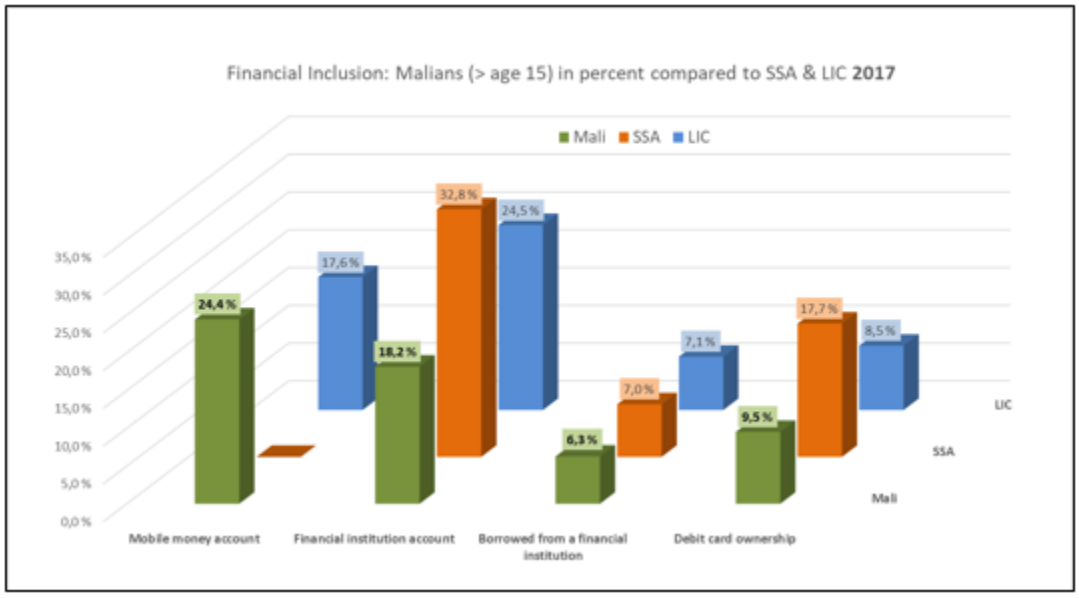



Figure 2.3.1. Financial inclusion in 2017 for Mali, SSA and LIC. Source: prepared by project team

134. The lessons from the assessed financial inclusion indicators can be divided in two aspects for further investigations: The future role of traditional financial institutions (classic banks) and the potential involvement of MFI?s in the formalisation process. The classic banks are often not represented in the remote areas but seem to have the better reputation throughout the mining sector and might potentially be the better partner for medium and large-scale financial demands, while the microfinance sector is geographically much better accessible and, therefore, well placed to meet the micro and small-scale financial demands.

135. The lesson from other Planet GOLD projects is that a strategy of providing a range of services from a range of different businesses should be the focus. Therefore, both entities (classic banks

and MFI?s) should be involved, with additional and complementary financial services combined with continuous government support.

136. In the project preparation phase the stakeholder consultations revealed that the concrete ASGM sector in Mali has very little experiences and almost no interaction with the banking sector, just a very limited number of cooperatives and individual goldminers are even holding bank accounts. Microfinancing mostly appears informally in a family-and-friend level context (holding a bank account is understood as one of the main characteristics of a more formalised sector).

137. To further uncover uncertainties of the particular ASGM sector, the agricultural sector and its access to finance was investigated for transferrable expectations and practices. The level of access to finance of the agricultural sector could also open avenues for alternative livelihoods for artisanal gold miners.

**Assessment of the agricultural sector:**

138. The services and products that are available from MFI?s to the agricultural sector include: a range of short-term products for inputs, field preparation and planting as well as marketing and post-harvest loans, and small-scale, typically village or next level up, inventory credit. Also, loans and credits for leasing and purchases of small equipment are offered. Compared to the commercial banking sector, the MFI?s process to lend money seems to be much easier and quicker. For example, a smallholder farmer is refused a loan seven times out of ten by banks because of the high risk and unpredictable nature associated with the agricultural sector while they can easily and quickly access from the MFI range of available credit services.[17][17] Therefore, in general, 70 percent of farmers are refused banking loans because of the associated financial risks. This is one reason why the banking sector is generally said to be sound and profitable in Mali because they minimise the risks of exposure.

139. One activity to strengthen investments in the agricultural sector led by the Malian government and the World Bank is the Agricultural Competitiveness and Diversification Project. The Project works to ?reduce the risk of investing in agriculture ?through technical assistance, new technologies, and greater knowledge of the supply chain and key actors,? according to World Bank Agribusiness Specialist Yeyande Kasse Sangho. The project aims to foster closer links between agribusinesses and commercial financing, including microcredit.

140. Another activity is the 10 million Euro in local currency funding by European Investment Bank (EIB) to MFI Kafo Jiginew. Although its focus remains on the cotton sector, the social finance institution Kafo Jiginew supports other agricultural activities as well. It focuses on local providing financial services: collection of savings, distribution of credit, money transfer and other financial services to low-income populations. Kafo Jiginew might be an institution to learn from.

141. Also, there is a guarantee fund developed with a focus on young graduates who wish to establish agri-business activities in line with established criteria of the Agency for the Promotion of Youth Employment (APEJ). The Agency for the Promotion of Youth Employment is a public administrative institution created by law n?03-031/AN-RM of 25 August 2003 updated by law n?2014-

068/AN-RM of 31 December 2014. Placed under the supervision of the Minister in charge of Employment, its mission is to contribute to the creation of jobs for young people in urban and rural areas by facilitating their access to the labour market and to credit. APEJ's target group is young people (men and women) aged between 15 and 40, including those from the diaspora. From 2004 to 2019, within the framework of the implementation of the Youth Employment Programme (PEJ) and thanks to the support of the government and several other partners, APEJ's interventions have reached 185,295 young graduates and non-graduates to develop the entrepreneurial spirit and capacities of young people in Mali.

## 2.4 Gold supply chain

***The role of intermediaries***

142. Apart from the trading companies that export to the international market, there is a significant number of wholesalers between the producers and the exporters. The miners sell the gold on the mining site to a collector or other itinerant buyers. From these actors the gold is sold to traders or buying stations usually located in larger towns. The final stop for almost all the gold produced in Mali is Bamako, where it is sold to the refineries or directly to exporters.

143. The mercury that is used in more than 80% of the sites is sold to the miners by the gold buyers, who buy it from wholesalers or semi-wholesalers at the panning sites, most of whom are from Bamako.

144. However, small scale producers might be very dependent on intermediaries for the economic factor because they supply the miners with capital to extend their activities. These relationships are enduring and are built on trust. They must be considered in any change process in this sector.

145. Actions 31, 32 and 33 of the Mali NAP incorporates a detailed analysis of the Mali gold supply chain, seeking to formalise, make transparent and facilitate broader access to finance.

146. In many cases, small-scale producers are highly dependent on intermediaries (gold buyers and aggregators) for financing and for access to mercury. This system cares little about the sort of traceability that is provided by paper or digital records. Its traceability systems appear to be dependent more on spoken accounts. For any changes to it to be effective and sustainable, they must show strong value addition in a culturally sensitive manner, a challenge that is easy to misjudge and underrate, leading to resistance and rejection by the very actors who need to implement the changes in field.


Figure 2.4.1. Gold supply chain in Mali - yellow arrows indicate gold flows. Source: prepared by project team

147. The gold buyers and refiners are organised in the Union of Gold Buyers and Refineries in Mali (UCRON). There are only two refineries located in Bamako (Kankou Moussa and Marena Gold refineries), one has attempted to establish mercury-free processing centres in Mali.

***Malian gold exports***

148. Gold exports have increased continuously in recent years (since 2017) after at least a two-year decline immediately prior to that. The exports crossed 65 tons per year in 2019 approaching the 2015 peak of 70 tons in the year.

| Year | Gold Exports (metric tons) |
|---|---|
| 2015 | 70.2 |
| 2016[18][18] | 67.0 |
| 2017[19][19] | 53.4 |
| 2018[20][20] | 61.6 |
| 2019 | 65.6 |
| 2020 | 65.4 |

Table 2.4.1: Mali gold exports. Source: Reuters

149. The main countries where gold was exported from Mali are: United Arab Emirates and Switzerland with a volume split of around 75/25 in percent terms.

150. The drastic drops between 2015 and 2017 have been attributed to the implementation of a law that banned gold mining activities in the rainy season (May to Sep) for safety reasons.

151. Industry representatives estimate an additional 10-15 tons of illegally exported gold, that is not reflected in the figures of Table 2.4.1. It is estimated that illegal exports rose with the implementation of higher taxes (artisanal gold exporters try to avoid official customs channels).[21][21]

## 2.5 Main technologies, practices and use of mercury in ASGM in Mali

152. A wide range of tools are used, from picks and shovels to heavy equipment for moving large volumes of ore.

153. Some of the ASGM operations currently use heavy machinery 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.

Alluvial mining

154. In Mali, ASGM alluvial sites are located around the *Niger* River, its tributaries the *Sankarani*, the *Wassoulou Bal?*, the *Bafing* and the *Bagoe*; and the *Senegal* River and its tributary the *Fal?m?*. Alluvial mining within active river beds is a significant activity here.

155. As such, the circles (municipalities/districts) affected are:

- Kangaba: Fleuve Niger
- Yanfolila: Wassoulou Bal? and Sankarani Rivers
- Kadiolo: Bago? River
- Kolondi?ba: Bago? River
- K?ni?ba: Fal?m? River
- Bougouni: Baoul? River

156. The impact of artisanal gold mining on rivers is magnified by river dredging. Dredging is a mechanism for extracting minerals underwater by puncturing and raking the riverbed. The river may be active (with flowing water) or inactive (a seasonal or dried up river bed only environmentally or geologically recognised as a river).

157. In Mali, dredging is used for gold mining in rivers. Dredging causes enormous damage to the environment and contributes directly to the degradation of waterways. The damage includes contamination of water by chemicals, the alteration of air quality by hydrocarbon odors from the running pumps and disturbance of the ecological balance between and within riverine fauna and flora. Gold mining on a river acts physically and chemically on the river and its biotope. The dredger digs

deeply into the riverbed. This leads to geomorphological changes of the shoreline and causes physical destruction of habitats of different species of living organisms. Some species adapt but most disappear.

158. Two types of dredging technologies operate on the rivers of Mali. These are the suction dredging and the bucket dredging. The suction dredge is a floating machine equipped with a suction pump and one or two motors. It is manufactured in Mali. The bucket dredge is imported from Asia and digs and dumps an average of 75 tons of gravel and boulders into the water in a single round in a maximum of 20 minutes. It causes mounds and islands in the riverbed and thus accelerates their silting. These machines spread chemical products such as motor oil, diesel, gasoline, etc. all toxic elements, which change the chemical composition of the water environment and make it unfit for consumption. This introduction of chemical elements into the ecosystem leads to, among other things, an imbalance in the aquatic fauna and flora, and the slowing down or stopping of reproduction in certain species. Also, once the water is polluted by chemicals, it leads to the disappearance of phytoplankton, oxygen supplier of the river and base of the food chain. The reduction of phytoplankton leads to the non-proliferation of zooplankton with expected loss in the rest of the food chain.

159. Worse, many dredge users have also been found using mercury in uncontrolled ways in their activities ? to amalgamate the dredged concentrate ? further compounding their negative impacts on riverine life.

160. Alluvial gold mining sites are generally located within a 10 km radius of the villages. Often some villages merge with these sites and the dredgers or ore washers from the mainland operate directly in the rivers bordering the said villages.

161. The water is turbid in situ, i.e. where the dredges, sluices and ore washing pans of the alluvium or the mainland operate.

162. The floating cages of aquaculture are implanted at the edge of the Niger River in certain localities of the circle of Kangaba at the same time as the dredges which move there.

Table 2.41: Alluvial mining showing excessive turbidity of the water due to unregulated dredging.

Cangall? mining

163. This is the midway between hard-rock mining and alluvial mining (where loose or easily loosened ground is involved). *Cangalli* is gravel from ancient rivers, the gravel being in an advanced stage of geologic compaction towards hard rock conglomerate. As such, cangalli mining does not involve the same level of hardness as hard-rock mining (can be accomplished with chisels, and hand tools with moderate hand force).

164. Vertical shafts and horizontal tunnels of considerable length (up to several hundred meters) may be dug to extract the cangall?-type ore from the paleo-bedrock. Figure 2.4.2 shows an entrance to one of these access shafts. Notice the rudimentary materials (wood, earth) used to secure the faces of the shaft from falling in. This is why the rainy season presents a problem as these soft gravel and wooden structures can give in and collapse, trapping miners inside. Ropes are used to pull, via manual labour predominantly supplied by women, to pull buckets of mined ore to the surface.

Table 2.4.2: Shafts leading to the Cangalli type gold ores (left), surface activities showing sacks of ore brought up.

Primary mining

165. These work on primary deposits (hard rock), containing gold-bearing quartz veins, generally accompanied by metal sulphides or their oxides. The only difference between this type of gold mining ? especially for ASGM activity ? is just that the ore bearing rock is harder and, as such, some light mechanisation may be utilised such as jack hammers. However, the predominant difference between corporate hard-rock mining and ASGM hard rock mining is that in ASGM the ore vein is followed with basic tools in winding tunnels that are clearly interested only in extracting the gold-rich material with no regard for structural stability of the resulting maze. Back-filling, a practice that seeks to restore structural integrity of the network of tunnels, is never practiced in ASGM mining. Clearly, safety risks heightened by structural weaknesses in the mine are the highest concern in ASGM primary-type mining.

166. The processing of the material and gold beneficiation is carried out using different technics. Beneficiation includes crushing, grinding, gravity concentration and in many cases amalgamation. Beneficiation is followed by processing activities such as smelting and refining. The most rustic is a

manual combo crushing, followed by grinding in hammer or stone mills, which can be done dry or wet. In the latter form, mercury is generally used in combination with grinding and amalgamation ? a so-called *co-grinding* operation. The free amalgamated gold is then recovered from the milled earth using pans and sluices

Cyanidation

167. A commendable practice in Mali ASGM is that artisanal miners and gold panners here do not practice Whole Ore Amalgamation. They only practice amalgamation of the concentrate, as evidenced by an aggregate nationwide mercury: gold ratio of 1.44:1. In some countries? ASGM sectors, the mercury ratio is as high as 10:1 or greater.

168. The cyanidation of residues in general and those that were priorly amalgamated with mercury is a common practice in the circles (districts) of K?ni?ba and Kangaba. It is practiced by foreigners from the West African sub-region, particularly from Burkina Faso. This is a Minamata scheduled *Worst Practice*.

169. In addition to the burning of amalgam in the open air and in residential areas (another Minamata scheduled *Worst Practice*), cyanidation of *tailings possibly containing traces of mercury* is one of the urgent practices, which the Mali NAP seeks to address.

170. Unfortunately, no Quality Assurance (QA) process is followed in the ASGM sector in general, and even less so in the process of cyanidation of mercury-amalgamated gold ore residues.

171. The use of sodium cyanide in Mali has increased exponentially since 2017, as Table 2.5.1 shows. This coincides with the active entry of cyanidation in gold processing in the country.

| Year | Sodium Cyanide Imports (metric tons) |
|---|---|
| 2016 | 4,650 |
| 2017 | 396 |
| 2018 | 19,198 |
| 2019 | 352,397 |

Table 2.5.1: Sodium Cyanide imports into Mali. Source: Project team extraction from tax authority records

172. The cyanide and mercury used in ASGM is derived from illicit trafficking. According to the ASGM NAP study, 33 tons of mercury are used annually at ASGM sites.

173. There is no data on the amount of cyanide used in illegal cyanidation in ASGM.

## 2.6 Academic and research institutions

174. The Mali NAP seeks to engage a handful of tertiary institutions to help spearhead the shift of technology to mercury-free ones. However, one institution appears to have stood out during the Stakeholder Mapping sessions for its better advanced preparedness toward the objectives of this

project. This is the *Ecole Nationale d'Ing?nieurs du Mali*, with current key contact being Prof. Mamadou Sanata Diarra, Directuer General ENI-ABT +22375299059, madousdiarra@yahoo.fr

## 2.7 Indigenous people

175. At the level of site organization, there are village chiefs, site leaders, imams (people who officiate Muslim prayers) and *tombolomas* (local site security officers), well owners and financiers. These actors are responsible for the administration and management of the sites. At the operational level, the mines are managed by team leaders, sometimes assisted by a secretary. There are also diggers, rope pullers, "*souteneurs*" (a local term for ore handlers) and blacksmiths.

176. With this organization, there has been little conflict noticed on ASGM sites (until more recently).

177. There were natives, some of whose families are generational gold miners, handing down their trade/skills from "father to son", and a few foreigners from other parts of the country and the West African sub-region.

178. However, with the advent of multinational organisations in Mali gold mining (industrial mines), relations are getting strained in some places, due to occupation of mining permits by indigenous gold miners native to the land. In these cases, the government and its agencies have intervened but its interventions have almost always ended in the natives losing access to their ancestral lands. Such cases have occurred in Kangaba and K?ni?ba.

179. More recently, Chinese mining companies operating mechanized operations have frequently had problems with indigenous populations whose agricultural land has been illegally allocated for gold mining by the Chinese. Incidents of this kind occurred in 2021 in the artisanal mines of K?ni?ba and Kangaba (Nar?na). The outcome is still before the state courts. Protests by indigenous people have also been brought to the National Assembly/National Council of the Transition.

180. Authorization for mechanized artisanal mining is granted to natural persons of Malian nationality or to legal entities whose share capital is held entirely by Malians. This activity also takes place in the gold panning corridors, subject however to the written approval of the competent territorial authorities.

181. The artisanal mining permit confers on its holder, within the limits of its perimeter and to a depth of 15 meters, the exclusive right to mine, by artisanal or mechanized methods and processes, the substances for which it is issued.

182. The fees for the issuance or renewal of a traditional artisanal mining permit are USD 4 to USD16.5, at time of writing, and the fees for mechanized artisanal mining are USD1,653. The royalty is set at 3%.

## 2.8 National and international initiatives supporting ASGM

183. Part 8 of *Table 2.2.1* presents the key advocacy groups active in Mali ASGM sector. The associations shown there are active in the protection of the environment, safeguarding vegetative cover,

lands sustainability and regeneration, and conservation of rivers and their ecosystems. They advocate for *non-change* of use of the agricultural lands (due to action of multinationals, operators of small mines as well as Chinese dredgers, which have in the recent past proliferated in the gold zones in the Southern parts of the country).

Landscape approach-related initiatives

184. The work of the advocacy groups mentioned in Section 2.8, above, is the key Landscape Approach initiative operating in ASGM in Mali.

## 2.10 Sustainable Landscape Approach (SLA), Jurisdictional Approach (JA)

185. The jurisdictional approach (JA) is a type of landscape approach (LA) that uses government administrative boundaries to define the scope of action and involvement of stakeholders rather than social and environmental boundaries. It emphasizes the importance of governments (jurisdictions) in multi-stakeholder land use, among others through legal and policy frameworks that guide and regulate natural resource use.

186. The SLA/JA approach to be adopted for the GEF-GOLD+ Mali Child Project will adopt some of the guidelines provided by the GOLD+ Global Project but the output will be driven primarily by the Ministry of Environment and Sanitation.

187. In addition to the regional/local authorities and actors, the Ministry of Environment and Sanitation will work with the Ministries of Mines and Petroleum, Energy and Water Resources as well as the Ministry of Agriculture, Livestock and Fisheries in aligning SLA/JA objectives at national and local levels. In this work, they shall involve institutions including but not limited to mining associations, women mining groups like the Association of Women Miners in Mali (AFEMINE) and the Federation of Women Miners in Mali (FEMIMA) and private sector players.

188. With regards to the implementation and execution of the Child Project in Mali 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 enhancing the social economic development in the mining communities and specifically sites across project selected regions.

189. Relevant mining communities and trade associations have been consulted. The State/regional 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 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.

190. Implementing SLA/JA as a framework for structuring interventions is generally associated with certain challenges (limited public sector capacity, lack of broad support, limited home-grown initiatives and other challenges). The Mali NAP has pre-empted these challenges by considering the mercury problem as a regional (ECOWAS) matter. This has heightened the jurisdictional perspective not just in Mali but in all West African countries which are considering GEF/UNIDO support on

mercury emissions. Therefore, under this project, a comprehensive training and capacity building program will be developed to support the implementation SLA/JA related activities.

191. The SLA/JA is key in achieving a balance in roles and services of all stakeholders within the landscape. The assessment and evaluation of SLA/JA undertaken in the course of site visits to the respective mining communities during the development of the CEO endorsement package, indicate that in some sites, some potential problems need to be clearly identified and managed during the conceptualization and design stages of national and local level interventions. These include:

a) Poor mapping of stakeholders,

b) Unclear jurisdictional roles and responsibilities,

c) Government bureaucracy,

d) Recognizing and understanding the level of influence on mining operations,

e) Failure to consider the views and inputs of all the stakeholders involved, and

f) Poor stakeholder participation.

192. SLA/JA scope of activities have been defined through consultation with the national stakeholders and local communities. The scope of activities will be closely aligned to national development goals, plans, strategies, and SDGs while considering the existing national capacities. The scope of activities in the pilot sites will include, among others elimination of Hg use from the ASGM sector; implementation of conservation and restoration of biological diversity, sustainable agriculture and climate change mitigation measures. A national technical experts committee will lead this activity and they also benefit from strengthened technical capacities provided under the project through the training and capacity building related activities including South-South experience sharing.

**3) The proposed alternative scenario with a description of outcomes and components for the project**

193. The Project *?Global Opportunities for Long-term development of the artisanal and small-scale gold mining sector Plus (GOLD+) in Mali??* represents a vital opportunity to promote the transition of ASGM towards a more responsible sector.

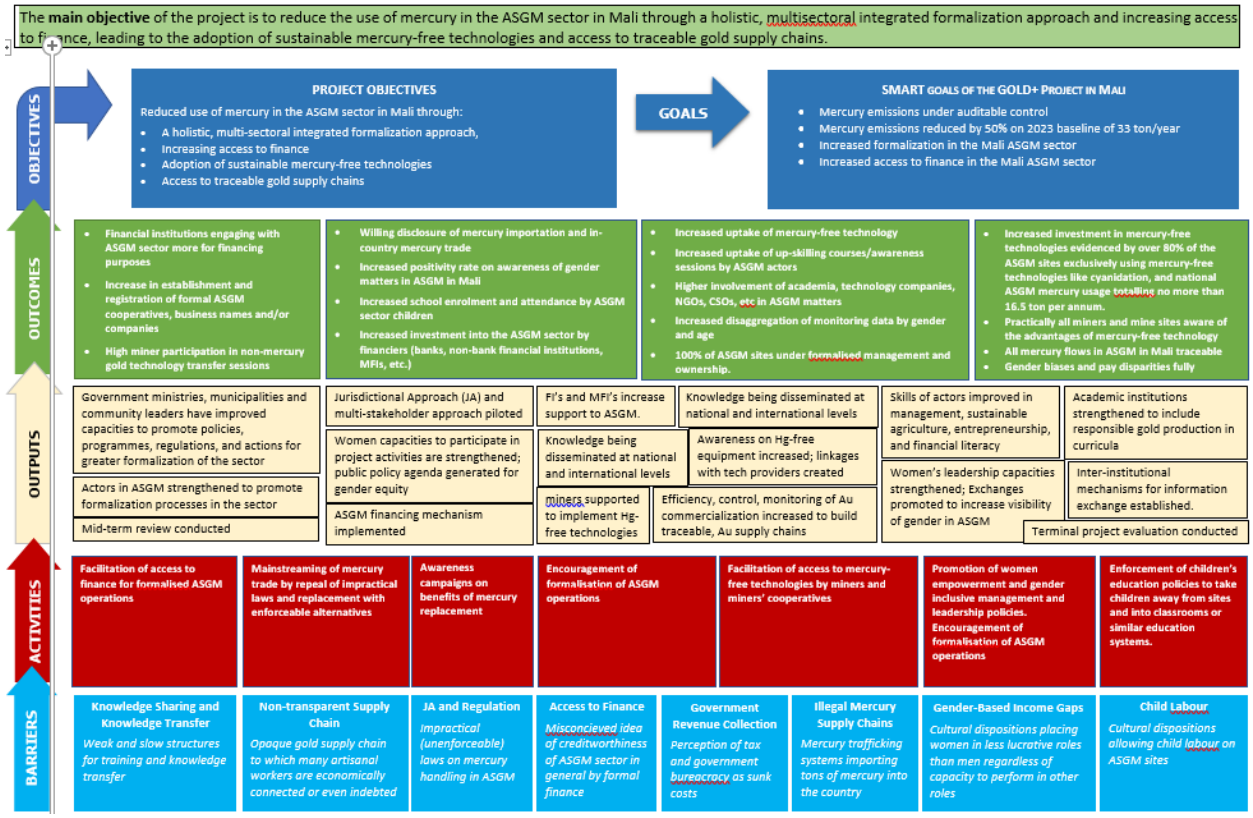
194. The following section explains how the project will lead to an alternative scenario to the current context experienced by the sector at the national level. To this end, the foreseen outcomes, outputs, and activities expected in the next five (5) years are presented graphically below in the Theory of Change (Figure 3.1) and explained in subsequent paragraphs.

195. 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.

196. The integrated approach proposed responds to and reflects the program?s Theory of Change (ToC) by designing interventions that focus on the barriers, cited in Section 1.3, which prevent the broader uptake of responsible mining technologies and practices in Mali.

197. The ToC is based on the problem tree that outlines the root causes and barriers of the existing environmental problems in ASGM in Mali highlighted in the previous section. 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.

If the outputs are completed successfully then the project will reduce mercury use in ASGM in Mali and the attendant negative impacts on health and the environment.




Scaling up and successful replication of circular solutions

Figure 14: Theory of Change, GOLD+ Mali

*The **main objective** of the project is to reduce the use of mercury in the ASGM sector in Mali through a holistic, multisectoral integrated formalization approach and increasing access to finance, leading to the adoption of sustainable mercury-free technologies and access to traceable gold supply chains.*

198. This objective is intended to be achieved through the four main components described below, complemented by a component dedicated to monitoring and evaluation.

**Component 1. Enhancing formalization in the ASGM sector**

199. Outside the recently (2021) completed National Action Plan (NAP) pursuant to the Minamata Initial Assessment, there are no other specific policies or regulations aimed at promoting formalization processes in ASGM in Mali.

200. For this reason, one of the challenges to be tackled through the project is the internalization and practical application of formalization processes in the ASGM sector as the progress achieved will contribute towards a more responsible and efficient sector. For this approach to be successful, multiple organisations should be involved in the formalization process.

201. Within the framework of the project and in accordance with the jurisdictional/landscape approach, formalization encompasses a process of articulation of the different actors and interests involved in the sector, both at the national and subnational levels, including ASGM actors and other relevant stakeholders from civil society and other productive sectors linked to the activity.

202. Effective and efficient participation of these actors in the formalization processes must be based on the strengthening of their capacities, which is a key element to achieve greater formalization.

**Outcome 1. Increased formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization.**

***Output 1.1.** Government ministries, municipalities and community leaders linked to the ASGM sector have improved capacities to promote policies, programmes, regulations, and actions aimed at a greater formalization of the sector.*

203. The focus is to formalise the ASGM sector by integrating it into a formal productive fabric which is equipped with small scale mechanised mining equipment. The formalised ASGM sector will then be subject to official monitoring and audit.

204. Under the leadership of the Ministry of Environment, Sanitation and Sustainable Development, the Ministry of Mines, Energy and Water, the Ministry of Local Government and the Ministry of Justice, will collaborate closely to assess the current mine licensing procedures and other associated legal requirements, compliance levels and the benefits of formalisation in the ASGM sector. The project will work to reduce administrative complexity and increase transparency to contribute to the formalization of mining activities. Since proper taxation depends on legally recognised operations and export, regulations relating to formalisation in the ASGM sector will have a direct impact on national revenue generation efforts. Appropriate interventions might be necessary.

205. Expanding formalization is dependent on government?s capacity to regulate and supervise the sector. Government departments? capacities will need to be strengthened in order for them to play their full role. Establishing more mining and geological offices in the circles where gold is produced will be necessary, as well as further formalising the gold trade.

206. An assessment of the existing ASGM policies and institutional frameworks, including permits, taxation, labour, environment, poverty and gender-related aspects shall be carried out during the initial phase of the project implementation. These actions will lead to revised ASGM related policies and institutional frameworks, which will also include mechanisms to strengthen the legal and institutional frameworks and consider the local and national socio- economic realities.

207. The revised regulations will address the following gaps: strengthening enforcement and compliance with environmental regulations; strengthening participatory approaches and relationships with local ASGM communities and stakeholder consultation; improving the process of granting mining rights (panning card), defining the roles of cooperatives, monitoring of gold production and commercialization, regulation of the scope and characteristics of marginal deposits. Mercury-trade and gender-related aspects will also be considered.

208. The process of producing the policy document will be inclusive, and comprehensive with the participation of all relevant stakeholders including community representatives, miners ?umbrella organisations? (e.g., FENOM), experts, and officials from all the relevant government institutions.

209. Gender mainstreaming will be included at the policy-formulation level by consulting the Association des Femmes Mani?res du Mali (AFEMINA) to ensure that women are part of the process, and their concerns are accounted for (in line with the work to be done under output 1.4).

210. A capacity building programme will be developed to strengthen the technical and institutional capacities of national stakeholders to undertake formalization processes.

***Output 1.2.*** *Actors in the ASGM sector both at national and local levels as well as cooperatives strengthened to promote formalization processes in the sector and related activities*

211. The project will work with selected pilot sites. These pilot sites will work as experimental areas to the formalization process, including ASGM actors that will be regulated by the government.

212. The project will support at least 50 cooperatives with applications for licenses including training them in Best Practices. A tracking tool to measure the formalisation progress will be

developed. During the project lifecycle, 25 ASGM organizations in the selected mining sites will apply this tracking tool. Learnings will be documented and made available for other regions.

213. Training needs assessments will be conducted for the sector, a training and capacity building strategy developed and implemented within the sector. These activities will be conducted concurrently with awareness raising activities.

***Output 1.3.*** *Jurisdictional Approach (JA) and multi-stakeholder approach piloted at selected ASGM area.*

214. The implementation of SLA/JA in this project will commence with the needs assessment, strategy development, definition of scope of activities, the stakeholders, expected outputs and the implementation timelines. The national development agenda activities will be closely studied and linked to the proposed SLA/JA intervention measures at the local level. Some of the expected activities to be implemented as part of the SLA/JA include, *inter alia*, climate change mitigation, sustainable agriculture, biodiversity conservation and restoration measures including social aspects relevant to gender and child labour.

215. Given the fragility nature of the local environment which is highly susceptible to climate change, identifying and promoting appropriate local and traditional farming techniques, such as the use of bunds and weirs, and their potential to contribute to address the issues of soil fertility, high temperatures, low rainfall, and dry spells, including the potential to reduce the use of fertilizers and pesticides, will be investigated. Other measures that will be considered for restoration, among others, are: promoting traditional farming, reducing tillage, using more natural fertilizer and pest control, and growing more diverse crops, including tree planting. The availability of the geological maps will also reduce the practice of forest clearance in places where gold deposits do not exist.

216. A training needs assessment will be conducted followed by the development of the training strategy with its attendant implementation road map. The training strategy will cover identified training priority areas, target groups and curricular. The training guidance and materials will also be developed with support from international experts. International and national institutions that can support the implementation of the training strategy will be identified. International experts will support the development of national capacities by training, on the train-the-trainer basis, local experts from selected stakeholders who have training and capacity building responsibilities

217. The themes that will be included in this project?s jurisdictional approach curriculum are:

•Underlying Drivers Assessment: Analysis of policies and economics that identify the root causes and levers that must be changed to facilitate systemic transformation to sustainability.

•Governance Assessment: Evaluation for how decisions are made and implemented so that improvements can be made to ensure full stakeholder participation, transparency and accountability in the pursuit of a sustainability vision.

? Negotiations Training and Rights Based Approach: Empowering marginalized groups, often local communities, indigenous people, women, and youth to be able to play a proactive role in defining their future.

218. The program will support the planetGOLD Mali project via webinar series, topical presentations, tools and methodologies workshops and product review and consultations with CI?s JA experts. Based on the activities planned under GOLD+ global project (GEF ID 10606), planetGOLD Mali intend to participate in JA Tier 2 level.

***Output 1.4.*** *Women capacities to participate in the project and other ASGM related development activities are strengthened and a public policy agenda is generated towards formalization, gender equality and women empowerment*

219. Women miners are less organised to lobby as a group and to assert their rights due to a number of factors, not least their existing marginalisation from furthering their skills.

220. The gender analysis will be undertaken, including assessment of existing policies and how they could impact women?s effective participation in the project. Recommendations on gaps and weaknesses will be made in order to strengthen the existing gender policies and programs.

221. A socioeconomic baseline of women miners in the selected areas will be developed to guide gender-sensitive decision-making. Once this information is available, it shall be disseminated at the local, national and regional level to raise awareness on the key challenges and opportunities of women miners in Mali.

222. Specific exchanges will be encouraged between government officials and women miners? representatives at the local and national level to promote a gender-sensitive public policy agenda focusing on formalization, gender equality and women empowerment as well as other relevant aspects (contributing to output 1.1).

223. Informal workers will be supported to organize themselves into formal entities to be represented and increase their visibility as well as their capacity and skills to defend their labour and social rights.

224. Capacity building programs will be conducted to broaden the formation and proper management of women miners? organizations.

225. Awareness raising campaigns to ensure that women are adequately informed so that they can assert their rights, including but not limited to the following: project objectives and activities, opportunities for women participation and associated benefits, environmental and health risks associated with mercury, sexual reproductive wellbeing, among others. The awareness campaigns will also be designed to encourage women miner?s active participation in all project and other development related activities.

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

226. As stated above, the informal nature that characterizes the ASGM sector generally, the remoteness of the activities and the unpredictability of the revenue streams are among the main barriers to access financing for the sector in Mali. In addition, the generally very low financial inclusion trends in Mali and the so called ?microfinance crisis? will have to be considered carefully. The project will strengthen and align the national financing systems such as banks and microfinance institutions' and other financial services providers' ability and focus to serve the financially excluded from the ASGM sector through the development of innovative financial products and services.

227. Under the project, a sustainable financing mechanism will be established for the provision and legislated. The financing mechanism will include an initial USD$1,000,000 revolving fund. The revolving fund will provide loans to qualifying individuals and entities on a cost recovery basis. The national project steering committee will provide the operational framework, oversight structure including the implementation modalities.

228. Seed funding up to USD$1,000,000 shall be provided to the *ASGM Access to Finance* component of the project.

229. Training and capacity building shall be conducted in basic book-keeping, business plan development and related skills in order to assist them to qualify for financing.

230. It is important to understand that the ASGM sector in Mali has very little banking experiences and almost no interaction with the banking sector whatsoever. Currently, a very limited number of cooperatives and individual goldminers are holding bank accounts. Microfinancing mostly appears informally in a family-and-friend level context.

231. Respecting that the banking sector has yet to establish a credible track record of successfully financing ASGM activities, the project will have to ? among other policies ? develop a comprehensive awareness raising and capacity building program for the banking sector, as well as for the miners. For this to be achieved the involvement of the Association of Professional Banks and Financial Institutions of Mali will be crucial in the project, whose interest and willingness to support the project has been confirmed during the PPG. The various mining industry representative groups will have to be involved closely on this aspect too.

232. Designing very basic financial instruments and easy to access financial products, as well as additional mechanisms to improve access to finance in remote areas should be among the first priorities of the formalisation process. The financial interventions should carefully respect two of the main important pillars of the general formalization strategy, in this case: *continuity and stability*.

233. Funding support should be designed in such a way that it does not dry out after a short period of time or after the project duration. Stability in the context that the interventions should guarantee the miners improved conditions and not worsening of their income situation.

234. This effort of ?*education of financial institutions*? on different aspects within their sphere of influence, mostly concerning risk assessment and understanding of miners-needs has to be

complemented with a parallel component of ?*education of miners*?. Building literacy (financial competence) among the targeted key groups of this project will be indispensable for the objective of formalisation. Since most of the ASGM actors have no experience with the banking sector, a big challenge will be to convince miners to generally work with and trust in banks or other financing institutions like MFI?s as well as learning how to develop suitable business plans, basic bookkeeping etc.

235. Despite improving the general financial inclusion landscape in Mali through the establishment of enabling frameworks and creation of innovative and targeted financial services and products, the project aims to significantly lower mercury usage and, therefore, must investigate incentives to do so within the access to finance improvement process. Privileging actors, that don?t use the worst environment- and human-harming techniques and actors that can prove low mercury/gold rates or embody other measurable indicators, should be taken into consideration.

236. The proposed financial inclusion approach for the ASGM actors in Mali mainly consists of the following three pillars:

a) Improved access to *microfinance* for small inexperienced and more non-formal and non-professional actors, to step by step build-up of financial literacy, further formalise, be motivated to structure their business plans and be able to expand their business without over marked interest rates - that they would, usually, have to pay in the community level informal financing.

b) Access to a well-functioning *revolving fund*, established under the project jointly with government and other financing partners, that enables bigger cooperatives with solid business plans, that are meeting several eligible criteria, to purchase equipment and become more mercury independent in their operation and start producing responsible gold.

c) Miners will be encouraged and obliged (through certification) to attend *training and capacity building* programs to learn basic skills such as business planning, basic bookkeeping, basic steps in de-risking investment in the ASGM operations, to meet the banking sectors conditions for financing in general and for the access to the revolving fund. The programs will also provide the miners with tools to keep track of their mining site (cf. ?The Artisanal Miners Booklet? Planet Gold project Burkina Faso[22][22], geological survey maps, etc.).

237. To build lasting interests and continuity, the project should involve a high number of stakeholders and organisations into the financial inclusion approach. This could include direct oversight by the project steering committee.

238. The project also emphasizes the need to put in place better conditions to improve and control traceability of the ASGM gold. A framework to regulate the gold market and to ensure that more ASGM gold is exported through tracked official channels will be targeted. This framework will support more responsible and transparent gold supply chains, which will then result in greater

economic and social benefits for the ASGM. For the State, revenues will increase through the collection of taxes. For the miners and their families? profits through better access to finance and more responsible and transparent supply chains should increase by the use of advanced mining technology and equipment, less middleman involvement and the access to higher market prices and improved basic management skills gained in the dispensed training and capacity building programs. As an indirect consequence, more responsible and transparent supply chains have the potential to positively reduce informal mercury trade since the same actors are often involved in both mercury and gold trading.

239. Part of the strategy will be to put in place a gold world price information system, to develop a national gold standard (?Malian Gold?) and the promotion and support for mining groups and gold buyers to the production of clean, safe and socially responsible gold.

240. To improve access to finance for the ASGM sector - despite implementing the new financial services - public funding and governmentally backed risk sharing instruments will be necessary to guarantee sustainable development within the ASGM sector. The commitment of the governmental actors to initially fund and then continuously partly back the risks from pending rates must be developed and confirmed at the project inception phase.

**Outcome 2. Increase in finance options through the attainment of better gold prices facilitated by transparent and responsible supply chains.**

***Output 2.1.*** *National financial institutions and micro finance institutions strengthened to increase support to ASGM, and ASGM related financial mechanism implemented*

241. During the project preparatory phase, the general financial inclusion situation, the status of the national microfinancing sector and the situation of access to finance for mining cooperatives was preliminary analysed. As a status quo, it can be noted, that the ASGM sector in Mali does not benefit from any classic banking or even microfinancing (only a small number of miners are holding bank accounts. Financing only happens informally through gold buyers or other community members).

242. A detailed study based on surveys and expert interviews/stakeholder consultations is missing. A study will be undertaken to analyse status quo of the demographic situation (e.g. educational background, experience, tribe/caste, age range, motivation for mining, production levels, cooperative constellation etc.) and the financial literacy and access to financial services of miners (e.g. experiences with bank accounts, credit cards, credits, loans, leasing, online banking, access to internet, rate of smart-phone ownership etc.). This will be part of the first set of activities to be undertaken during the project implementation phase to facilitate the design of a strengthened national access to financing framework.

243. Detailed information of the targeted groups (miners and banking sector) will be generated that will contribute to the development of a well-fitting financial interventions, training and capacity building program supported by a robust awareness raising program.

244. The study will investigate how and under what conditions commercial banks are and were lending to the ASGM sector, or why they are not. This closer investigation will reveal why the ASGM sector is excessively undercapitalised and bring forth the crucial points of where to start from in order to bring about the desired changes. Masked interest rates of the informal community level financing will be uncovered. The results and lessons learnt from studying potential borrowers and lenders will be summarised in a status-quo report.

245. A national financing mechanism should be established. The financing mechanism should include the establishment of a revolving fund. Access to the revolving fund should be on the cost recovery basis. An initial capital of USD$1,000,000 should be provided. The revolving fund should be managed by a well-regarded financial institution, that must be identified during the project inception phase. The host financial institution could either be government, quasi-government or private financial entity. The TORs for its operation framework including interest rates, repayment terms and duration should be decided by the national project steering committee. Interested financial institutions and potential lenders will be capacitated with benefits and their investments de-risked through structured government interventions. The revolving fund must be insulated from failure and experience from the collapsed microfinance crisis should inform the design against future failure. As prt of the set-up of the fund, a strategy for sustainability and growth of the fund will also be developed.

246. To ensure success of the national financing mechanism, the project will promote capacity building activities targeted at financial institutions to increase their understanding of the ASGM sector and promote the development of innovative portfolios of financial products and services including the related infrastructure for the sector to serve the financially excluded. The capacity strengthening of microfinance institutions' and other financial services providers' ability to serve the financially excluded through the development of innovative financial products and services especially for remote areas will be also prioritised.

247. Women will be given special consideration in the financial mechanism. A fixed amount of the revolving funds will be reserved for women led cooperatives or individuals.

248. To ensure inclusivity and shared prosperity, 75% of the revolving fund should target the ASGM related activities, while 25% should be reserved for other entrepreneur activities such as agriculture, trading, among others. Women without mining vocation and initial cooperatives should be prioritised. This will ensure inclusiveness and shared prosperity for the host commmunities. This approach will also promote and support alternative livelihoods for people aspiring to exit the ASGM sector, or local value addition by locally producing supplies.

249. A national technical committee on access to finance will be establish by the PSC to lead the design and operational modalities of the financial mechanism. The PSC will provide oversight.

***Output 2.2.*** *Individuals and institutional capacities of ASGM actors improved in areas of overall management, sustainable agriculture, entrepreneurship, and financial education*

250. One of the pre-conditions to access financing is for the cooperative members and individual miners to qualify as credit subjects. For that purpose, capacity building will be carried out by developing and implementing training programs on available ASGM financing schemes, access

criteria, basic accounting, business plan development and other topics providing miners the tools not only to access the finance but also to successfully execute their business plans and create more sustainable and profitable business ventures.

251. The module targeting individual miners will include topics such as: (i) importance of the financial sector for the development of the sector; (ii) measures to detoxify the ASGM sector (iii) appropriate technology and process for the ASGM sector (iv) financial products and services, including insurance;(v) lessons learnt from other Gold+ countries(iii) conditions and requirements to be a ?credit subject?; (iv) rights and obligations of financial customers; etc. among others.

252. Training needs and capacity assessments will be conducted, training and capacity building strategy and implementation road map developed, guidance, curricular and training materials developed. National training institutions designated to implement the training strategy under the oversight of the PSC.

253. Capacity building will also be carried out for cooperatives, where a financing and accounting module will be developed and implemented. The content will be built around: (i) regulation of the ASGM sector; (ii) rights and obligations of cooperatives members; (iii) environmental and social safeguards; (iv) the role of corporate governance; (v) basic financial concepts; (vi) basic accounting and finance; (vii) development of business models and plans; and (viii) digital banking; among others.

254. Capacity building in entrepreneurship will be provided to support women miners with limited potential to succeed in the ASGM to turn to alternative income-generating activities translating into economic empowerment. Alliances with entities specialized in the development of women's entrepreneurship will be explored.

***Output 2.3.*** *Efficiency, control and monitoring of gold commercialization processes improved to build transparent, traceable, and responsible gold supply chains.*

255. Supply chain segmentation and analysis will be conducted. Targeted interventions along the segments of the supply chain and the gold trade will be performed to raise capacities and awareness on the benefits of responsible mining and strengthened commitment.

256. To achieve this output, the following activities in line with the NAP are proposed:

? Detailed study on the gold trade;

? An in-depth assessment of the gold supply chain in Mali including the complexity and current costs of tax system, disincentives to report formally economic activity (including amount of illegal activities and gold imports from neighboring countries), actors and their achieved prices along the chain;

? Structure the needed support by key stakeholders such as the refineries and other exporting entities to facilitate access to the responsible international gold buying market and to help them source their gold from eligible miners;

? Establish national information platform to enable access to world price information system, especially for gold miners and collectors,

? Setting up control counters; and

? Develop national standards for the production and the trade of gold under the label ?Malian gold?.

257. Furthermore, the feasibility of implementing a gold buying program with the National Bank of Mali through the official collection channels inspired by the Planet Gold project in Burkina Faso will be explored based on the lessons learned from this and other state gold buying programmes.

258. The project will explore and design two (2) initiatives to incentivize responsible sourcing of gold with increased transparency in the country together with the public and/or private sector.

259. The project will develop a landing page that will provide the industry with information including legal framework, training material, information on the accessible financial resources, geological data, contacts of stakeholders and the actual gold price. The landing page will be developed into a central tool for the ASGM sector.

260. There is an emerging global market built around the increased interest in buying and selling responsibly mined gold. Such market mechanisms play a role in incentivizing miners to transition from mercury use and/or bad practices.

261. The project will build on the experiences of initiatives such as the Better Gold Initiative to assess the possibility to work with the private sector in building traceable supply chains for responsible gold.

262. In line with the objective of the programme, the project will apply the planetGOLD Criteria for Environmental and Socially Responsible Operations[23][23]. The programme will assist country projects to access existing training modules and resources to implement these criteria.

263. It is also essential to involve the private sector in the creation of alliances/partnerships with responsible commercialization companies that could capture the gold from specific mining organizations that have made progress in the field of mercury reduction and formalization, which could lead to a traceability programme. In this regard, the confirmed cooperation with Barrick Gold will be helpful.

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

264. The reduction of mercury use in ASGM in Mali is the primary objective. Promoting alternative technologies or adapting those currently implemented represents an important step towards compliance with the Minamata Convention and the reduction of the social and environmental impacts generated by the sector.

265. To ensure that appropriate technology is recommended for procurement, the following steps will be conducted: needs assessment; access, appropriate and cost-effectiveness of the technologies on the market, and pilot testing. The results of the pilot testing will inform the procurement recommendation.

266. The project proposes the reduction of mercury use both in absolute terms and in the efficiency of what mercury quantities are still used, as follows:

i) Reduce mercury use in the ASM sector by **10%** of the baseline of 33 t Hg/yr by 2025 and a further **50%** by 2029.

ii) Reduce the national average mercury use ratio from 1.44 to **1.15** by 2025 and to **0.65** by 2029.

| Year | Mercury usage in Absolute terms (ton Hg/year) | Efficiency of mercury use (ton Hg/ ton Au) |
|---|---|---|
| 2021 | 33.0 | 1.44 |
| 2023 | 33 | 1.44 |
| 2025 | 29.7 | 1.15 |
| 2029 | 16.5 | 0.65 |

Table 3.3.1: Mercury Usage Targets for the project

267. In this sense, the following outcome and three outputs are proposed for the component:

**Outcome 3. Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners.**

***Output 3.1.*** *ASGM miners are supported to acquire and implement technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery.*

268. Actions to eliminate ??cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury?? will be prioritised as quick win actions. One such action is the construction of a shared leaching plant for the centralized treatment of residues in order to demonstrate the responsible use of cyanidation techniques and to offer an alternative to uncontrolled cyanidation. Further, and where possible to introduce purchase schemes of unprocessed ore for mercury-free processing This action is highlighted in the NAP.

269. Installation of 2 mercury-free processing units and assistance to beneficiaries to develop a sustainable business plan that can be replicated by other small mining companies.

270. Development of a mobile awareness program to inform and educate artisanal miners on alternative technologies to mercury.

271. Development of a formal training programme with the tertiary education partners highlighted in Section 2.6. Validation of the training materials by experience share with PlanetGold knowledge-space, and wide promulgation of the arising contents to other learning institutions.

272. Use of Mali's position as a member of ECOWAS and Liptako Gourma to establish a regional-level ministerial dialogue on international trade in mercury. This will ensure that a very high

quality picture of mercury inflows and usage will be formed by the regulatory and monitoring authorities.

273. Formulation of a long-term plan to encourage investment in the Malian ASM sector by investors who can provide Access to mercury-free gold recovery and processing technologies.

274. A gendered impact assessment of the introduction of new technologies including mitigation measures for the displacement of vulnerable population will be conducted.

275. Alternative livelihoods strategies will be considered for those cases in which mercury-free gold mining technologies might threaten to eliminate their sources of livelihood.

276. Furthermore, the unique health risks mercury poses to women due to their roles in the mining sites and the potential adverse effects of prenatal mercury exposure will be highlighted through the organization of awareness raising events to increase the knowledge on the impacts of mercury among women miners resulting in a better health for their families and communities.

***Output 3.2.*** *ASGM productive actors? awareness on supply of mercury-free equipment increased and linkages with technology providers created.*

277. This component will mainly be driven by the means of access to finance and in all other awareness campaigns. This is anchored by Actions 5 of the NAP which seeks to encourage financial institutions to put in place a mechanism facilitating access to credit for artisanal gold miners.

278. Identify potential financial partners and presentation of information on business models and structures specific to ASGM. Establish a directory and develop a memorandum of understanding between the actors. The memorandum shall be anchored on the premise that the only technologies that will receive support will be those that do not involve the use of mercury at any stage of the gold recovery and purification process. Technology providers shall be a critical component of the four-way memorandum involving the said technology providers, financial institutions, miners? cooperatives and government through the ministry responsible for mines.

***Output 3.3.*** *Academic centers, universities and institutes strengthened to include responsible gold production as part of the training curricula.*

279. The project will involve academic institutions to help improve or complement the curricula on improved technology and issues related to ASGM in Mali, including but not limited to the technical, economic, environmental, and social implications.

280. Collaborations will be made to enhance the uptake of mercury-free technologies. Among the targeted institutions are government services, technical vocational training (TVT) institutions, universities, and gold mining cooperatives.

281. Two mercury-free technology demonstration centres have been planned to help deliver the practical components of the developed curricula.

282. Relevant training materials and approaches will be deployed to capacitate the miners and other stakeholders to support ASGM transition to mercury free technologies.

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

283. This component will support capacity building, knowledge sharing and communication across the different components and will include a focus on maximizing communications at the local level and sharing the results with the global community.

284. Knowledge sharing ? particularly formal knowledge sharing ? has been identified by the project team as one area of particular weakness for Mali ASGM improvement efforts and so this component shall receive particularly strong emphasis during project implementation.

285. To improve the knowledge sharing, communication and local capacity building the following outcome is proposed:

Outcome 4. Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts

***Output 4.1.*** *Inter-institutional mechanisms and platforms where different stakeholders exchange, disseminate and share information related to ASGM in Mali established.*

286. This output includes the following activities:

? Assess the capacity of different stakeholders and identify knowledge gaps existing in the country;

? Map the different sources of information and existing documentation on ASGM at the national level including the planetGOLD platform;

? Identify and build capacities of local partner to host a sustainable exchange mechanism for the ASGM sector in Mali; and,

? Establish physical and/or virtual participatory sustainable exchange mechanism to synthesize and disseminate information and knowledge.

287. All stakeholders will be invited to share their materials and contribute to the generation of knowledge on ASGM at national level.

288. All information and documentation gathered will also be made available through the planetGOLD webpage for Mali.

***Output 4.2.*** *Information, knowledge and lessons learned on key ASGM topics generated and disseminated at the national and international levels.*

289. Given the general negative public perception of the ASGM sector, it is essential to disseminate information on the sector's progress in formalization, mercury reduction, gender equality,

and good environmental practices. As a result, the general public can learn about the challenges, efforts and positive results achieved by the sector and this project in particular.

290. Capacity will be built at the local level through in-person and online education events as promoting responsible mining methods at the community level. Where online tools are not available or applicable to the selected mining sites, suitable approaches will be defined.

291. The project will work closely with the public sector, existing networks and other relevant actors to generate awareness and knowledge in ASGM.

292. The following activities are proposed:

? Organize national and international events for miners in Mali related to responsible gold mining (symposiums, workshops, conferences, courses, campaigns and others, face-to-face as well as virtual);

? Organize capacity building and awareness raising events at regional level;

? Document and disseminate the lessons learned and information produced as a result of the pilot experiences implemented within the project and share these on the planetGOLD website[24], Global Forums and other global dissemination channels;

? Conduct media and information campaigns to inform the general public and key stakeholders about the challenges and progress present in the sector in Mali; and

? Design certificates based on competencies in coordination with the Ministry of Education for technical formations of interest and importance for the ASGM sector.

293. The project will contribute to the PlanetGOLD program level communications through the following activities:

? Develop a project strategy for local communications in alignment with the global communication strategy;

? Use PlanetGOLD country logo and brand assets for all communication materials;

? Adhere to the PlanetGOLD style guide and messaging guide in the production of external materials, adapting global messages to the national context;

? Share relevant visual assets in a timely manner with the global project for global promotion and dissemination;

? The project communication manager will participate in programme communications network, including regular calls, digital communication platforms, trainings and share relevant communication-related activities at country level;

? The project communication manager will attend Annual Program Meetings (APM) when held in concert with Global Forum (GF) and the communication network side meeting for the APM; and,

? Publish at least one original blog article per year and contribute to other news articles, events, photo essays, or videos as contributions to the program website.

294. Regarding knowledge management contributing the PlanetGOLD program, the following activities are expected:

? Send at least two (2) representatives to each planetGOLD Global Forum and participate in presentation of the project results;

? Send at least two (2) representatives to each PlanetGOLD Annual Programme Meeting (APM) and participate in presentation of project results;

? Subject consultants participate in regular knowledge exchange events;

? Share relevant project materials, approaches and documents that may provide relevant information to serve as examples or models for other countries; and,

? Ensure that all public facing documents produced by the project are disseminated via the PlanetGOLD knowledge platform.

295. The project will also:

? Participate in inception orientation (virtual or physical) with global program staff;

? Have the CTA attend bimonthly program coordination calls;

? Have the CTA participate in regular Programme Advisory Group (PAG) calls, and attend or delegate attendance of relevant staff to PAG subcommittee meetings;

? Adopt stakeholder engagement strategy consistent with the program guidelines.

***Output 4.3.*** *Women?s capacities in leadership are strengthened and regional exchanges among women miners in the pilot sites are promoted to increase visibility of gender in ASGM*

296. Some of the gaps identified in the gender analysis concerned local capacity and knowledge. Women leaders are scarce as most of the women miners lack the knowledge and skills needed to represent other women and assert their rights.

297. Networks of women miners should be strengthened to increase the knowledge base in technical, managerial and leadership matters in ASGM in Mali.

298. Although the NAP has relatively little content specific to gender matters, the following actions have been identified by the project group for consideration with the aim of implementing at the same time as the rest of the NAP:

? Identify and strengthen women miners with potential for leadership to generate alliances among different mine sites while respecting the specificities of Malian culture;

? Promote exchanges among women miners to learn about formalization, access to finance and mercury-free technologies; and

? Raise awareness and strengthen existing knowledge on gender-aspects in ASGM in Mali.

299. The exchanges among women miners will be done in collaboration with the existing planetGOLD child projects and beneficiaries in those countries.

**4) Alignment with GEF focal area and/or impact program strategies**

300. This project is aligned with the "Chemicals and Waste" Focal Area of GEF-7 as one of its objectives is to reduce and/or eliminate mercury emissions and releases in the activities and processes listed in Annex C of the Minamata Convention, especially those activities that generate the highest emissions and releases.

301. It directly contributes to the "Industrial Chemicals Program" (CW 1-1 program), which among other objectives, seeks to eliminate or significantly reduce chemicals used/emitted in processes, in this case, mercury, within the framework of the Minamata Convention.

302. A specific objective within this program is reducing and eliminating mercury in the artisanal and small-scale gold mining sector. PlanetGOLD Phase 2 and this country project will contribute directly to this objective.

303. This project will seek to strengthen national legislation, as well as regulatory capacities to comply with the Minamata Convention obligations.

304. The project is fully aligned with the GEF-7 programming principles of cost-effectiveness, sustainability, innovation, private sector engagement and building on the use existing networks.

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

305. The GOLD+ programme will provide incremental funding for the reduction of mercury use in ASGM in the participating countries, including Mali. It will build on Phase 1 (GEF ID 6901) currently being implemented, using the existing knowledge platform, lessons learned, capacity building materials, databases, proven technologies and market opportunities.

306. The GEF grant will principally be used to provide and operationalize technical and operational knowledge, methods and tools to improve mercury reduction and elimination in the artisanal and small-scale gold mining sector, among gold mining cooperatives and miners, regulators and civil servants, as well as financial institutions.

307. Specifically, GEF funding will be used for awareness raising, capacity building, knowledge management, development of technical plans and advisory support under the four project components. The grant-funded project activities will design and implement financial mechanisms that will support the financial inclusion of miners. Further technical assistance will facilitate the assessment and implementation of enabling policies and regulations that will increase the levels of formalization.

308. The child project in Mali will coordinate with the work of national and local partners and contribute to complementing their planned interventions.

309. Co-financing will mainly come from government sources, private sector actors including mining cooperatives and CSOs and NGOs operating in the country.

310. Based on the initial mapping of key stakeholders, the project will further disseminate its scope and information during the inception phase to ensure that the synergies identified as well as local knowledge, tools, and networks can be leveraged, and additional resources can be identified.

311. During the design phase of the GOLD+ project, the following entities have shown commitment and provided co-financing resources:

? Barrick Gold has confirmed interest to provide co-financing by handing over some of its LSM concessions to the ASGM sector. Barrick Gold has also w to integrate structured gold panning into Barrick's Community Development Program and support the ASGM sector. The co-financing amount is USD12,500,000..

? Other co-financing has been provided by the following national partners:

o Ministry of Mines, Energy and Water

o Union of Gold Counters and Refineries of Mali (UCROM)

o Marena Gold Refinery

o National Federation of Gold Pans of Mali (FENOM)

o Professional Association of Banks and Financial Institutions-Mali (APBEF-Mali)

o Chambre des Mines du Mali (CMM)

312. Details of the initiatives and activities being developed by these institutions and others that could possibly be involved during the implementation of GOLD+ in Mali are described in the Stakeholder Engagement Plan (Annexed).

313. The GEF funding will primarily assure global environmental benefits in terms of mercury reduction that are additional to the baseline.

314. As the ASGM National Action Plan (NAP) has already been developed, this project plan has drawn upon the actions included in the NAP to ensure coherence and complementarity.

315. In the absence of the GEF grant, the ASGM sector will continue to be unprioritized with actions to support its responsible development despite its significance for the economic growth of the country.

316. Without GEF support, the gold mining cooperatives will continue to use significant amounts of mercury. None of the sites visited during the scoping for this project had any closed circuits of mercury, and none were actively working on elimination of mercury.

317. Addressing the problems related to ASGM in Mali will continue to require mobilizing of resources, both from government budgets and GEF support. In addition, financial mechanisms need to be instituted through a multi-stakeholder approach, including the private sector, to ensure that miners can acquire mercury-free technologies and maintain their financial sustainability.

318. Considering the current constraints on the Malian economy and financial system due to the impacts of COVID-19 pandemic, the proposed alternative scenario aims to implement activities that will allow ASGM to make incremental progress, both with the funding provided by the GEFTF and the co-financing currently committed.

319. Based on the projects and programs previously implemented in the country and the results that will be gradually achieved through the GOLD+ Mali project, it will be possible to generate new commitments and additional funds, especially from the financial sector.

320. The project would be cost-effective since it aims to directly eliminate 30.08 tons of mercury with a GEF grant financing of 5,613,501 USD which would mean that the cost-effectiveness of the project would be 175.42 USD per kg of mercury reduction. The project has also mobilized approximately 31.8 million USD from the public sector and private sector in Mali for investments in responsible ASGM related activities.

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

6.1 Landscape area under improved practices

321. This indicator captures the landscape area that is in use such as mining, agriculture and other development-oriented activities and whose quality of soil, air and water are improved and managed in a sustainable manner.

322. The SLA/JA will be piloted in these five areas namely: Balanougou, Dabalen, Sakola bada? Djidian, and Dandouko. A preliminary assessment has been conducted during the PPG and the following areas have been identified for piloting. Table 6.4.1 below shows the identified sites:

Table 6.4.1: Identified Pilot Sites for SLA/JA

| Sites | Latitude North | Latitude West | Hectarage |
|---|---|---|---|
| Balanougou | 11o59?17?? | 8o30?687?? | 10 km2 estimated |
| Dabalen | 11o59?929?? | 8o31?018?? | 10 km2 estimated |
| Sakola bada | 13o01?127?? | 11o24?922?? | 10 km2 estimated |
| Djidian | 13o01?768?? | 11o24?922?? | 2 x 10 km2 |
| Dandouko | 12o41?39??<br>12o41?39??<br>12o40?02??<br>12o40?02?? | 11o04?26??<br>11o00?42??<br>11o04?42??<br>11o04?26?? | 20km2 |

323. Further detailed assessments will be conducted during the project inception phase to confirm the pilot sites and private sector partners to support the implementation. However, the related co-benefits from preliminary calculated at the CEO endorsement stage is at least 7,000 hectares.

324. Piloting SLA/JA will result in improved practices and restoration of biodiversity including climate change mitigation for the selected landscape area, while the component 3 activities will support the implementation of technologies to reduce and eliminate mercury use in selected sites.

6.2 Mitigation of greenhouse gas emissions

325. This indicator captures the amount of GHG emissions expected to be avoided through the intervention in the ASGM sector.

326. Some of the the gold mining operations currently use heavy machinery (estimated No. for machinery for 6 sites was 288) 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.

327. Technical improvements will be implemented in the practice of gold recovery in 6 targeted gold mining pilot sites and cooperatives whilst simultaneously deploying efficient mechanisms such as energy to increase productivity. Technical improvements will be implemented in the metallurgical practices of gold recovery in all the 6 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 6 pilot mining sites and min. 10 mining operators will replicate the good

practices by an average of  5000 liters of hydrocarbons per month resulting in a reduction of greenhouse gas emissions by an estimated 2140 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 128,400 metric tons of CO2eq will be prevented in addition to the other environmental co-benefits of the project.

6.3 Reduction, phase-out, elimination, and avoidance of chemicals of global concern and their residues in the environment and processes, materials, and products

328. Technology diffusion based on models or pilots is the most recommendable mechanism for transferring clean technologies in the field of ASGM, taking advantage of the traditional knowledge transfer pathway. The 2-step approach starts with the piloting, followed by dissemination and implementation of the support mechanism for replication. However, it is of utmost importance to go beyond the stage of pilot operations and enter the stage of mass dissemination during the project lifetime. If a measure is successful, there should be a gradual self-dissemination, mainly when its application results in economic advantages for the mining operators.

329. Compared to other jurisdictions where mercury is also used in ASGM activities, the usage ratio of mercury in Mali is well mastered at 1.44 tons of mercury for each ton of gold produced. As such, any reductions in mercury usage shall come from total substitutions from mercury-based to non-mercury-based gold recovery technologies site by site. This in turn means that the reduction target is set in a top-down fashion (global ? national ? target first then cascaded down to the production sites).

330. For planning purposes, there is zero contribution expected from efficiency gains from mercury-based technologies. Any direct efficiency gains will be taken as upsides to the NAP targets shown below and in *Table 3.3.1* above.

331. The Mali NAP targets a substitution rate (number of sites changing technologies from mercury-based to non-mercury-based ones) of 10% by 2026 and 50% by 2029, baselined on 2023 levels. Furthermore, the NAP  targets at 2026 and 2029 translate to savings of 0.29 ton-Hg/ton-Au and 0.79 ton-Hg/ton-Au, at 2026 and 2029, respectively. In absolute terms (see Table 3.3.1), the mercury savings are 3.3t in the first 2 years then a total of 16.5 t for the 8 year planning horizon. This equates to a decrease rate of 1.65 t-Hg/year by 2026 improving to 2.06 t-Hg/year by 2029. Therefore, based on these projections, the total mercury use reduction that will be achieved in the participating pilot sites during the 5-year project implementation phase is 9.48 MT of mercury.

332. Therefore, through the establishment of national enabling frameworks, training and capacity building, the financial mechanism, and awareness-raising programs, it is expected that the mercury reduction target will be replicated after the project is finalized. An additional 20.6MT of mercury

reduction will be expected to be attained over the 10 years after the completion of the project, reaching an overall project total amount of 30.08 MT of mercury.?

333. The reduction in mercury use will be greater if the pilot/demonstration projects of non-mercury technologies are speedily successful and are well publicized among the key actors in Mali ASGM.

334. The 30.08t total reduction over the 15-year period is considered as being reasonable and realistic for a jurisdiction whose mercury usage ratio is already at the lower end of the scale at 1.44 ton-Hg per ton-Au.

335. Due to the secretive nature and illegal status of all mercury use in ASGM in Mali, it must be well appreciated that monitoring for actual reduction achieved will be a highly demanding task if the performance figures are to be accurate and a true reflection of activities on ground. The monitoring process shall be multi-pronged involving:

i) Voluntary disclosures by willing actors in the sector,

ii) Monitoring of the rate of uptake of alternative technologies,

iii) Monitoring the rate of usage of strategically selected inputs that are critical and practically exclusive to non-mercury ASGM activities in the country, such as sodium cyanide, sodium boreate (borax), etc.,

iv) Sampling and testing of soil and water samples from ASGM sites of interest, and carrying out of mass balance audits around such sites with mercury as the unknown variable,

v) And others as the detailed project plans may determine.

336. As more and more of the mercury supply chain comes into the clear, it will be possible to refine the precision of quantities of mercury avoided.

337. Regarding environment and safety impact, it is recognised that the key replacement material for mercury, being sodium cyanide, as currently known, is itself subject to strict environmental control ? potentially being highly harmful to the environment, to aquatic life and to human health if it is not used in a technically and environmentally responsible manner . As such overall impact on safety, health and environment cannot be deciphered from substitution performance alone but from a holistic environmental and social impact assessment (ESIA) study of the before and after situations at each project site. As such, the project?s baseline Environmental and Social Management Plan (ESMP) is highly critical to a determination of overall impact of the project.

### 6.4 Number of direct beneficiaries disaggregated by gender as a co-benefit of GEF investment

338. The project is expected to reach 11,600 direct beneficiaries (51.7% women) related to supporting to ASGM organizations, organization of training sessions, awareness-raising, and events

related to the different components. Several of these activities will be carried out in the mining communities of the selected jurisdiction, beneficiary organizations, as well as in exchange platform with all the relevant project stakeholders.

339. The summary of beneficiaries by component is presented in Table 6.4.2:

| Component | Men | Women |
|---|---|---|
| Component 1. Enhancing formalization in the ASGM sector | 1510 | 2090 |
| Component 2. Access to finance enhanced by financial inclusion and responsible supply chains | 1000 | 1000 |
| Component 3. Enhancing the uptake of mercury-free technologies | 610 | 590 |
| Component 4. Knowledge sharing, communication, and local capacity building support | 2400 | 2400 |
| **TOTAL** | **5,520** | **6,080** |

Table 6.4.1: Estimated number of beneficiaries

340. Due to the context of the current COVID19 pandemic, virtual means will be prioritized whenever required, ensuring greater dissemination and efficiency in the exchange of information despite restrictions.

## 7) Innovativeness, sustainability, and potential for scaling up

### 7.1 Innovativeness

341. ***Formalising at the edges***: The project will test novel models of formalization, mercury reduction and financial inclusion. The salient feature of Malian ASGM operations is that almost all of them use mercury and mercury is necessarily a black-market commodity, being an otherwise forbidden material. To formalise such operations without ostracising any of the actors will be a serious challenge. To offer financial inclusion to entities that have such a background will be another challenge for the financial sector players. It will be a test for the entire community and its stakeholders, especially using jurisdictional approaches. Therefore, any success will contribute to the body of knowledge and case studies for the entire GOLD+ network for scale-up and/or adoption in other places.

342. During the project inception, specific sites (mining operation(s)/cooperative(s)) will be selected to apply concrete actions to promote greater formalization, adoption of new technologies, substitution of mercury, and transparent traceability in the gold value chain, among other important factors.

343. ***Riding the fintelcos***: Regarding access to finance, the telephon providers (the so called ?telcos?) have been making commendable progress in facilitating the first basis for sustainable financial inclusion ? unbroken connectivity. They have gone further and made forays into the mobile money space, effectively blaring the space between formalised and dedicated financial services (as provided by the banks and microfinance institutions ? MFIs) and acquaintance-based informal financing. The telcos are effectively leapfrogging into a new space ? fintelcos ? where the telcos provide all the technology and connectivity backbone for financial transactions (the so called fintechs ?

financial technology companies) and combine it with their traditional telephony service. The success of the fintelcos could negate the need for the slow/long know your customer (KYC) processes that make traditional bankers and MFIs so unattractive to communities that have long thrived on informality. On the back of the charge of the fintelcos, financial inclusion in ASGM in places like Mali can ride and achieve penetration speeds never before seen elsewhere in the world. *Paragraph 42* and *Table 1.2.3* is a harbinger of this success in the making. However, it should be noted that in other jurisdictions, mobile lending has led to further impoverishment of people by excluding them from financial inclusion. Under this project, due consideration will be given to ensure that this is not the case.

344. ***Cooperatives as a means of increased financial inclusion***: The project will carefully consider the deployment of cooperatives as a means of increased financial inclusion. A study will be conducted to assess the positive and negative impacts cooperatives as a means of financial inclusion and the outcomes will guide the design of financial inclusions under the project.

345. It will be imperative that state regulators do not lean on the side of maintaining traditional separation between financial service provision and telephony provision, fearing too much community control power in private hands. Should the regulators lean this way, then additional initiatives shall be required to maintain an appropriate speed of progress in both formalisation and financial inclusion.

346. ***Imported cyanidation***: In the last decades in neighbouring countries, particularly in Burkina Faso, cyanide leaching has seen a significant boost. Some cooperatives in Mali just started implementing this technology, which presents a recent opportunity to introduce innovative solutions in reducing mercury use in the ASGM sector. This new process for the ASGM sector in Mali has a huge potential for replication if it is done in a technically and environmentally responsible way.

347. ***Mercury, cyanide and tailings don't mix***: however, it should be noted that due to inefficiencies in ore processing, some ASGM tailings contain significant amounts of unrecovered gold and may subsequently be reprocessed to recover it. Using cyanide to extract remaining gold from ASGM tailings to which mercury has been added without first removing the mercury is one of the worst practices as defined by Annex C of the Minamata Convention on Mercury. It leads to generation of mercury-cyanide complexes that are highly mobile in the environment and readily transformed into its bioavailable form - methylmercury. Under this project, these practices will be avoided.

348. ***Disaggregating the data at gender***: The gender analysis showed serious lack of critical focus on the highly visible gender imbalances in the sector. The fact that the project is designed to disaggregate its monitoring data at the level of gender will help to highlight these strong gender imbalances and the fact that these imbalances exist not in this sector alone but right across much of Malian industry and culture. Successes in ASGM gender equity will certainly cascade to other sectors of the Malian economy and society as well.

349. ***The ECOWAS dimension***: the Mali NAP seeks to exploit Mali?s membership of this wider West African security grouping of countries to advocate for transparent traceability of mercury movements in the region. This effort will certainly help in measuring performance of mercury reduction efforts not just in Mali but across all jurisdictions hosting ASGM activities in West Africa such as Senegal, Burkina Faso, Guinea, Nigeria, Ghana, etc.

## 7.2 Sustainability

350. A key aspect is the implementation of the jurisdictional approach as it provides the basis for sustainability in the selected territory. ASGM formalization will be integrated into community land use planning, biodiversity preservation and livelihood security as well as drawing stronger stakeholder commitments. Local authorities and other key actors in the territory will be engaged via a multi-stakeholder platform which will function as the key cascade mechanism for the community to visualise and embrace the positive changes envisaged, both immediate and longer-term.

351. Another key feature of the project is access to finance by the ASGM community. Access to finance will take into account environmental, social and governance considerations concerning the eligible applicants. This process will lead into investment decisions that support long-term sustainable and environmentally and socially responsible investments for the ASGM related activities and other eligible economic activities. Therefore, access to finance will also serve as an important strand for supporting sustainability of the project activities and impacts even beyond the project life span.

352. The intervention has been designed to constantly engage stakeholders in order to ensure commitment, relevance and ownership, increasing the sustainability of the project outcomes beyond project completion. It should be further supported by the coordinated and long-lasting strengthening of the regulatory framework. Formalising and institutionalising the financial mechanisms will also be key in ensuring the long-term sustainability of the project results.

353. Finally, the sustainability of the project will be closely linked to the implementation of an adequate knowledge management strategy. The programme platform will continue to be available even after programme completion hosted in collaboration with the Secretariat of the Minamata Convention on Mercury and the Global Mercury Partnership. In addition, the GOLD+ Mali project will work closely with already existing national networks.

## 7.3 Potential for scaling up

354. The potential for scalability depends on the creation of a knowledge management system at programme level, collating project and country information which will continue to function after the project has ended and will inform future ASGM activities in Mali.

355. The project results, in particular the demonstration of mercury-free technologies, could also be shared with other knowledge management platforms and regional organizations as well as neighbouring countries and therefore contribute to the ASGM community worldwide.

356. If the pilot is successful, the jurisdictional approach could be applied in other identified jurisdictions or landscapes, allowing for replication of experiences incorporating the lessons learned in the country and region.

357. Scale-up can also be gained from regional approaches as these allow for implementation of interventions at scale, impacting wider geographic reach.

358. The capacity building, awareness-raising activities and exchanges among country-projects will contribute to scaling-up. In particular, the development and inclusion of technical curricula in academic centres combined with official competency-based certificates will contribute to the generation of knowledge and capacity at the local level, supplying these skills into the industry and the sector for the foreseeable future, and far and wide in geography.

359. Benefits and success of formalization will spur further interest to adopt broadly formalization in the sector hence making it sustainable.

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[1] World Gold Council, www.gold.org

[2] Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development (IGF). (2017). Global Trends in Artisanal and Small-Scale Mining (ASM): A review of key numbers and issues. Winnipeg: IISD. Available here.

[3] UNEP (2018) Global Mercury Assessment. Available here.

[4] National Action Plan (NAP) for the artisanal and small-scale gold mining sector in Mali (2020). Available here.

[5] https://www.who.int/news-room/fact-sheets/detail/mercury-and-health

[6] https://www.who.int/news-room/fact-sheets/detail/mercury-and-health: accessed Feb 2022

[7]https://issafrica.org/iss-today/going-for-gold-in-western-mali-threatens-human-security#:~:text=Institute%20for%20Security%20Studies%20(ISS,Senegal%20through%20illicit%20trafficking%20routes.&text=Mali's%20government%20estimates%20that%2033.3,tons)%20is%20used%20in%20Kayes.

[8] Kekobed Anne Sogoba / FEMIMA (2022), Global Opportunities for Development of the Artisanal and Small-Scale Mining Sector (GOLD +) in Mali ? Gender Analysis, pp27

[9] https://issafrica.org/iss-today/gold-doesnt-shine-for-women-in-mali-and-senegals-mines, Feb/22

[10] https://databank.worldbank.org/reports.aspx?source=1228#

[11] Financial Sector Assessment Program ? Developement Module, Technical Note on the Microfinancing Sector December 2015 by The Wolrd Bank, published under:https://documents1.worldbank.org/curated/en/869091468184767651/pdf/105298-FSAP-P153363-PUBLIC-Mali-FSAPDM-TN-Microfinance-Public.pdf

[12] Mali NAP

[13] https://www.hrw.org/report/2011/12/06/poisonous-mix/child-labor-mercury-and-artisanal-gold-mining-mali

[14] https://databank.worldbank.org/reports.aspx?source=1228#

[15] Financial Sector Assessment Program ? Developement Module, Technical Note on the Microfinancing Sector December 2015 by The Wolrd Bank, published under:https://documents1.worldbank.org/curated/en/869091468184767651/pdf/105298-FSAP-P153363-PUBLIC-Mali-FSAPDM-TN-Microfinance-Public.pdf

[16] The regions of Gao, Kidal, Mopti and Tombouctou were excluded from the sample because of heightened insecurity. These four regions represent 23% of the total population and have also been excluded in the numbers from 2014.

[17] https://borgenproject.org/tag/credit-access-in-mali/

[18] Artisanal production fell slightly in 2016 due to an increase in taxes and the government?s move to ban gold panning during the May-to-September rainy season for safety reasons, said Bakary Guindo, an official at the Chamber of Mines.

[19] Almost all recorded gold was from industrial-scale mining, with just 800 kilograms recorded from artisanal mines. ($1 = 583.8200 CFA francs)

[20] The data showed that 65.1 tonnes of the exported gold came from industrial mining operations, while less than 540 kg came from small-scale artisanal mining.

[21] https://www.reuters.com/article/mali-gold-idUSL4N2PE0J5

[22] https://www.planetgold.org/sites/default/files/Livret%20de%20poche%20de%20l%27artisan%20minier.pdf

[23] The planetGOLD Criteria is a branched version of the CRAFT Code which is published by the Code maintainer the Alliance for Responsible Mining (ARM).

[24] During the first phase of the planetGOLD programme, a global knowledge hub was created. The website (www.planetgold.org) features and connects all child projects under the umbrella of the programme and gathers information, products, and tools, organized according to the programme knowledge areas.

**1b. Project Map and Coordinates**

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

1. The below figure presents the different areas that have been considered for the implementation of the Project.

2. The areas inside the yellow circles are the locations recommended to pilot the activities.

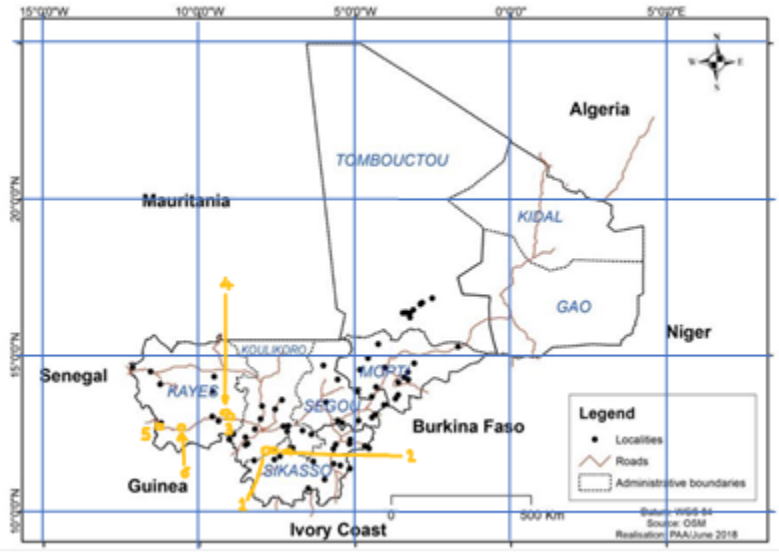


Figure 7.1: Map highlighting main areas of the project

**1c. Child Project?**

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

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

2. The project will analyze and make recommendations on the relevant policies needed and strengthen the capacities of state actors and miners to promote a greater formalization in the sector at the national and local levels. It will test innovative financial mechanisms, including a specific mechanism targeting women miners, while strengthening the knowledge of public officials, financial entities and individual miners on the opportunities and needs of finance for the ASGM sector. Finally, the project will pilot technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery adapted to the local circumstances and with a replication potential for other areas of the country.

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

4. 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 results. This will allow for lessons and knowledge generated to be available and utilized by other work in ASGM worldwide.

**2. Stakeholders**

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

**Civil Society Organizations** Yes

**Indigenous Peoples and Local Communities** Yes

**Private Sector Entities** Yes

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

1. The key stakeholders have been identified, engaged, and consulted based on an initial matrix established during development of the NAP. This initial stakeholder matrix is a basic tool to map and plan the involvement of all stakeholders.

2. Public sector institutions, civil society organizations, mining cooperatives, private sector, representatives of communities and indigenous peoples, organizations linked to gender issues and academia have been consulted.

3. The complete list of stakeholders is presented in relevant Annex and comprises, among others, following entities:

## ? Public sector institutions

- Ministry of Environment, Sanitation and Sustainable Development
- Ministry of Economy and Finance (MEF)
- Ministry of Education
- Ministry of Mines, Energy and Water
- National Transitional Council of Mali (CNT)/ National Assembly
- High Council of Territorial Communities (HCC)
- Directorate General for Health and Public Hygiene (DGSHP)
- Agency for the Environment and Sustainable Development (AEDD)
- National Directorate of Vocational Training (DNFP)
- National Directorate of Land, Maritime and River Transport (DNTTMF)
- Directorate General for Trade, Consumption and Competition (DGCC)
- National Directorate of Geology and Mines (DNGM)
- Mining Sector Decentralization and Deconcentration Support Unit (CADD)

- National Directorate for Sanitation and Pollution and Nuisance Control (DNACPN)
- Directorate General of Customs (DGD)
- National Federation of Gold Pans of Mali (FENOM)
- Chamber of Mines of Mali (CMM)
- Professional Association of Banks and Financial Institutions-Mali (APBEF-Mali)
- Association of Municipalities of Mali / Communes
- Public and private schools (AEPM)
- Office of Radio and Television of Mali (ORTM)

Private press:

- Network of Journalists and Communicators of the Environment and Sustainable Development. (RNJCEDD)

## ? Civil Society Organizations (CSOs) / Non-Government Organizations (NGO)

- Group for the Defense of Consumers (REDECOMA)
- Support for the Enhancement and Promotion of Private Initiatives (AVEPIP)
- Network of Women for Environmental Rights (REFEDE Mali)
- NGO-Donko
- Federation of Women Miners of Mali (FEMIMA)
- Association for the Protection of Natural Resources and Local Development (ASRN-DL)

## ? International entities and organizations

- Representation of the United Nations Industrial Development Organization (UNIDO)
- Representation of the United Nations Development Program (UNDP)
- Representation of the World Health Organization (WHO)

## ? Private sector

- Kankou Moussa Refinery (KMR)
- Marena Gold Refinery
- Union of Gold Counters and Refineries of Mali (UCROM)

## ? Research and Academia

- National Institute of Public Health (INSP)
- National Water Laboratory (LNE)
- Central Veterinary Laboratory (LCV)
- Faculty of Science and Technology, University of Science, Technology and Technology of Bamako (FAST/USTTB)
- National School of Engineers ENI-ABT
- Central School for Commerce, Industry and Administration (ECICA)

## ? Mining sector

- Soci?t? des Mines de Loulo SA (Loulo)/ Barrick
- Gounkoto Mining Company (Gounkoto)/ Barrick.

4. The approach to national stakeholder engagement during the PPG phase was follows:

- 42 bilateral interviews;
- 1 national project participatory meeting;
- 10 site specific focus group consultations;
- 30 interviews for the assessment of the jurisdictional approach; and
- 15 interviews for the assessment on access to finance in ASGM in Mali (financial institutions and the miners).

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

5. A stakeholder engagement plan was prepared. The ASGM relevant national key stakeholders were identified and grouped in their categories such as government, private sector, NGOs, miners, research and academia etc. Their interests and potential roles in the project were identified and confirmed during the bilateral interviews. During the bilateral interviews, co-financing potential was investigated and confirmed (refer to Annex I Stakeholder Engagement Plan).

6. Given the diversity of the stakeholders, different and innovative approaches were employed to ensure maximum inputs from the different stakeholders. These methods included bilateral discussions, focus group meetings, and national participatory meeting. French and local dialects were used as a medium of communication depending on the situation.

7. The national stakeholders are diverse with different vested interests, capacities, levels of education, age groups, genders, cultural norms, and values. Local ASGM communities, ministry of agriculture and financing institutions within the selected jurisdiction were also interviewed concerning potential approaches for the integrated land use planning, targets, benefits to local community?s road maps and monitoring plans.

8. The programme will support the child projects in harmonizing their stakeholder engagement plans with the programme strategy.

9. **Table 13** presents a list of the main stakeholders and suggested roles and responsibilities, mechanisms, activities, and results for an adequate involvement in the project.

| | **Entity** | **Activities of the Entity** | **Proposed role in the Project** | **Date Consulted** | **Details of the Contact points** |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| **Public Sector** | | | | | |
| 1 | **Ministry of Environment, Sanitation and Sustainable Development** | The Minister of the Environment, Sanitation and Sustainable Development draws up and implements national policy in the areas of the Environment, Sanitation and Sustainable Development. In this capacity, he exercises the following powers in particular:<br><br>- Improving the living environment of the populations;<br><br>- The conduct of actions to protect nature and biodiversity;<br><br>- The fight against desertification and the silting up of waterways;<br><br>- The development and implementation of measures intended to prevent or reduce ecological risks;<br><br>- The prevention, reduction or elimination of pollution and nuisances;<br><br>- Police and management of hunting and forests;<br><br>Awareness raining, training and capacity building of citizens in the field of environmental protection. | The Ministry of Environment, Sanitation and Sustainable Development<br><br>will supervise the Project, through the Agency for Environment and Sustainable Development (AEDD) . It will ensure smooth execution in collaboration with other national stakeholders including technical and financial partners. | 06/12/2021 | Mr. Drissa TRAORE, Technical Ad Environment, Sanitation and Sustain<br><br>Tel: 00223 76 43 72 55<br><br>E-mail: ddrisml@ymail.com |
| 2 | **Ministry of Economy and Finance (MEF)** | The Minister of Economy and Finance prepares and implements the economic, financial and monetary policy of the State. Therefore, the | The role of the Ministry of Economy and Finance in the project will be:<br><br>- Promote customs regulations to develop | 01/12/2022 | Mr. Mohamed Bouba TRAORE, Te<br><br>Ministry of Economy and Finance. |

| | | | | | |
|---|---|---|---|---|---|
| | | Minister is Responsible for the following:<br><br>- coordinate government policy in economic, financial and monetary matters;<br><br>- develop a reference economic framework for medium and long-term economic policies;<br><br>- develop measures to increase Mali's r4esources and improve the efficiency of pu5blic expenditure and related rules to enc6ourage public-private partnership;<br><br>- track6ing and monitor the national economic trends;<br><br>- carry out studies including economic and financial statistics;<br><br>- develop customs regulations and financial control of public services and bodies. | opportunities for the Artisanal and Small-Scale Mining (ASM) sector;<br><br>- Promote tax policy in favor of the development of the ASM sector. | | Tel: 00223 76 37 13 33<br><br>E-mail:medtraore2001@yahoo.fr |

| | | | | | |
|---|---|---|---|---|---|
| 3 | **Ministry of Education** | The Ministry of National Education prepares and implements national policy in the areas of preschool and special education, basic education, general, technical or vocational secondary education, non-formal education and of literacy.<br><br>As such, the Ministry is responsible for the following:<br><br>- achievement of the objectives of the education for all policy;<br><br>- the development of non-formal education and in particular literacy;<br><br>- the development of basic secondary education;<br><br>- monitoring and control of preschool and special education establishments and basic and secondary education establishments, public and private;<br><br>- monitoring and control of public normal education establishments;<br><br>- the development and evaluation of knowledge in pre-school and special education and in basic education, and in general, technical or vocational secondary education;<br><br>- the issuance of the Diploma of Fundamental Studies (DEF), the Certificate of Professional Aptitude | The Ministry of Education will support the project in designing awareness materials using national languages. | 01/13/2022 | Mr. Hamidou MORBA, Technical A<br><br>Tel: 0022366713418<br><br>Email: hamidoumorba8@yahoo.com |

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| | | (CAP), the Technician's Certificate (BT) of the Baccalaureate and the diplomas of the Institutes of Teacher Training;<br><br>- developing the use of national languages;<br><br>- the promotion of excellence, citizenship and patriotism at the level of basic and secondary education.<br><br>- | | | |
| 4 | **Ministry of Mines, Energy and Water** | The Ministry of Mines, Energy and Water is responsible for the development and implementation of national policy in the areas of mining development. As such, the ministry has the following responsibilities:<br><br>- the development and monitoring of mining companies and the strengthening of their competitiveness and their contribution to the economic and social development of the Country;<br><br>- the development and control of the application of rules regarding the establishment and operation of modern mines and quarries;<br><br>- the development and monitoring of the implementation of mining policies and agreements;<br><br>- transforming the mining sector into one of the driving forces of the | The Ministry of Mines, Energy and Water will participate in the project through the following roles:<br><br>- develop opportunities for the Artisanal and Small-Scale Gold Mining Sector, to be included in the Mining Code;<br><br>- ensure the application of the 2019 mining code and its relevant provisions relating to the ASM sector. | 03/01/2022 | Mr. Issa COULIBALY<br><br>Technical Advisor, Ministry of Min<br><br>Tel: 00223 78 80 24 56<br><br>E-mail: coulibalyissa2009@gmail.c |

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| | | country's economic growth by substantially increasing the share of mining products in the GDP, in order to ensure better social well-being of the populations including strengthening the national strategy for the fight against poverty. | | | |
| 5 | **National Transitional Council of Mali (CNT)/ National Assembly** | The National Assembly is responsible for the following:<br><br>- regulates government actions;<br><br>- to pass laws.<br><br>During the transition that Mali is going through, these missions are carried out by the CNT | The CNT will:<br><br>- initiate a draft text (law, decree) for the development of opportunities for artisanal and small-scale gold mining;<br><br>- or will support a draft text (law, decree) for the development of opportunities for artisanal and small-scale gold mining.<br><br>- | 01/06/2022 | Honorable Mr. Mamadou SAGARA<br>Council of the Transition of Mali,<br><br>Tel: 00223 76 41 45 70<br><br>Email: saccaramanto@yahoo.com |
| 6 | **High Council of Territorial Communities (HCC)** | The HCC's mission is to study and give a reasoned opinion on any local and regional development policy. The HCC can make proposals to the government on any question concerning the protection of the environment and the improvement of the quality of life of the citizens inside the Communities | The HCC will participate in the project and contribute to the formalization of the ASGM sector to boost local development and will ensure the protection of the environment. The HCC will advise the Government on the relevance of the project. | 01/15/2022 | Mr. Yacouba KEMENANY<br><br>High Council of Territorial Commu<br><br>Tel: 00223 76 07 59 54<br><br>Email: ykemenay@gmail.com |
| 7 | **Directorate General for Health and Public Hygiene (DGSHP)** | DGSHP?s mission is to:<br><br>- design and develop public health, public hygiene and sanitation strategies;<br><br>- develop regulations, contribute to the development of | The DGSHP as the project's Health Focal Point will monitor the health impact of the project. | 29/12/2021 | Mr. Moussa Ag Hamma,<br><br>Deputy Director of Public Hygiene a<br><br>Tel: 00223 76 04 46 57<br><br>Email: Ag_hamma@gmail.com |

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| | | standards and ensure their application;<br><br>- carry out all necessary research and studies;<br><br>- prepare projects, programs and action plans and ensure their execution. | | | |
| 8 | **Agency for the Environment and Sustainable Development (AEDD)** | AEDD has the following mandate:<br><br>- coordinate the implementation of the National Environmental Protection Policy (PNPE);<br><br>- ensure the integration of the environmental dimension in all development policies and projects. | AEDD hosts the GEF National Focal Point for Mali and will ensure the endorsement of the project on behalf of Mali. | 01/11/2022 | Mr. Hamidou GOITA,<br><br>GEF Focal Point, AEDD<br><br>Agency for the Environment and Su (AEDD)<br><br>Tel: 00223 71 76 85 31<br><br>Email: amidougoita@gmail.com |
| 9 | **National Directorate of Vocational Training (DNFP)** | The DNFP has the following mandates:<br><br>- to draw up the regulations governing the vocational training system and to ensure that they are applied;<br><br>- to carry out all research and studies relating to Continuing Vocational Training, qualifying and by apprenticeship and to propose the measures necessary for the promotion of Vocational Training and the adequacy of training/employment:<br><br>- support local authorities in the development of vocational training master plans. | The DNFP will assist in the development of vocational training modules and their implementation for artisanal miners. | 01/06/2022 | Mr. Foun?k? KEITA,<br><br>Head of Certification and Validation Division.<br><br>Tel: (00223) 76 12 72 48 // 66 34 66<br><br>E-mail:loutigo@yahoo.fr//keitafoun |

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| | | - implement the national policy on certification and validation of acquired experience;<br><br>- develop the mechanism for the validation of acquired experience and organize its implementation:<br><br>- contribute to the control of the quality process in the field of certification of professional skills;<br><br>- create a certification directory;<br><br>- monitor the organization of exams and apprenticeship tests. | | | |
| 10 | **National Directorate of Land, Maritime and River Transport (DNTTMF)** | DNTTMF is responsible for:<br><br>- developing national policies on road, rail, sea and river transport;<br><br>- coordinating and control the public and private bodies which contribute to the implementation of the said policy, such as the Malian warehouses in the transit ports, the regional and sub-regional services as well as the attached services. | The DNTTMF will ensure the application of the regulations relating to the transport of dangerous chemicals, in particular those used in artisanal extraction (mercury, cyanide), detergents, acids and bases, salts. DNTTMF will also ensure the availability of Safety Data Sheets during the transport of chemical products. | 01/06/2022 | Mr. Lassana DIALLO,<br><br>DNTTMF<br><br>Tel: 00223 76 67 07 11<br><br>Email: ad2660606@gmail.com |
| 11 | **Directorate General for Trade, Consumption and Competition (DGCC)** | DGCC is responsible for the following:<br><br>- developing trade, consumer protection and competition regulations;<br><br>- to ensure compliance with trade, consumer | The DGCC, Trade Focal Point of the project will facilitate the export and traceability of artisanal gold. | 01/06/2022 | Mr. Facko COULIBALY,<br><br>Head of Litigation and Regulation D<br><br>Tel: 00223 67 58 26 74<br><br>Email: facko@yahoo.fr |

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| | | protection and competition regulations;<br><br>- to investigate, record, prosecute and sanction breaches of trade, consumer protection and competition regulations;<br><br>- to monitor the supply of the national market in everyday consumer products;<br><br>- to define the national trade negotiation positions in relation to the structures involved;<br><br>- prepare and conduct the trade policy review process at the regional, sub-regional and multilateral levels and monitor the implementation of the recommendations;<br><br>- contribute to the development, implementation and monitoring of trade agreements;<br><br>- to support trade promotion activities;<br><br>- contribute to the capacity building of business enterprises;<br><br>- contribute to the development of product and service standards. | | | |
| 12 | **National Directorate of Geology and Mines (DNGM)** | DNGM has the following mandate:<br><br>- participate in the elaboration of elements of the national policy in the field of research, development, exploitation and | As the Mining Focal Point of the project, the DNGM will support the coordination of the project in its area of ??competence, namely the application of the relevant provisions of the Mining Code relating to the | 30/12/2021 | Souleymane GUINDO,<br><br>Head of Mining Environment Sectio<br><br>Tel: 00223 65 41 06 48<br><br>Email: bintaye2015@gmail.com |

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| | | transformation of soil resources;<br><br>- ensure the coordination and control of regional, sub-regional and related services. | development of the ASM sector. | | |
| 13 | **Mining Sector Decentralization and Deconcentration Support Unit (CADD)** | CADD has the following mandates:<br><br>- follow the process of transfer of skills and resources from the State to local authorities in the field of Mining (gold panning and small-scale exploitation of building materials);<br><br>- propose to the Minister in charge any measure tending to ensure the transfer of resources related to the exercise of powers transferred to local authorities in matters of Mines;<br><br>- design and disseminate all support tools for local authorities in the exercise of their mining skills (gold panning and artisanal mining of building materials);<br><br>- contribute to the preparation and monitoring of cooperation agreements with technical and financial partners;<br><br>- promote, through training and communication activities, the powers transferred to local authorities. | CADD will assist the municipalities hosting the project in the exercise of the powers transferred to them by the State for their full involvement in the implementation of the project. | 01/05/2022 | Mr. Adama DAOU,<br><br>CADD-Mines Director,<br><br>Tel: 76061369<br><br>E-mail : adamadaou9@gmail.com |

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| 14 | **National Directorate for Sanitation and Pollution and Nuisance Control (DNACPN)** | DNACPN is responsible, among other things, for:<br><br>- monitor and ensure that environmental issues are taken into account by sectoral policies and development plans and programs;<br><br>- supervise and control the environmental and social impact study procedures;<br><br>- develop and ensure compliance with standards in terms of sanitation, pollution and nuisances;<br><br>- check compliance with the requirements of legislation and standards and support local authorities in terms of sanitation, the fight against pollution and nuisances.<br><br>- deals with the management of chemicals, contaminated sites and the application of the Minamata Convention. | The DNACPN will work to implement the project in partnership with the Focal Points of the relevant national directorates, national stakeholders and technical and financial institutional partners. It will organize the establishment of a project coordination unit placed under the responsibility of the Ministry of the Environment, Sanitation and Sustainable Development. | April 2020 | Dr Oumar Diaour? CISSE, Focal Po<br><br>SAICM and Minamata Convention<br><br>Tel: 00223 76 47 35 20<br><br>Email: oumar.diaoure1@gmail.com |
| 15 | **Directorate General of Customs (DGD)** | DGD, the mandates for the customs administration of Mali are:<br><br>Tax mission:<br><br>- The customs service is responsible for the collection and collection of all duties and taxes relating to the import and export of goods;<br><br>Economic mission:<br><br>- Considering the evolution of the world economy, international | The DGD will follow the traceability of artisanal gold. | 01/15/2022 | Colonel Moussa SIDIBE,<br><br>General Directorate of Customs<br><br>Phone: 00223 76378290<br><br>Email: flababa@yahoo.fr |

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| | | trade and sub-regional and international cooperation, the State has had to adopt adequate customs policies. In relation to this economic mission, the state plays a driving role in the national economy. This is how, by manipulating customs duty rates, the public authorities can encourage the promotion of international trade. Thus, the customs administration, under the impetus of the financial authority, will stimulate national industrial units, increase national production, protect and regulate the national economy.<br><br>- Customs administration remains an essential instrument in economic integration between sub-regional groups and between Africa and the rest of the world. Customs policies allow Member States of a customs union to facilitate their inter-community trade, by instituting preferential taxation of their local products.<br><br>- Customs also has the task of establishing foreign trade statistics, in order to provide information and make essential forecasts for economic operators, industrial units, national and international organizations, public administrations, financial institutions and others.<br><br>Special missions: | | | |

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| | | a) Protection of public health:<br><br>- fight against narcotics;<br><br>- control of pharmaceutical products.<br><br>b) Consumer Protection:<br><br>- fight against counterfeits;<br><br>- control of expired products;<br><br>c)Environmental protection:<br><br>- control of international trade in wild species, fauna and flora threatened with extinction.<br><br>d) Protection of Cultural Heritage:<br><br>- fight against the fraudulent exploitation of works of art. | | | |
| 16 | **National Federation of Gold Pans of Mali (FENOM)** | FENOM brings together all the artisanal gold miners in Mali, through the membership of more than 48 artisanal gold miners' associations, and aims to defend their interests. | FENOM is the main beneficiary of project activities. It will participate in the identification of the project sites, its establishment, in the activities of formalization of the sector, training and capacity building, transfer of technology, establishment of the value chain as an apex of the mining artisans. | 30/12/2021 | El Hadj Ousmane SISSOKO known<br><br>President FENOM<br><br>Tel: 00223 76 O8 11 90<br><br>00223 66 8170 55<br><br>Email : ousmanesissoko1956@gma |
| 17 | **Chamber of Mines of Mali (CMM)** | CMM under the Ministry of Mines, Energy and | The CMM will support the umbrella organizations of artisanal miners under | 01/10/2022 | Mr. Bakary GUINDO,<br><br>Director of Assistance, |

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| | | Water has the following role:<br><br>- represenst natural and legal persons involved in the various professional branches of mining activities;<br><br>- offers technical assistance to companies in the mining sector in order to facilitate the accomplishment of the various administrative formalities;<br><br>- promotes the activities of mining companies;<br><br>- proceeds with the dissemination of all useful information or set up any appropriate organization;<br><br>- proposes to the government any measure it deems appropriate to promote the development of research, production and marketing activities for mining products. | its jurisdiction involved in the project to achieve their objectives. | | Promotion, and CMM Partnership<br><br>Tel: 00223 71 69 69 81<br><br>E-mail : bakguindo77@gmail.com |
| 18 | **Professional Association of Banks and Financial Institutions-Mali (APBEF-Mali)** | APBEF-Mali has the following goals:<br><br>- to create and maintain useful relations between its members,<br><br>- to ensure the unity of the rules which must govern its members,<br><br>- to collect data and information of interest to the profession and to carry out surveys or studies likely to shed light on the action of members and improve their image with | APBEF will encourage banks to participate in the financing of the Artisanal and Small-Scale Gold Mining sector. | 03/01/2022 | Mr. Mary BAH, Permanent Secretar<br><br>Tel: 00 223 76 41 58 08<br><br>Email: bahmary2002@yahoo.fr |

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| | | customers and the authorities,<br><br>- to pool information on the solvency and morality of their customers, and to participate by diversified actions in the permanent training of the employees of its members in order to guarantee professionalism in the banking system,<br><br>- to present all suggestions concerning general interests to the Government, Chambers of Commerce and other professional organisations,<br><br>- to intervene as an amicable judge or as reporting arbitrator in any disputes that may be brought before it. | | | |
| 19 | **Association of Municipalities of Mali / Communes** | - The Communal Council regulates by its deliberations the affairs of the Commune, in particular those relating to economic, social and cultural development. Thus, it deliberates among other things on:<br><br>- the plan for the development of the communal territory, in coherence with that of the circle;<br><br>- plans and programs for economic, social and cultural development;<br><br>- the creation and management of collective facilities of municipal interest in the areas concerning: | The host municipalities selected under the project will deliberate on the creation and management of collective facilities of municipal interest in the areas of crafts and<br><br>the fight against pollution and nuisances. | 01/10/2022 | Boubacar DICKO,<br><br>Program Officer at the Association<br><br>Tel: 00223 76 39 77 02<br><br>Email: b.dicko@gmail.com |

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| | | a) pre-school, basic education, non-formal education and learning;<br><br>b) vocational training;<br><br>c) health;<br><br>d) public hygiene and sanitation;<br><br>e) road and communication infrastructures classified in the municipal domain;<br><br>f) public transport and traffic plans;<br><br>g) rural and urban hydraulics;<br><br>h) fairs and markets;<br><br>i) sport, arts and culture;<br><br>- the management of the area of ??municipal interest, in particular:<br><br>a) the fight against pollution and nuisances;<br><br>b) the organization of agricultural and animal health activities;<br><br>c) land use plans and municipal space development operations;<br><br>d) land management, acquisition and disposal of heritage assets;<br><br>e) (e) management of forest, wildlife and fish resources;<br><br>- the creation and mode of management of | | | |

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| | | municipal public services;<br><br>- the organization of interventions in the economic field;<br><br>- the organization of craft and tourist activities;<br><br>- the organization of social promotion and protection activities;<br><br>- setting the rates of municipal taxes and duties within the framework of the bases and maximums set by law;<br><br>- the institution of royalties;<br><br>- the acceptance and refusal of donations, subsidies and legacies;<br><br>- the budgets and the administrative account;<br><br>- works and supply contracts, leases and other agreements;<br><br>- loans and loan guarantees or endorsements;<br><br>- the granting of subsidies;<br><br>- equity investments;<br><br>- twinning projects and cooperation actions with other Malian or foreign communities;<br><br>- the methods of personnel management;<br><br>- the rules of procedure providing, among other | | | |

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| | | things, the operating procedures of the working committees;<br><br>- administrative police regulations. | | | |
| 20 | **Public and private schools (AEPM)** | - AEPM implements the Ten-Year Program for Education and Culture built around oeleven priority axes which are:<br><br>- quality basic education for all;<br><br>- vocational education adapted to the needs of the economy;<br><br>- renovated and effective general and technical secondary education;<br><br>- quality higher education adapted to priority needs and at controlled costs;<br><br>- use of mother tongues alongside that of French;<br><br>- book policy and didactic and operational materials;<br><br>- sustained teacher training policy;<br><br>- real partnership around the school;<br><br>- restructuring and institutional adjustment necessary for the overhaul of the education system;<br><br>- communication policy centered on dialogue and | AEPM will support the selection of the project partner school in each project site for the purposes of raising awareness on the impacts of mercury on health and the environment, and on the adoption of alternatives to mercury and chemicals. | 01/12/2022 | Mr. Mangansir? DIAKITE,<br><br>ESGAF Director<br><br>Tel: 00223 66 76 53 00<br><br>Email: magansireesgaf@yahoo.ca |

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| | | consultation between all partners;<br><br>- sustained, rebalanced, rational and decentralization financing policy.<br><br>The Association of Private Schools of Mali (AEPM) aims to:<br><br>- to create a platform for joint consultation and action between the various private schools approved by the State,<br><br>- to present itself as a legal interlocutor of all the partners involved in the management of the Malian school in general, and of the private school in particular<br><br>- to produce a quality contribution in the development of all solutions to the ills from which the Malian school suffers | | | |
| 21 | **Office of Radio and Television of Mali (ORTM)** | The mission of the ORTM is to ensure the public service of sound and television broadcasting. ORTM objectives are:<br><br>- Promote information of civic and pluralistic public utility;<br><br>- Develop a production and broadcasting policy for Radio TV programs in line with the economic, social and cultural development objectives of the country. | The ORTM will ensure the media coverage of the activities and results of the project. | 04/01/2022 | Mr. Aguibou Coulibaly,<br><br>Journalist,<br><br>ORTM<br><br>Tel: 00 223 78 16 79 35<br><br>Email: aguibou_53@yahoo.fr |

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| | | To carry out its mission and achieve the objectives assigned to it, the ORTM has set up a vast network of transmitters (59 FM TV stations) throughout the country. | | | |
| 22 | **Private press:**<br><br>**Network of Journalists and Communicators of the Environment and Sustainable Development. (RNJCEDD)** | RNJCEDD pursues the following objectives:<br><br>- Bring together all the journalists and communicators of Mali and invite them to develop their knowledge and their skills on the subjects and themes which contribute to Sustainable Development, and to the Protection of the Environment.<br><br>- raising public awareness on these topics.<br><br>- collaborate with African States and help them and their peoples to consolidate actions for Sustainable Development and Environmental Protection.<br><br>- participate in all meetings convened for African problems on these themes and bring their thoughts and therefore their contribution to the search for solutions;<br><br>- collaborate with other national and international organizations on these themes;<br><br>- ensure the preservation of the environment and biodiversity in Mali and | The private press will participate in:<br><br>- media coverage of project activities and results;<br><br>- communication and awareness. | 04/01/2022 | Mr Cheick AmadouDIA, Jan 3,<br>Journalist,<br><br>President of the RNJCEDD<br><br>Tel: 0022379075093<br><br>Email: diacheickamadou@yahoo.fr |

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| | | in the world and fight against global warming. | | | |
| **Civil Society Organization/ Non-Governmental Organizations** | | | | | |
| 23 | **Group for the Defense of Consumers (REDECOMA)** | REDECOMA?s mission is to inform, advise and help consumers settle disputes in everyday life. He can act preventively to find amicable solutions and has the legal capacity: Ability of a person (natural or legal) to have rights and obligations and to exercise them himself (examples: right to conclude a contract, right to sue) to represent the private or collective interests of consumers before the courts. | Defend the interests of consumers, in relation to the production of gold, the quality of the product, the price and the preservation of the environment. | 01/13/2022 | Mr Alidji MAIGA,<br><br>T?l: 0022376448520<br><br>Email: alidjhmaiga@gmail.com |
| 24 | **Support for the Enhancement and Promotion of Private Initiatives (AVEPIP)** | Contribute to the foundation of an environmental education and culture of protection and management of natural resources, while emphasizing the green economy in the context of Sustainable Development and the eradication of poverty. | AVEPIP will support the gender component of the project. | 03/01/2022 | Ms. Goundo SISSOKO,<br><br>Coordinator,<br><br>AVEPIP NGO<br><br>Tel: 00223 66 78 00 81<br><br>Email: goundo.sora@gmail.com |
| 25 | **Network of Women for Environmental Rights (REFEDE Mali)** | REFEDE Mali promotes the strengthening of environmental justice, the right to sustainable development and the equitable management of access to natural resources in Mali | REFEDE will provide expertise in environmental justice. | 03/01/2022 | Mrs. Halimatou Mall?,<br><br>Permanent REFEDE-Mali<br><br>Tel: 79 44 66 24<br><br>Email: refedemali@gmail.com |
| 26 | **NGO-Donko** | The NGO DONKO is a non-governmental organization that works for development by focusing on areas where the weakening of communities and that of the ecosystem represent great challenges to the | The NGO-Donko will participate in the training and sensitization of miners and the formalization of the ASM sector | 31/12/2021 | Mr. Ali Moussa BOCOUM,<br><br>Program Manager,<br><br>Telephone: 66 62 15 86/ 74 26 52 2 |

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| | | promotion and emancipation of rural populations in general and women. especially rural. On the environmental level, it takes care of:<br><br>- promotion/Dissemination of clean energies (solar energy, etc.)<br>- development of management tools such as SAT, PAT and PGT.<br>- restoration, preservation and conservation of ecosystems.<br>- constitution of threatened wildlife.<br>- strengthening of social dialogue between the different users of natural resources.<br>- development and implementation of local inter-community agreements for the management of natural resources.<br>- conflict prevention and management<br>- environmental education.<br>- initiation of alternative means of existence for a better adhesion of the populations to the projects | | | E-mail :donko@orangemali.net / bo |
| 27 | **Federation of Women Miners of Mali (FEMIMA)** | FEMIMA aims to promote recognition and the promotion of women in the extractive sector in order to improve their living conditions by structuring their group, technical and material support and their personal development. FEMIMA intervenes in the following areas:<br><br>- environmental and social issues related to | FEMIMA will help with the formalization of the sector, communication, training and sensitization of women miners. | 16/12/2021 | Mrs. DIARRA, Dj?n?ba SAMAKE,<br><br>FEMIMA President<br><br>Tel: 00 223 76 47 82 82<br><br>Email:femima@gmail.com |

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| | | the exploitation of artisanal gold;<br>- search for partners for technical assistance in gold panning and the alleviation of women's tasks;<br>- conversion project for the diversification of sources of income and to prepare for post-mining management (beekeeping, poultry farming, processing, market gardening, dyeing, saponification, sewing) in order to promote thea creation of companies providing goods and services;<br>- the dangers associated with the use of products such as mercury and cyanide on human health and the environment;<br>- reintegration of young girls into professional activities (transformation of precious and fine stones, etc.). | | | |
| 28 | **Association for the Protection of Natural Resources and Local Development (ASRN-DL)** | ASRN-DL's role is to promote environmental protection and contribute to sustainable development. Its major role is citizen monitoring and operates around 3 axes:<br><br>- the protection of the environment,<br>- valorization of forest products (N?r?, Shea, baobab, etc.),<br>- conflict prevention/ management. | The association will provide expertise for the consideration of gender in the implementation of the project | 16/12/2021 | Mrs Anne SOGOBA,<br><br>President ASRN-DL<br><br>Tel: 00223792002<br><br>Email: anitasogoba@gmail.com |
| **International Organizations** | | | | | |
| 29 | **Representation of the United Nations Industrial Development** | UNIDO is the specialized agency of the United Nations that promotes industrial development for poverty reduction, inclusive globalization and | Representative of the lead Implementing Agency for the project in Mali. | May 2020 | Mme TRAORE, Haby SOW,<br><br>Head of UNIDO Office,<br><br>Bamako, Mali |

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| | **Organization (UNIDO)** | environmental sustainability. | | | Tel: 00223 66 71 62 97 // 44 98 03 1<br>E-mail: H.SOWTRAORE@unido.o |
| 30 | **Representation of the United Nations Development Program (UNDP)** | UNDP works to eradicate poverty and reduce inequalities through the sustainable development of nations, in more than 170 countries and territories. | The UNDP Representation supports the Government of Mali in the implementation of priorities in terms of the environment, climate change and sanitation. It draws up a country program document with all the partners and government structures. | 01/13/2022 | Mr. Oumar TAMBOURA,<br>UNDP Representation,Mali<br>Head of Environment, Climate Char Development Unit<br>Tel: 00223 76 31 80 80<br>Email: oumar.tamboura@undp.org |
| 31 | **Representation of the World Health Organization (WHO)** | WHO's mission is to promote health, maintain global security and serve vulnerable populations. Access to adequate and affordable health care is a fundamental human right and universal health coverage is a cardinal principle of WHO's work | Encourage the implementation of the Minamata Convention on Mercury in relation to its health aspects | 27/12/2021 | Mr. Sory Ibrahima BOIRE,<br>World Health Organization (WHO)<br>Tel: 00223 76 01 10 57<br>E-mail:bouares@who.int |
| **Private Sector** | | | | | |
| 32 | **Kankou Moussa Refinery (KMR)** | KMR aims, among other things:<br>- refining of precious metals (gold, silver, platinum and palladium),<br>- analysis of precious metals,<br>- training in refining of precious metals and in jewellery,<br>- production of high-end jewelry made in Mali. | - KMR provides expertise in the implementation of projects and programs for the organization of the gold panning sector and generating activities.<br>- Support the creation of the value chain and traceability of gold.<br>- provide expertise for the construction of a small-scale | 01/10/2022 | Mr. Abdou THIAM,<br>Deputy General Manager,<br>KMR<br>Tel:00223 66 74 32 84<br>E-mail: abdouthiam@kankoumous |

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| | | | service center for minors. | | |
| 35 | **Marena Gold Refinery** | The services provided by the Marena Gold Refinery are:<br><br>- gold refining in ingots of 25g, 50g, 100g, 200g, 500g, 1kg up to 12.5kg and in coins;<br><br>- the development of modern jewelry in Mali, the marketing of gold;<br><br>- make gold from Mali bankable by storing it in our coffers with first-class insurance and sell green gold in certificates and exchange traded funds (Etfs) which will allow us to have a favorable price to further finance small mines ;<br><br>- establishment of small mines allowing us to position ourselves to obtain LBMA certification. | Adding value to artisanal gold | 01/14/2022 | Mr. Siby Soumaila alias Ismail (CE<br><br>Niamakoro, Unicef ??City, Street 19<br><br>Bamako, Mali<br><br>Mobile Mali: +22393798123<br><br>HK (whatsapp): +852 96 29 59 74<br><br>Email: siby@marenagoldmali.com<br><br>Website:marenagoldmali.com |
| 36 | **Union of Gold Counters and Refineries of Mali (UCROM)** | The objectives of the union of counters and gold refineries of Mali (UCROM) are as follows:<br><br>- contribute to the socio-economic and cultural development of Mali through the organization and mobilization of players in the gold panning sector.<br>- to sensitize the mining operators to the payment of taxes and duties due to the state and to the territorial collectivities.<br>- identify all players in gold panning (miners, | UCROM will support the following:<br><br>- formalizatio n;<br>- awareness;<br>- training,<br>- gold marketing | 01/12/2022 | Mr. Karamoko DOUMBIA,<br><br>President of UCROM<br><br>Tel: 66 90 69 18/79 19 93 08<br><br>Email: diakiteboubacar985@gmail.c |

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| | | collectors and counters) by setting up a professional card issued by the state.<br>- involve village authorities (ton-bolomans), customary chiefs, hunters) mayors, sub-prefects and prefects in the organization and management of gold mining at all levels.<br>- install purchasing centers in gold panning sites which will allow the traceability of gold from gold panning. .<br>- regulate the marketing of gold in harmony with national and international legislation.<br>- promote the training of gold panners in new techniques adapted to the extraction and processing of gold from gold panning.<br>- protect the environment by raising the awareness of artisanal gold miners on the dangers inherent in the use of chemicals such as mercury and cyanide.<br>- promote community development by supporting decentralization in the areas of agriculture, livestock, health, education and the environment.<br>- fight against child labor in gold panning sites by promoting education and literacy.<br>- fight against the use of dredgers and other machines in rivers and rivers.<br>- prevent the fraudulent export of gold by people who do not hold approval and pay neither taxes nor taxes. | | | |

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| **Mining Sector** | | | | | |
| 37 | **Soci?t? des Mines de Loulo SA (Loulo)/ Barrick**<br><br>**Gounkoto Mining Company (Gounkoto)/ Barrick.** | Barrick Industrial gold mining | Provide the follwing to the project:<br><br>- give up part of the permits for structural gold panning with the aim of peaceful/legal cohabitation<br>- integrating Structured Gold Panning into Barrick's Community Development Program | 01/06/2022 | Mr. Hilaire Diarra<br><br>Head of Sustainability, Africa and M<br><br>Tel: +22366750844<br><br>E-mail :Hilaire.Diarra@Barrick.com |
| **Research and Academy** | | | | | |
| 38 | **National Institute of Public Health (INSP)** | The National Institute of Public Health is responsible for setting up a system of health monitoring and epidemiological surveillance and promoting research on health policies and systems. As such, it is responsible for:<br><br>- to ensure the application of the International Health Regulations (IHR) 2005 and the implementation of the Global Health Security Program in Mali;<br>- coordinate the implementation of surveillance and response interventions at the national level;<br>- contribute to the development of a national capacity for health monitoring and epidemiological surveillance;<br>- to develop a national capacity in the field of vaccinology; | INSP will ensure the health monitoring of artisanal miners and their communities. | 31/12/2022 | Dr. Hippolyte Traor?,<br><br>Researcher<br><br>Tel:002236089322<br><br>Email: hippotrao@gmail.com |

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| | | - to ensure the reference in the field of biomedical diagnosis;<br>- ensure the management of health reserves, in particular stocks of biological products, equipment and materials necessary for the protection of populations against serious health threats;<br>- collect and evaluate information on the unexpected or toxic effects of drugs and vaccines;<br>- to promote medical and pharmaceutical research in public health;<br>- to participate in the technical training, improvement and specialization of executives;<br>- to promote national and international cooperation in the field of research, training and the fight against the disease;<br>- to participate in the implementation of public health policies, programs and strategies. | | | |
| 39 | **National Water Laboratory (LNE)** | The National Water Laboratory's mission is to determine, manage and protect the quality of water in the national territory. To this end, it is responsible for:<br><br>- sampling and physico-chemical, toxicological and microbiological analysis of natural waters (surface water, groundwater);<br>- analyze sedimentary deposits;<br>- promote research and training in water;<br>- ensuring the scientific information of the | LNE will be responsible for conducting the project environmental monitoring activities. | 03/01/2022 | Ms. DIAKITE, Aminata SY,<br><br>Head of LNE Department<br><br>Tel: 00223 76 47 37 95<br><br>Email: aminatasy65@yahoo.fr |

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| | | populations in the field of water quality;<br>- participate in the development of standards relating to water quality;<br>- develop and implement plans and programs for isotopic and hydrodynamic hydrochemical studies on the origin and evolution of water tables;<br>- carry out hydro-sedimentological studies of waterways, natural and artificial, irrigation canals, navigation and water supply networks;<br>- provide advisory support to communities in improving the quality of their waters;<br>- create a chemical database on water. | | | |
| 40 | **Central Veterinary Laboratory**<br><br>**(LCV)** | The CVL has the following main missions:<br><br>- production of veterinary vaccines<br><br>- commercialization of veterinary vaccines<br><br>- animal health research<br><br>- routine and reference diagnosis of diseases<br><br>- epidemiological surveillance of animal diseases<br><br>- control of food and environmental hygiene<br><br>- training in laboratory techniques and retraining of Livestock agents | LCV will be support environmental monitoring activities of the project. | 08/01/2022 | Mr. Moussa DEMBELE,<br><br>Head of the Toxicology and Environ Laboratory of the CVL<br><br>Tel: 76472342<br><br>Email: demodad1@yahoo.fr |
| 41 | **Faculty of Science and Technology, University of Science,** | FAST/USTTB missions are: | FAST/USTTB will support theproject in the following areas: | 10/12/2021 | Professor Adama TOLOFOUDYE,<br><br>Teacher Researcher, FAST |

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| | **Technology and Technology of Bamako (FAST/USTTB)** | - general practical and specialized higher education;<br><br>- research and promotion of scientific and technological research;<br><br>- professional training;<br><br>- postgraduate training;<br><br>- preparation for the Grandes Ecoles;<br><br>- the development and dissemination of culture and knowledge;<br><br>- the realization of expertise in the field of science and technology. | - Technology Transfer;<br><br>- Training of mining artisans | | Tel: 00223 76230320<br><br>Email: aderto.ere@gmail.com |
| 42 | **National School of Engineers ENI-ABT** | The ENI-ABT missions are defined by Law No. 2012-043 of November 16, 2012 amending Ordinance No. 10-028/P-RM of August 4, 2010. As such, ENI-ABT must contribute to the development of training academic, professional and continuous in the fields of energy, water and environment, civil engineering, geology and mining, industry, telecommunications. She performs:<br><br>- multidisciplinary post-graduate training;<br><br>- improvement;<br><br>- scientific and technological research;<br><br>- the development and dissemination of knowledge and know-how; | ENI-ABT will support the project in the following areas:<br><br>- research and development;<br><br>- technology Transfer | 04/01/2022 | Professor Mamadou Sanata DIARR<br><br>Managing Director ENI-ABT<br><br>E-mail:madousdiarra@yahoo.fr |

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| | | - carrying out expertise and production activities. | | | |
| 43 | **Central School for Commerce, Industry and Administration (ECICA)** | - The programs offered at ECICA have the following goals:<br>Make the person effective in the exercise of the profession:<br>- provide it with the skills required by the national and international market;<br>- -allow him to evolve adequately in a work environment through a solid foundation (knowledge, technical and technological skills,<br>- communication, problem-solving skills, decision-making skills, concern for occupational health and safety).<br>Ensure the person's integration into professional life. That is to say :<br>- introduce him to the job market;<br>- introduce her to the particular context of the profession she has chosen;<br>- make him aware of his rights and responsibilities within the company.<br>Promote the development and deepening of knowledge:<br>- professionals in person<br>- allow him to develop his autonomy and his ability to learn and help him acquire working methods;<br>- allow him to understand the principles underlying the techniques used;<br>- allow him to develop his expression, his creativity, his initiative and his entrepreneurial spirit; | ECICA will support the project in the following areas:<br><br>- research and development;<br>- technology Transfer | 01/11/2022 | Mr. Issiaka DOLO,<br><br>Head of Works,<br><br>ECICA<br><br>Tel: 00223 74 00 10 10<br><br>Email: babouremadolo@yahoo.fr |

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| | | - allow him to acquire attitudes essential to his success<br>- professionalism, sense of responsibility and concern for excellence.<br>Ensuring the professional mobility of the person:<br>- develop positive attitudes towards change;<br>- develop in them the ability to obtain information and document themselves;<br>- prepare her for the dynamic search for a job. | | | |
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**Table 12** - Stakeholder Engagement Plan summary

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

1. An Accountability and Grievance Mechanism (AGM) has been developed and describes how all stakeholders will be able to raise grievances and how these will be processed at the program level. To ensure stakeholders are aware and able to access the grievance mechanism: (i) A Grievances Form will be created on the PlanetGOLD website in multiple languages; (ii) Links to the Grievances Form will be added throughout the PlanetGOLD Website; (iii) A link to the Grievances Form will be included in the PlanetGOLD knowledge products; and (iv) The project will allow for anonymous grievances. This will also be replicated at the national level and local level at the pilot sites.

2. To ensure that the AGM is working effectively and efficiently, the AGM will treat all grievances confidentially and objectively ? to provide those with grievances a safe space to voice them. The AGM has established timelines for grievance responses. Adherence to these timelines will be monitored as part of the monitoring and evaluation of the project. The AGM outlines processes for how grievances will be handled by the project and which grievances are eligible. The AGM will be hosted in the planetGOLD website and administered by CI and UNEP.

3. If resolution of the complaint is not possible at the program level, UNIDO encourages the utilization of the UNIDO grievance mechanism detailed in the Environmental and Social Management Plan.

4. The Project Execution Entity (PEE) will be notified and responsible for addressing the issue in line with the UNIDO Environmental and Social Safeguards Policy.

5. The Stakeholder Engagement Plan will be consistent with the program guidelines.

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

**Consulted only;** Yes

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

**Co-financier;** Yes

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

**Executor or co-executor;** No

**Other (Please explain)**

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

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

1. Gender equality and the empowerment of women have a significant positive impact on sustainable economic growth and inclusive industrial development, which are key drivers of poverty alleviation and social progress. During the execution of the project, gender mainstreaming will be based on GEF's Policy on Gender Equality and UNIDO?s Policy on Gender Equality and the Empowerment of Women.

2. UNIDO recognizes that both men and women flourish in a wide range of roles in the ASGM primary and secondary economies, especially when operating in an enabling environment and when equipped with the right skill set. The project will provide alternatives to existing norms that currently limit the range of employment opportunities for women and men in the ASGM primary and secondary economies.

3. The project also recognizes the gender dimensions of mercury use and exposure risks in ASGM as women often perform some of the tasks most exposed to the toxic substance.

4. The participation of women in ASGM in Mali is considerable (estimated at 49%), although the exact number is difficult to estimate due to a lack of data for some significant geographical areas.

5. During the preparatory phase, a gender analysis was conducted, looking mainly at the roles, needs, rights and responsibilities, division of labour, access to resources as well as other relevant aspects at the workplace, household, and community-level.

6. The main findings of the gender analysis (Annex K) are the following:

? Women in ASM in Mali suffer from an unfavorable situation due to socio-cultural and economic aspects. Access to education, employment and resources and the distribution of labour is unequal, while the representation of women miners and their work in formal decision making structures in the ASGM sector is almost non-existent;

? There are limited or no laws, regulations or policies that take into account the gender dimension and specific rights of women in mining, especially at the sub-national level;

? National gender laws and policies are generally in place but rarely enforced.

? Women have been excluded from the formal financial system as inequality in access to credit still persists. Women face greater challenges in accessing credits due to, among others, lack of financial education and insurance awareness, lack of collateral required by financial institutions and lack of solid credit histories;

? Gender-based violence (GBV) is common in the sector affecting the decision-making capacity and general well-being of women;

? The double burden of work for women miners has different consequences on women?s quality of life tending to maintain the conditions of poverty, marginalization and dependence of this segment of the population;

? The high illiteracy rate and low access to basic services put some of the women miners in particularly sensitive situation of vulnerability and dependence;

? Women in the gold sector use mercury in highly unsafe conditions, even in their own houses, without protective equipment and lacking awareness on its implications on human health; and

? Several self-employed women miners lack social and labour protection, and want to find economic alternatives in order to generate better living conditions.

7. Working on gender equality and women empowerment will positively impact economic growth, helping poverty alleviation in a sector where most women live and work informally. Furthermore, the empowerment of women groups can have very beneficial impacts in strengthening communities? responses to unsafe practices in ASGM.

8. Based on the preliminary assessment and following the four main components of the project, strategic lines of action were defined in the Gender Action Plan (Annex K) targeting both cooperative members and individual miners.

9. The Gender Action Plan has been designed to ensure the active and meaningful participation of both women and men, equal access to opportunities, resources, and benefits from the project, and avoid perpetuating social inequalities along the following strategic lines:

i. Women capacities are strengthened to assert their rights and public policies are generated towards formalization, gender equality and women empowerment;

ii. Women capacities on entrepreneurship are strengthened and alternative livelihoods for women miners are introduced;

iii. Women capacities on the use of mercury and alternative technologies and practices are strengthened; and,

iv. Women capacities in leadership are strengthened and regional exchanges among Andean women miners are promoted to increase visibility of gender in ASGM.

10. Gendered perspectives will be captured, including data collection through baseline surveys documenting risks and opportunities for men, women, elders, boys and girls, or traditional local communities and peoples affected by the project.

11. The impact of COVID-19 on women miners should be carefully analyzed. Most of the women have seen an increase in their workload both at the mining sites and at their households and are especially disadvantaged due to the lack of skills in ICTs.

12. The project will mainstream gender equality and women?s empowerment throughout its components by ensuring that formalization efforts, access to finance and responsible markets and access to mercury free technologies benefit both men and women. Capacity building of ASGM actors will target both men and women through training and skills transfer.

13. The strategies proposed in the Gender Action Plan have been integrated into the project's logical framework, resulting in specific outputs and activities and gender-disaggregated data to inform gender-responsive monitoring and evaluation.

**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.**

. Specific to component 2 and access to finance, stakeholders from the financial sector will be actively involved. Awareness raising on the ASGM sector and provision of incentives will be encouraged for Financial Intermediation Entities (FIE) and insurance companies to progressively engage with mining actors and provide financial products and services in line with the needs of ASGM.

2. The project will build on existing advocacy processes in the ASGM sector in Mali to raise interest and awareness on the importance of financing responsible ASGM for profit, sustainability, and corporate social responsibility purposes.

3. In terms of responsible supply chains, the involvement of the private sector will be mostly 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.

4. Achieving engagement and commitment of local gold traders and informal financiers will be particularly challenging as these companies prefer to keep a low profile in their activities and relationships due to the high sensitivity and nature of the sector. However, their participation is important to achieve an increase in traceability and transparency and successful forms of engagement of these specific actors will be explored. An effective and robust awareness raising program coupled with a strong training and capacity building program will be some of the key measures undertaken to achieve the engagement and commitment of local gold traders and informal financiers under the project.

5. There are also possible 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.

**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):**

# 5. Risks

1. **Table 14** presents the principal risks and proposed mitigation measures of the project.

| Risk | Probability | Impact | Mitigation measures |
|---|---|---|---|
| **COVID-19 related risks** | | | |
| Lockdown/restrictions related to the pandemic affect project activities | Medium | Medium | Monitor constantly restrictions at the different levels (national, departmental). Opt for remote interaction for the implementation of some of the project's activities, and prepare and implement contingency plans for on-site activities |
| Project activities result in greater risks of infection for project team/beneficiaries | Medium | Low | Implement health awareness activities and COVID-19 biosafety protocols |
| **Climate change risks[1] / Environmental risks** | | | |
| Climatic events affect mining operations and/or project activities | Medium | Medium | Conduct risks and climate change vulnerability analysis for the selected sites, avoiding areas with acute risks of disaster due to unsafe mining conditions<br><br>Plan activities considering the dry/rainy seasons and its impact on mining operations |
| Deforestation and biodiversity loss increase due to mining activities | Low | Low | Develop and implement progressive soil rehabilitation plans supported by the jurisdictional approach for sustainable landscape management |
| Generation of waste from mining operations to the environment | Low | Low | Ensure mining and metallurgical waste management plans are implemented in selected sites |

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| Generation of smoke and other air pollutants from mining operations, equipment, and vehicles | Medium | Low | Preventive maintenance of fuel-powered equipment and machinery.<br><br>Promote the change to electric equipment and clean energy sources |
| **Operational risks** | | | |
| Lack of coordination between key ministries, main stakeholders and various ASGM initiatives in the ground | Low | Medium | Ensure regular communication among key players working on ASGM related projects, including the national institutional committee on mercury and the alliance of ASGM stakeholders (GIT OR). Additionally, regular information on project will be shared with relevant stakeholders |
| Migration of miners after exhaustion of gold ore which jeopardize long-term stability and livelihoods of rural communities | Medium | Medium | Consider the presence of alternative livelihoods as well as basic estimation of gold reserves ensuring medium to long-term mine lifetime for site validation. Shared prosperity with other sectors like the agricultural sector can leave communities still thriving even after nomadic miners leave<br><br>The application of jurisdictional approaches and the introduction of mercury-free technologies, could turn in social and environmental improvements for the community |
| **Social risks** | | | |
| Prevailing cultural norms and practices (negative views on outsiders, resistance to change) prevent project activities and/or behavior changes in mining activities | Medium | Medium | Carry out cultural orientation, community consultation, and miner-miner interactions. In addition, awareness raising and incentives will be put in place to motivate bi-directional behavior changes (for project team and for miners) |
| Presence of child labor in selected mining sites | Low | High | Monitor and ensure child labor does not take place in selected mining sites |

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| Displacement of women and vulnerable groups through technological changes | Medium | Medium | Conduct a gendered impact assessment and its corresponding mitigation measures to avoid risks of exclusion |
| Loss of jobs for intermediaries and mercury providers lead to threats and/or criminal activities | Medium | High | Assess mercury trade flows and related risks during lifecycle and provide job opportunities in formalized gold supply chain for intermediaries |
| Potential impact to indigenous peoples (IPs) who are directly or indirectly involved in the mining/processing | Low | Low | The recommended area of work does not overlap with IPs territories.<br><br>Consultation with IP; potential development of an environmental and social impact assessment (ESIA). |
| **Technical risks** | | | |
| Limited willingness of public and private financial institutions to coordinate and implement financial products targeting ASGM | Medium | High | Prioritize work agendas on specific issues. Use communication strategies that promote the importance of concurrence between actors and importance of financial mechanisms |
| Low absorption capacity of trainees on technical aspects and difficult site accessibility | Medium | Low | Employ skilled experts (local and international) to provide training and then hands-on guiding using accessible and understandable information. Promote peer-to-peer learning throughout the project.<br><br>Concerning the accessibility, site prescreening combined with proper budgeting, transportation arrangement and communication support mechanisms |

| Risk | Probability | Impact | Mitigation measures |
|---|---|---|---|
| Terrorism and conflict | | | |

| | | | |
|---|---|---|---|
| Restrictions/Accessibility to project areas due to potential exposure to terrorism and conflicts affect project activities | Medium | Medium | -Create a security management and coordination structure at the Project level that would coordinate activities related to high risk Project ?reas.<br>-Align and coordinate the project activities in high risk areas with the national strategy to fight against insecurity and terrorism. |
| Project activities result in greater risks of exposure to terrorism and conflicts for project team/beneficiaries | Medium | Medium | -To sensitize and develop project personnel's abilities to grasp security threats;<br>-Preventing situations that represent security risks to the project activities |

**Table 13** - Risk summary table

2. An in-depth analysis of the different risks of the project is presented in the Environmental and Social Management Plan (ESMP) that can be found in Annex J.

3. Additionally, the project team will ensure that all PlanetGOLD beneficiary mining entities conform with the PlanetGOLD Criteria for Environmentally and Socially Responsible Operations through the review of the PlanetGOLD Environmental and Social Risk Assessment Report and the Mitigation Report.

## ? COVID-19

4. The COVID-19 pandemic has had significant impacts in Mali including in terms of lives lost, economic slowdown, unemployment, and loss of income for the overall population. The disappearance of livelihoods is particularly relevant in the context of a country with one of the highest informality rates in relation to the GDP (62% according to the IMF)[2].

5. The mining sector in Mali also suffered from the consequences of COVID-19 in economic terms due to the stoppage of activities affecting in particular small mining cooperatives and vulnerable groups as well as in social terms (i.e., increase in stress, shift to agricultural and alternative activities).

6. Informal women miners have been the most affected by COVID-19 as they generally lacked reliable information on the pandemic. Women were most vulnerable because they were forced to work in order to support their families. Lack of food and basic goods have also impacted vulnerable groups.

7. The impact of the COVID-19 pandemic needs to be carefully considered for the project's implementation period.

8. Travel restrictions are likely to impact project execution. The situation will be closely monitored throughout the project life cycle, and a contingency plan building on the above-identified risks will be refined during the inception phase and then be regularly updated during Project lifetime.

9. The project will also face risks of national counterparts working at a lower capacity, a possible reduction in co-financing due to shifted priorities and the worsening of social inequalities as a consequence of the economic slowdown.

10. The project will promote the use PPE in mining operations and this contribute to safeguarding the miners from health risks including the ones related to COVID-19.

11. COVID-19 has dramatically increased the use of single use plastics and other materials part of personal protective equipment. Macro and micro-plastics can transport invasive alien species which can form a new habitat and increase the likelihood of diseases outbreaks which is higher in tropical regions[3] such as some part of Mali.

*Opportunities to support COVID-19 response:*

12. The COVID-19 pandemic not only generated a crisis but also presented an opportunity to build a new framework that is more equitable, inclusive, and just. When building back a perspective of sustainable development within the productive sectors, including the artisanal and small-scale gold mining, is essential in order to protect nature.

*Opportunities to support COVID-19 response in the short term:*

13. The project shall be used as an opportunity to improve public health awareness at the selected mining sites.

14. In addition, special assistance programmes for vulnerable groups including informal women miners will be introduced.

*Opportunities to support COVID-19 response in the long-term*

15. Transforming ASGM, as one of the key polluting sectors in Mali, can provide major benefits for biodiversity and ecosystems, as well as the human health of miners and their communities.

16. The project will pilot the sustainable landscape approach/jurisdictional approach which will promote responsible land uses that should limit deforestation and reduce human-wildlife contact having an impact in the overall protection of natural capital.

17. Additionally, the project will provide an opportunity to strengthen the local artisanal gold supply chains in the country while at the same time increasing natural and economic resilience and the adaptive capacities in the selected communities.

18. Green Recovery measures will be promoted not only for ASGM but also for other high-polluting sectors in the country.

Climate change

19. Mali is one of the countries with the least negative contribution to climate change as its greenhouse gas emissions are very low. However, it is one of the countries that suffers the most from the phenomenon[4] due to poor adaptation capacity related to poverty, variable ecosystems, deforestation and irregular rainfall patterns in the country.

20. The country is located in the northern tropical zone. Mali's intertropical and continental rainfall pattern is characterized (Figure 7.2) by a steady decrease in rainfall from the South (1000 mm/year) to the North (<200 mm/year) and throughout the rainy season.

21. Mali has three main climatic zones:

? Two thirds of the northern part of the country is completely desert and belongs to the *Meridional Sahara* and has very few known natural resources,

? The central, *Sahel* region, relatively dry and covered by steppes

? The *Sudanese* region is the area with heavy rainfall

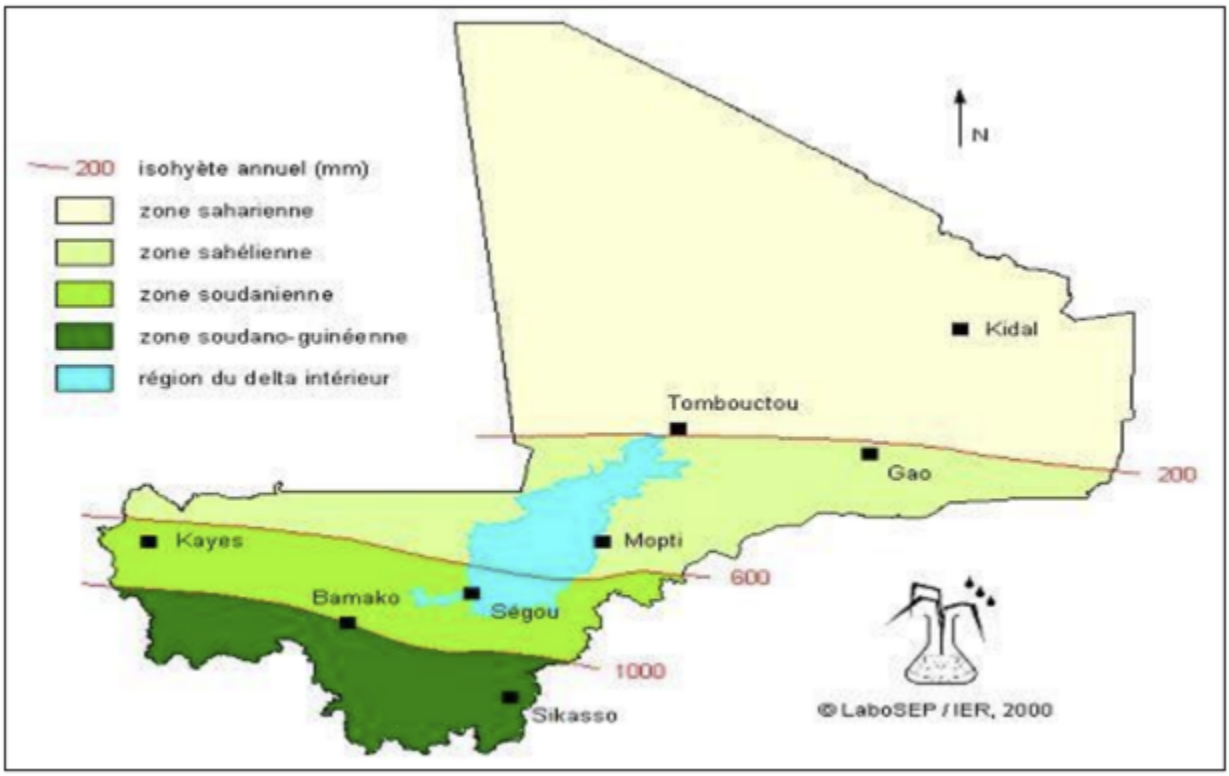


Figure7.2. Climatic Map of Mali showing Mean Rainfall (Source: Ministry of Environment and Sanitation, Mali, 2011)

22. The Republic of Mali is divided into ten (10) regions (Kayes, Koulikoro, Sikasso, S?gou, Mopti, Timbuktu, Gao, Kidal, M?naka and Taoud?ni) and the District of Bamako. At the regional level, the country comprises 49 cercles subdivided into 703 communes, 666 of which are rural, comprising more than 12,000 villages and towns.

23. Mali?s population is growing at a rate of 3.6% per year. More than three quarters of the population live in rural areas. The urban population is largely concentrated in Bamako, which has over 2 million inhabitants. The demographic household size is 6.3 at the national level. The average population

density of municipalities per region is very heterogeneous. The national population density is 13.5 inhabitants per square kilometre and varies from 0.4 inhabitants in the Kidal region to 8,344 inhabitants in Bamako District. In terms of gender and age distribution, there are 50.4% women and a very high proportion of young people, since nearly two thirds (65%) of the population are under 25 years of age.

24. Mali is one of the poorest countries in the world. It ranks 179th out of 187 countries (UNDP 2017). High population growth rates and natural disasters (droughts, floods, locusts? invasion) exacerbate poverty, food insecurity and instability. Ranked 176th out of 187 countries according to the 2014 HDI (UNDP), with an HDI of 0.407 and ranked 182nd out of 187 countries according to the 2018 UNDP Human Development Index[5], with an HDI of 0.427, poverty reduction has not changed much despite macroeconomic recovery from the crisis with a GDP growth rate of 5.3% in 2017. The level of poverty in 2017 decreased to 44.9% from 46.8% in 2016, a decrease of 1.8%. Nevertheless, poverty remains a rural phenomenon with an incidence of poverty of 53.6% compared to 19% in urban areas in 2017 (CREDD, 2018). The poor populations are 90% concentrated in the rural areas in the south of the country where the population density is the highest.

25. In terms of population distribution, there is reliable data for only six of the eight national regions. For the Kidal and Gao region, which are under rebel military activity, data cannot be validated. For the six regions, the population ? disaggregated at gender ? is distributed as shown in Table 7.3.1 below. It shows that the Kayes, Sikasso and Koulikorro regions ? which are the key areas of interest for ASGM in Mali ? actually host about 53% of the total verifiable Malian population.

| Region | Men | | Women | | Total | |
|---|---|---|---|---|---|---|
| Kayes | 1,277,300 | 8% | 1,312,701 | 8% | 2,590,001 | 16% |
| Koulikoro | 1,560,516 | 10% | 1,586,483 | 10% | 3,146,999 | 20% |
| Mopti | 1,694,022 | 11% | 1,739,978 | 11% | 3,434,000 | 22% |
| Segou | 1,502,748 | 10% | 1,535,252 | 10% | 3,038,000 | 19% |
| Sikasso | 1,308,087 | 8% | 1,336,912 | 8% | 2,644,999 | 17% |
| Timbuktu | 438,729 | 3% | 438,272 | 3% | 877,001 | 6% |
| **Total** | 7,781,402 | 49% | 7,949,598 | 51% | 15,731,000 | 100% |

Table 7.3.1. Verifiable Population Distribution in Mali based on 2017 data. Primary Data Source: Direction Nationale de la Population, March 2017

26. The aggregate result of the above data clusters is that Mali has very weak climate change adaptation capability. Being one of the Sahel countries (at the edge of the advancing Sahara Desert) makes Mali even more vulnerable to environmental risks, in particular to the damaging effects of deforestation.

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[1] The climate change risks were elaborated based on information from the Climate Change Knowledge Portal. Available here.

[2] International Monetary Fund (2021). The Global Informal Workforce. Available here.

[3] Secretariats of the Basel, Rotterdam, Stockholm Conventions (BRS) and the Minamata Convention on Mercury (2021). Interlinkages between the Chemicals and Waste Multilateral Environmental Agreements and Biodiversity: Key Insights. Available here.

[4] Global Climate Risk Index (2020). Available here.

[5] 1 http://hdr.undp.org/en/countries/profiles/MLI# 30

**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.**

1. The following section describes the institutional arrangements for project execution as well as the programmatic interaction. The final part of the section elaborates on the planned coordination with other GEF-funded and other initiatives.

**Project level execution**

2. The Implementing Agency for this project is UNIDO and the Executing Partner will be the Ministry of Environment, Sanitation and Sustainable Development (MEADD), pending the submission of a successful HACT assessment of the Agency for Environment and Sustainable Development (AEDD), through which contractual arrangements will be made. The project will be implemented following UNIDO and GEF?s rules and regulations.

3. The Project Executing Entity (PEE) is responsible for the overall management of the financial and human resources directly related to project execution in the country. The PEE will have the overall responsibility and accountability for the management of the project, including the monitoring of project interventions, achieving project outcomes, and for the effective use of GEF resources. The PEE will be accountable to the implementing agency for the achievement of project outputs and outcomes. The PEE will consult UNIDO as GEF Implementing Agency and the Project Steering Committee (PSC) in all matters concerning the project. In the delivery of its functions, it will act as the secretariat of the PSC.

4. **A Project Management Unit (PMU)** or Project Secretariat will be in charge of the day-to-day management of the project and will be set up by the PEE in Mali within the Ministry of Environment, Sanitation & Sustainable Development. The Project Secretariat will be composed of a National Project Manager appointed by the government, Project Assistant, Monitoring Specialist, Field Coordinators, Gender Expert, Communications Specialist and Financial Specialist. The appointments of the Secretariat staff including the National Project Manager will be done in line with the ToRs which will be included in the agreement with the PEE, i.e. the Project Executing Agreement (PEA). UNIDO will be notified before any appointment is finalized.

5. The Project Secretariat will be responsible for scheduling PSC Meetings, preparation of the meeting agenda, logistics and ensuring that the PSC recommendations are implemented in a timely manner.

6. The National Project Manager will be responsible for the overall coordination of the project. The Project Secretariat will regularly provide updates to UNIDO by submitting quarterly progress reports. UNIDO will share the updates with the PSC members and other relevant stakeholders.

7. **The Project Steering Committee** (PSC) is responsible for making management decisions, by consensus, when guidance is required by the National Project Manager, including recommendations for the Executing Partners? approval of project plans and revisions. The PSC?s decisions should be made in accordance with standards that shall ensure management for development results, best value for money, fairness, integrity, transparency, and effective international competition.

8. The work of the PSC will be supported by the Technical Committee, established under its guidance. The Technical Committee will be responsible for the execution of technical related functions delegated to it by the PSC.

9. The PSC will make recommendations for procurement of international expertise and services to execute specific tasks under the project. The international expertise and services sought would be for expertise and services not normally available locally.

10. The PSC will comprise 10-15 members. The following institutions will be requested to nominate representatives to the PSC:

Members of the PSC will includes representatives from the:

a) Ministry of Mines, Energy and Water
b) Ministry of Health
c) Ministry of Agriculture
d) Ministry of Justice
e) National ASGM Associations
f) UNIDO
g) Women Organisations - FEMIMA
h) Barrick Gold
i) Other members will be determined at the project inception phase.

11. The PSC will be chaired by the Ministry of Mines, Energy and Water. Nominating institutions will be encouraged to consider prioritizing women representatives.

12. The GEF OFP will be invited to attend the PSC meetings.

13. The national **Project Manager** will run the project on a day-to-day basis under the oversight and guidance of the PSC. The Project Manager?s function will end when the final project terminal evaluation report and other documentation required by the GEF and UNIDO have been completed and submitted to UNIDO (including operational closure of the project). An International Responsible Party will also be contracted to provide technical support to the project.

14. Both the Project Secretariat, which will be established at MEADD, and the PSC will implement mechanisms to ensure ongoing stakeholder participation and effectiveness of the project by conducting regular stakeholder meetings, issuing a regular project electronic newsletter, conducting feedback surveys, implementing strong project management practices, and having close involvement with UNIDO as the GEF Implementing Agency. The project organisation structure is outlined in **Figure 15** below.

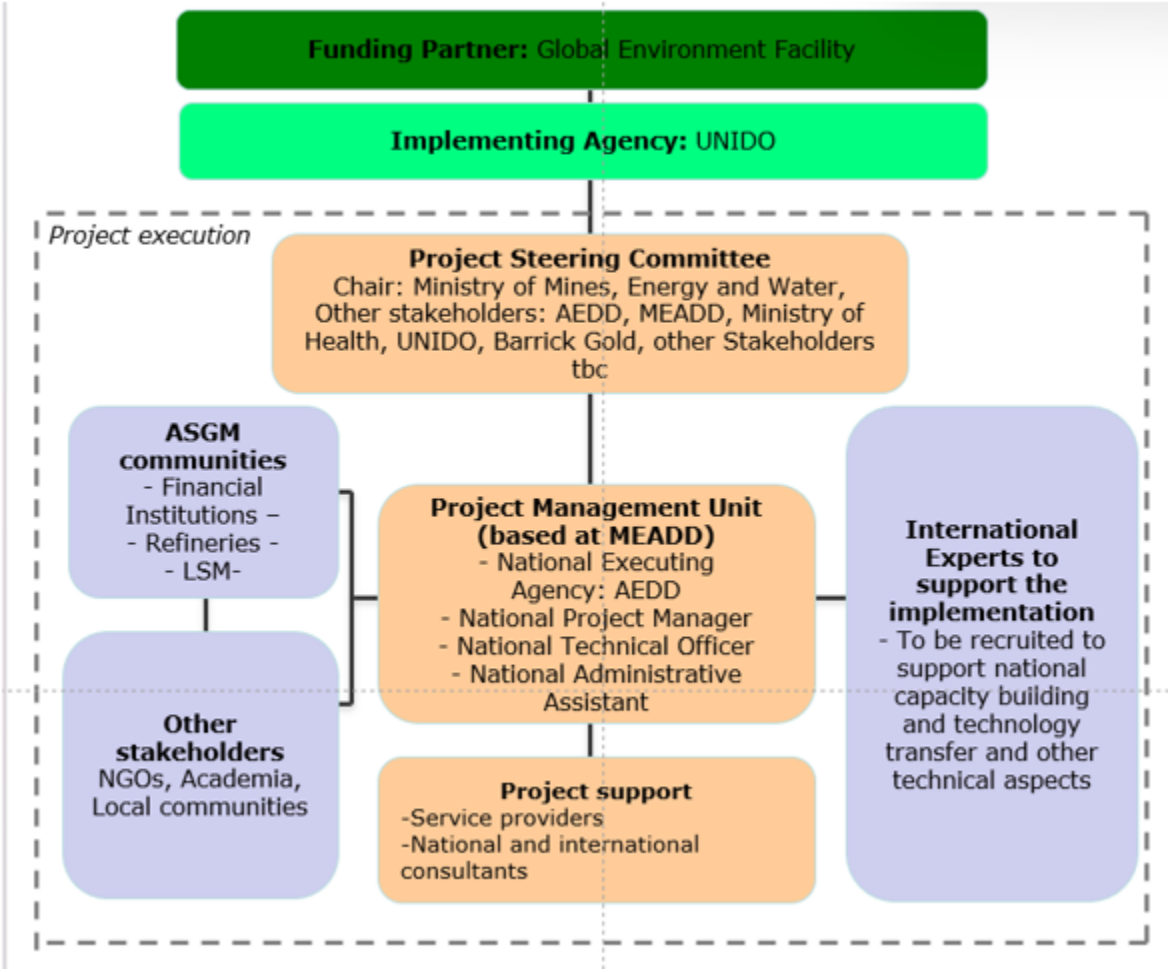


**Figure 15 -** Execution arrangements of GOLD+ Mali Project

15. Any project amendments will be done following the GEF Council Document GEF/C.39/Inf.03.

16. The project will be implemented by UNIDO in line with GEF Project and Program Cycle Policy.

17. The project will be executed by the Ministry of Environment, Sanitation and sustainable Development as the Project Executing Entity responsible for the day-to-day management of the activities, pending successful completion of a HACT assessment for the AEDD. All procurement will have to adhere to the provisions of the UNIDO model agreement and should be based on annual procurement planned in line with annual work plans. All recruitments by the Project Executing Entity should be done according to the laws and procedures of the Ministry of Environment, Sanitation and Sustainable Development.

18. Other relevant stakeholders and representatives from regional or national projects in ASGM will be engaged throughout the project lifetime to assist and provide advice for specific activities as well as discussing their experiences, sharing their lessons learned in particular on formalization, entrepreneurship, access to finance, community/social enterprises, mining associations, and responsible supply chains.

19. The PSC will meet at least once quarterly. If COVID-19 restrictions are still in place, these meetings will be held virtually. Additional monitoring mechanisms are presented in section 9 ??Monitoring and Evaluation??.

# ? Programme level interaction

20. The project is based on lessons learned from Phase 1 (GEF ID 6902). Coordination with the PlanetGOLD program and child projects will be carried out mainly through component 4, through forums, meetings, webinars, and regular calls.

21. The participation of project representatives in annual program meetings (APMs) such as program steering committee meetings and thematic conferences will be paid by the project resources. The progress made by the project, as well as challenges faced and the related mitigation measured, will be presented.

22. Both the Project Secretariat, UNIDO will participate in regular program calls to share progress made.

# ? Coordination with GEF initiatives

The project will coordinate with existing GEF-initiatives in the region exploring synergies, sharing of resources and join activities when feasible. During the inception phase, the project will liaise with existing GEF-projects in the region to share information and establish partnerships.

*Minamata Initial Assessment*

23. In June 2018, the Ministry of Environment, Sanitation and Sustainable Development together with UNIDO developed a Minamata Initial Assessment in Mali, which includes information on the ASGM sector. This information has been used to determine the baseline for the project. It is expected that the

project can contribute to providing quality data to update this inventory regarding the ASGM sector, as well as a strengthening of capacities to comply with obligations under the Minamata Convention.

*National Action Plan on the ASGM Sector in the Mali*

24. In March 2020 Mali completed the development of the ??National Action Plan in the Artisanal and Small-scale Gold Mining Sector (NAP) in Mali. Under Article 7 of the Minamata Convention, the development of an ASGM NAP is an obligation for Parties that determine that the sector is more than insignificant in their territory.

# ? Coordination with other initiatives

25. In addition, the project will be carried out in close coordination with ongoing initiatives at the national and international level that have been mentioned under section 2.2 and the ones that have been identified through the co-financing letters.

26. Collaboration with these projects began in the preparatory phase and will continue as a key modality for execution, ensuring avoidance of duplication, seeking synergies, whenever relevant pooling of resources and regular consultation on best practices and lessons learned.

27. One example of this is the successful coordination with the Better Gold Initiative through regular scheduled calls and information exchange that have fed into the planning of both initiatives.

28. The Stakeholder Engagement Plan will be a useful tool to ensure coordination with all the initiatives that have been developing activities to support ASGM.

29. 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.

Legal Clause

?The Government of the Republic of Mali agrees to apply to the present project, mutatis mutandis, the provisions of the Standard Basic Assistance Agreement between the United Nations Development Programme and the Government, signed on 9 June 1978 and entered into force on 17 March 1993.?

**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.

1. The Minamata Convention on Mercury was signed by the government of Mali on 10 October 2013 and ratified into Law on 27 May 2016.

2. In 2018, the "Minamata Initial Assessment" (MIA) project was completed. This is an inventory of mercury emissions and releases in which the ASGM sector is presented as a priority at the national level as it produces over 30-ton mercury releases annually and employs over half a million people.

3. In addition, the country has prepared its National Action Plan (NAP) on the ASGM sector, which includes several strategies contained in Annex C of the Convention. The present interventions will support the identification of reasonable strategies, objectives, and targets and the complementarity of the different articulated activities.

4. Therefore, this project is in line with the country's objectives to map and prevent environmental and health problems related to the use of mercury in the ASGM sector and invest in technological solutions while building institutional capacity to meet the obligations of the Minamata Convention. Furthermore, this project will address the following priorities as identified in the 2020 National Action Plan for Mali: formalization; access to finance; technology transfer; responsible supply chains; strengthen participation and decision making of women in ASGM sector; and awareness raising, training and building.

**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.**

1. 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.

2. 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.

3. 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 beyond Mali

4. The Mali communication manager will be responsible for providing updates on country-specific activities, results, challenges and initiatives.

5. The knowledge products will take varying formats. Technical publications will include policy overviews, technical case studies, evaluations, resource toolkits, manuals, 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.

6. The country-specific page in the PlanetGOLD website will provide access to best practices, knowledge, insights, lessons learned and success stories in the ASGM sector in Mali.

7. 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.

8. The PEE 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.

9. 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 Mali

10. The project will build on the communication strategy developed at the program level ensuring consistent messaging and branding aligned to the global project.

11. A sustainable exchange mechanism to generate and socialize knowledge and information on ASGM in Mali will be designed and implemented together with all relevant stakeholders. 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 sites.

12. The communication strategy will identify the most appropriate means to engage the key stakeholders respecting various aspects of the local context.

13. The outreach communication strategies developed will ensure all local stakeholders such as cooperative members and workers, local authorities, women and youth associations, and indigenous people have access to project information.

14. 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.

15. The project will make use of traditional media (radio, press and television), specialized audio-visual media, 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. Radio programs, community forums and other communication channels will be explored as means to reach interested and affected parties throughout the country.

16. 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.

17. 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+.

18. 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 Mali scenario. The budget allocation for knowledge management for the Child project is estimated at USD 470,000 and shall be implemented over a 4-year period (2023 September-August 2029).

**Table 15: Child Project Knowledge Management Approach implementation timeline and Budget**

***Table 15:*** *Budget and timeline table for the implementation of key KM and communications activities*

| S/N | Knowledge Management Activities | Key Deliverables | Time lines& budget($) | | | | | Institutional Responsibility |
|---|---|---|---|---|---|---|---|---|
| | | | Y1 | Y2 | Y3 | Y4 | Y5 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | Inter-institutional mechanisms and platforms where different stakeholders exchange, disseminate and share information related to ASGM in Mali established. | National strategy for sustainable exchange mechanism for the ASGM sector developed | 24,900 | 14,500 | 28,300 | 28,300 | 23,062 | MEADD |
| 2 | Information, knowledge, and lessons learned on key ASGM topics generated and disseminated at the national and international levels | National knowledge management platform for information dissemination and Record of lessons learnt | 29,300 | 19,000 | 31,800 | 30,800 | 26,500 | MEADD |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 3 | Women?s capacities in leadership are strengthened and regional exchanges among women<br><br>miners in the pilot sites are promoted to increase vis ibility of gender in ASGM | Number of activities related to the sharing lessons arising from the implementation of responsible ASGM activities at national and jurisdiction level organized<br><br>Number of capacity building leadership programs organized<br><br>Number of physical/virtual regional events for women miners organized | 38,300 | 22,000 | 38,300 | 40,300 | 35,500 | MEADD |

**9. Monitoring and Evaluation**

**Describe the budgeted M and E plan**

Monitoring

1. Project monitoring activities have been 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.

2. 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.

3. 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 the template provided by global project, including reporting on efforts to ensure that all PlanetGOLD beneficiary entities comply with the PlanetGOLD Criteria for Environmentally and Socially Responsible Operations.

4. The project will provide narrative reporting quarterly to the global project on key activities and areas of progress, using a template provided by global project.

5. The PEE will prepare an annual progress report as part of the reporting into 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 PEE will be organized by the latter through teleconference to discuss the progress status, challenges faced and mitigation measures as well as planned next steps.

6. UNIDO Field Office in Mali will assist and participate in the relevant monitoring and evaluation activities and visits.

7. During the inception phase, the PEE, in consultation with other project stakeholders, will elaborate a monitoring plan that will be approved by the IAs 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.

8. The national project steering committee (PSC) consisting of the main project stakeholders 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.

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

? Audit:

10. The project will be audited in accordance with UNIDO Financial Regulations and Rules and applicable audit policies.

# Additional GEF monitoring and reporting requirements:

## ? Inception Workshop and Report:

11. A project inception workshop will be held within two months after the project document has been signed by all relevant parties to:

? Re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation;

? Discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms;

? Review the results framework and finalize the indicators, means of verification, and monitoring plan;

? Discuss reporting and monitoring and evaluation roles and responsibilities, and finalize the M&E budget; identify national/regional institutes to be involved in project-level M&E; and discuss the role of the GEF OFP in M&E;

? Update and review responsibilities for monitoring the various project plans and strategies, including the Gender Action Plan; IEC Strategy; and other relevant strategies;

? Review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit: and

? Plan and schedule PSC meetings and finalize the first-year annual work plan.

12. The Project Manager will prepare the inception report no later than one month after the inception workshop. The inception report will be cleared by MEADD and UNIDO and will be approved by the PSC.

## ? GEF Project Implementation Report (PIR):

13. The Project Manager, MEADD and UNIDO will provide objective input to the annual GEF PIR covering the reporting period July (previous year) to June (current year) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually in advance of the PIR submission deadline so that progress can be reported in the PIR. Any environmental and social risks and related management plans will be monitored regularly, and progress will be reported in the PIR.

14. The PIR submitted to the GEF will be shared with the PSC. MEADD and UNIDO will coordinate the input of the GEF Operational Focal Point and other stakeholders to the PIR as appropriate. The quality rating of the previous year?s PIR will be used to inform the preparation of the subsequent PIR.

## ? Lessons learned and knowledge generation:

15. Results from the project will be disseminated within and beyond the project intervention area through existing information sharing networks and forums. The project will identify and participate, as relevant and appropriate, in scientific, policy-based, and/or any other networks, which may be of benefit to the project. The project will identify, analyse, and share lessons learned that might be beneficial to the design and implementation of similar projects and disseminate these lessons widely. There will be continuous information exchange between this project and other Gold+projects of similar focus in Mali, the Africa region, and globally.

## ? GEF Focal Area Tracking Tools:

16. The following GEF Tracking Tool(s) will be used to monitor global environmental benefit results:

17. The baseline/CEO Endorsement GEF Focal Area Tracking Tool ? submitted as an annex to this project document ? will be updated by the Project Manager/PMU and shared with the mid-term review consultants and terminal evaluation consultants before the required review/evaluation missions take place. The updated GEF Tracking Tool(s) will be submitted to the GEF along with the completed Mid-term Review report and Terminal Evaluation report.

## ? Independent Mid-term Review:

18. An independent mid-term review process (MTR) will begin after the second PIR has been submitted to the GEF, and the MTR report will be submitted to the GEF in the same year as the third PIR. The MTR will include all parameters recommended by the GEF for such evaluations and will verify information gathered through the GEF tracking tools, as relevant. The MTR findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project?s duration. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing, or advising on the project to be evaluated. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the terminal evaluation process. Additional quality assurance support is available from MEADD and UNIDO. The final MTR report will be available in English and will be cleared by MEADD and UNIDO and approved by the PSC.

## ? Terminal Evaluation:

19. An independent terminal evaluation (TE) will take place upon completion of all major project outputs and activities. The TE process will begin three months before operational closure of the project allowing the evaluation mission to proceed while the project team is still in place, yet ensuring the project is close enough to completion for the evaluation team to reach conclusions on key aspects such as project sustainability.

20. The Project Manager will remain on contract until the TE report and management response have been finalized. The TE will provide an independent assessment of project performance (in terms of

relevance, effectiveness and efficiency), and determine the likelihood of impact and sustainability. The terms of reference, evaluation process, and final TE report will follow the standard templates and guidance prepared by UNIDO, based on the GEF guidance. The consultants that will be hired to undertake the assignment will be independent from organizations that were involved in designing, executing, or advising on the project to be evaluated.

21. The GEF Operational Focal Point and other stakeholders will be involved and consulted during the TE process. Formal comments on the report will be shared in an open and transparent manner. Additional quality assurance support is available from MEADD and UNIDO. The final TE report will be reviewed and cleared by MEADD and UNIDO and will be approved by the PSC. A review of the quality of the evaluation report will be submitted along with the TE report to the GEF Evaluation Office not later than six months after the completion of the evaluation. The TE report will be publicly disclosed.

## ? Final Report:

The project?s terminal PIR along with the TE report and corresponding management response will serve as the final project report package. The final project report package shall be discussed with the PSC during an end-of-project review meeting to discuss lessons learned and opportunities for scaling up.

Evaluation

22. 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.

23. 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.

24. 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.

25. 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.

26. 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.

27. More detailed information on monitoring and evaluation activities, related budget and timeframe is summarized in Table 9.1.

| M&E activity | Purpose | Responsible | Budget | Timeframe |
|---|---|---|---|---|
| Inception workshop and report | Adaptation of project activities, outputs, outcomes, indicators and work-plan | Project Secretariat | 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 against desired outputs and outcomes.<br><br>Provide guidance on proposed changes or revisions of project plan | Project Secretariat | 10,000 | Annually (4meetings) |
| Quarterly reports | Assess narrative and financial progress made<br><br>Ensure resources are being utilized responsibly | 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 of execution | Monitor continuously the execution of the project,<br><br>Gather data against indicators | PEE | 0 | Ongoing (5 years) |
| Mid-Term Review (MTR) | Assess project progress and recommend corrective actions | UNIDO | 40,000 | Mid-term of implementation |
| Final Report | Measure progress against baseline<br><br>Highlight technical outputs<br><br>Identify<br><br>lessons learned and likely design approaches for future projects,<br><br>Assesses likelihood of achieving design outcomes | PEE | 0 | At the end of project implementation |

| | | | | |
|---|---|---|---|---|
| Terminal Evaluation | Review project performance and coordination mechanisms<br><br>Identify 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** | | | **100,000** | |

Table 9.1: Monitoring and evaluation summary

**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)?**

1. Mercury reduction is the project's main objective and key benefit for both the environment and human health. The reduction will also help to meet Mali?s obligations under the Minamata Convention on Mercury.

2. Gold mining is an essential source of economic income and job opportunities, especially considering that most of the cooperative members and personnel linked to the ASGM activities come from rural areas. However, due to the lack of control on trade and exports, inefficient gold recovery technologies and reduced formalization of the operations, considerable revenues are not being realised to benefit the state, producers, and society in general. By strengthening national and local authorities' technical and institutional capacities, policies, regulations, and measures for greater control and monitoring of gold producing and trading activities could be implemented. This will reduce gold smuggling, tax evasion and illicit trade resulting in increased revenues at the central, regional, and municipal levels.

3. The project will promote a scenario in which the ASGM sector can increase its positive economic impact at the local and national level for the thousands of families that depend on it by working toward a more equitable and transparent distribution of value in the supply and sales chains.

4. 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.

5. The transition toward 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.

6. 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.

7. 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.

### 1.1 Main Environmental Problems

1. Overall, it must be noted that the ASGM sector in Mali remains an informal activity, therefore there are no incentives for environmental and social protection. Some efforts are being made at formalisation but as yet, there is no success to record in that regard.

2. Furthermore, there is no financial mechanism, trust fund or other financial provision in place to encourage artisanal miners to use mercury-free technologies. As such, mercury use is widespread and the environmental health impacts of mercury are a significant part of this project?s ESMP.

3. Although the use of mercury in gold panning is prohibited by Article 50 of the Mining Code of Mali, the country NAP records that around 33tons/annum of mercury is smuggled in and used in the

country?s ASGM sector. As such, all mercury use in the ASGM sector in Mali is completely uncontrolled.

4. It must be noted that although only 33 tons of mercury is inventoried in the ASGM sector in Mali, there is high uncertainty on this figure as being reflective of the entire country. This is because this amount is counted only for the gold mining sites located in the south of the country. Since 2010, gold panning has been practiced in many areas of the north of the country, which are plagued by war and occupation by violent extremist groups. In these areas, organised research is not possible. As such, it remains unclear whether indeed only 33 tons of mercury is used in the Mali ASGM sector annually. The NAP figure is based on estimates of uncontrolled outlawed imports while there remains a full black-out on any figures from the north of the country.

5. The main environmental problems in the ASGM sector in Mali can be summarised into three categories based on their causative sources as follows:

a) TYPE A: Those that arise directly due to activities exclusive to and within the ASGM sector,

b) TYPE B: Those that arise more or less in equal measure from the ASGM sector as from other anthropogenic activities such as agriculture,

c) TYPE C: Those that arise from outside the ASGM sector but whose impact on the environment is made worse by activities within the ASGM sector,

6. The distinctions/categorisations of 18 (a), (b) and (c) are important because they help with prioritisation of mitigation actions in the Environmental and Social Management Plan (ESMP).

7. Table 1.1.1 summarises the main environmental problems in ASGM industry in Mali. Their broad descriptions follow immediately after. Full details are presented in the ESMP.

| Line | Environmental Problem | Type | Spatial Extent |
|---|---|---|---|
| 1 | Deforestation | B | Every ASGM site |
| 2 | Soil erosion | B | Every ASGM site |
| 3 | Soil degradation | B | Most ASGM sites |
| 4 | Water contamination | C | All panning sites, most dredging operations |
| 5 | Destruction of marine (river) h?bitats by Deep-river dredging | A | All small scale-dredging operations |
| 6 | Ecosystem disturbance (flora and fauna loss) | B | All ASGM sites |

| | | | |
|---|---|---|---|
| 7 | Open-air burning leading to smoke pollution and uPOPs from ASGM mine sites | A | All ASGM sites, especially the larger ones |

**Table 1.1.1**: Main environmental problems in ASGM in Mali

8. *Deforestation*: Practically all ASGM sites have required the cutting of vegetative cover for access roads as well as for excavation works following the mineralisation veins of gold ore.

9. *Soil erosion*: Practically all ASGM sites feature winding heaps of loosened and exposed top soil which, especially but not just in the dry seasons, get blown away continually. Furthermore, practically all access roads are exposed loose gravel surfaces from where soils continue to blow away. Any rain adds to the erosion with the run-off water.

10. *Soil degradation*: As sub-surface soil is exposed, the biological processes that replenish soil vitality are largely terminated. Furthermore, the chemicals ? in this case both mercury and cyanide ? that spill or leak to soil and/or water are terminally poisonous to soil organisms which reduces the vitality of soil, changing both its biological and physical structures.

11. *Water contamination*: This results not just from overburdening with soil particles but also loading with chemical spills, chemical run-off, sewage and solid waste.

12. *Destruction of marine habitats*: In Mali, dredging is used for gold mining in rivers. Dredging causes enormous damage to the environment and contributes directly to the degradation of waterways. The dredger digs deeply into the river bed. This leads to geomorphological changes of the shoreline and causes physical destruction of habitats of several species of living things. Some species adapt but most disappear.

13. Two types of dredging technologies operate in the rivers of Mali. These are the suction dredger and the bucket dredger. The suction dredge is a floating machine equipped with a suction pump and one or two motors. It is manufactured in Mali. The bucket dredge is imported from Asia, and digs and dumps an average of 75 tons of gravel and boulders into the water in a single round in a maximum of 20 minutes. It causes mounds and islands in the river bed and thus accelerates silting. These machines spread chemical products such as motor oil, diesel, gasoline etc... These toxic elements change the chemical loading of the water environment and make it unfit for consumption. This introduction of chemical elements into the ecosystem leads to, among other things, an imbalance in the aquatic fauna and flora, and the slowing down or stopping of reproduction in certain species. Also, once the water is polluted by chemicals, it leads to the disappearance of phytoplankton, oxygen suppliers of the river and base of the food chain. Reduction of phytoplankton leads directly to the non-proliferation of zooplankton. Some dredge users in Mali have been reported to also use mercury in their gold recovery activities. Arguably, some of that mercury ends up in the water.

14. Figure 1.1.2 is a map of Mali showing its neighbouring countries and location coordinates. Figure 1.1.3 is a map of Mali showing all the administrative regions of the country. Figure 1.1.4 is a map of South West Mali focusing on the location of the ASGM sites of interest.


*Figure 1.1.2. Coordinate Map of Mali showing near neighbours. Source: https://www.mapsofworld.com/lat_long/mali-lat-long.html (02/2022), insert source: https://www.dol.gov/agencies/ilab/resources/reports/child-labor/mali (02/2022)*

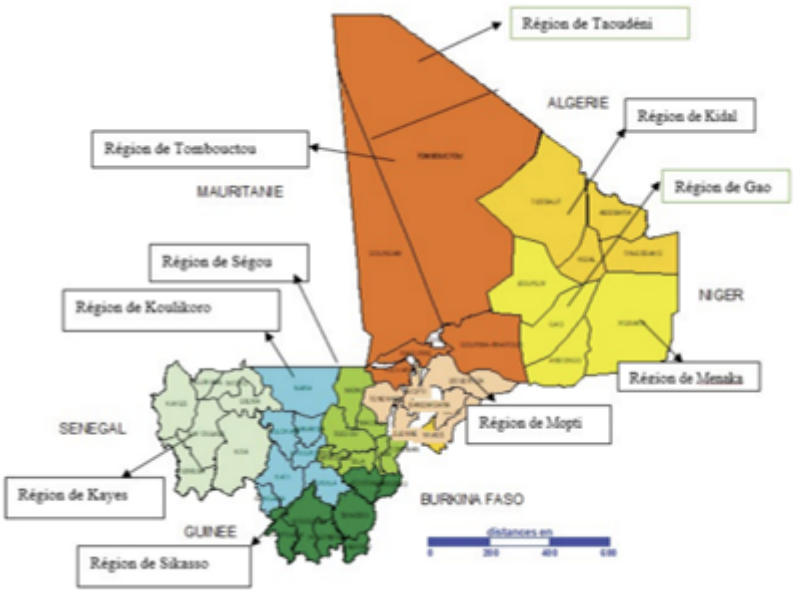


*Figure 1.1.3. Administrative Regions of Mali. Source: Minamata Initial Assessment 2018 quoting Ministry of Territorial Administration.*

## 1.2 Root Causes

15. The project problem tree shows six distinct root causes, which are sustaining the continued use of mercury in the ASGM sector in Mali and that are leading to suppressed real incomes for individual workers in this sector. Table 1.2.1 summarises.

| Line | Problem | Impact | Detail |
|---|---|---|---|
| 1 | Low literacy | High | 60.4% total population have no formal education |
| 2 | Distorted governance in the mining system | High | No data at all for some regions of the country.<br>Mercury forbidden by decree but 33 ton per annum used |
| 3 | Informal and non-transparent gold value chain | Medium | Mercury traded at 33 ton per annum without any formal audit trails |
| 4 | Lack of incentives for wider uptake of mercury-free technologies | Medium | Cyanidation present but penetration low |
| 5 | Lack of access to finance | High | Financial inclusion in Mali (13%) significantly lower than SSA (29%) and Low Income Country (22%) averages |
| 6 | Lack of access to high quality geological data | High | Trial and error mining patterns in ASGM |

**Table 1.2.1**: Root Causes of continued use of mercury, environmental damage and suppressed worker incomes in the ASGM sector in Mali

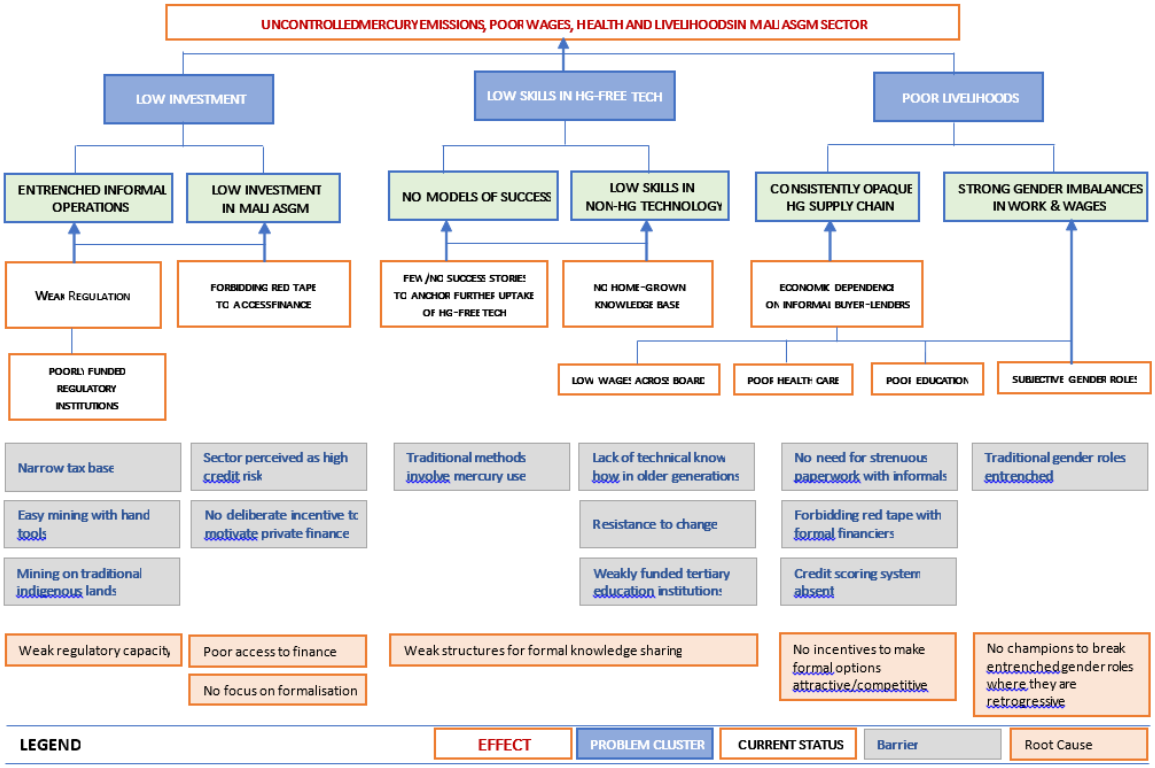


*Figure 1.2.1: Problem Tree for Mali Gold+*

Figure **1.2.1**: Problem Tree for Mali Gold+

The five (5) root causes are presented in more detail below:

? ***Low Literacy***

16. Table 1.2.2 presents the level of education of the Malian population above the age of 7 years taken for the year 2017. It shows that more than 1 person out of every 2 Malian persons has no formal education at all.

| Level | Females | Males | Aggregate |
|---|---|---|---|
| **None** | 65.4 | 55.2 | 60.4 |
| **Lower Primary** | 23.1 | 27.2 | 25.1 |
| **Upper Primary** | 9.2 | 12.3 | 10.8 |
| **Secondary** | 1.8 | 3.4 | 2.6 |
| **Tertiary** | 0.5 | 1.9 | 1.2 |
| **Totals** | 100 | 100 | 100 |
| **Population** | 7,038,185 | 6,807,876 | 13,846,061 |

**Table 1.2.2**: Education levels in Mali by 2017. Translated from Kekobed Anne Sogoba / FEMIMA (2022) quoting INSTAT, EMOP (2017)

17. The low levels of literacy impact negatively on all sectors of the Malian economy but for the specific case of the ASGM sector, low literacy inhibits the ability of workers to assert their rights, to articulate their ideas and to be involved in active knowledge transfer with the world beyond their most familiar environments. This situation slows down the wide uptake of new technologies.

18. Low literacy inhibits the ability of workers to participate in governance beyond the most rudimentary forms of democratic participation.

19. Low literacy encourages financial exclusion.

? ***Distorted governance in the mining system***

20. All documentary assets leading up to the Mali Gold+ project, including the NAP are based on data for only the southern parts of the country ? largely in Kayes, Koulikoro and Sikasso regions ? where peace prevails, and primary research may be conducted. The north-eastern parts of the country where militant rebel activity is prevalent are excluded for lack of data (although it is known that ASGM activities are present). The governance of mining ? including ASGM ? activities in the northeast of the country is largely unknown.

21. *Article 50 of the Mining Code of Mali* prohibits the importation and the handling of mercury in Mali. Nonetheless, some 33 metric tons per annum of mercury are imported into the country via illicit means and are used to produce some 26 tons per annum of gold, making a significant contribution to the Gross National Product of Mali. The ASGM sector in Mali has been found to employ some 512,605 people. This situation is a travesty because such a significant part of the national economy is known to be sustained by an illegal activity ? the inward trafficking of mercury[1].

22. At the level of gender, women?s participation in decision making is disproportionately low[2]. In fact, the Institute for Security Studies (ISS)[3], takes the gender issue on ASGM sites as a major security concern and states as follows:

> Due to their economic precarity, women build resilience strategies that include licit (water trading and catering) and illicit activities. In Mali, some women are active traders of prohibited drugs like tramadol, diazepam and rivotril, which gold miners widely use. This market maintains cross-border trafficking networks and contributes to the development of criminal economies.
>
> Some women are also involved in prostitution, and others are trafficked.
>
> This lucrative trans-border human trafficking is fed locally by three interlinked factors. First, the constant demand from male miners for sex workers has intensified with the increasing opening of mining sites. Secondly, there?s a local magico-religious belief claiming that ?sexual intercourse prior to gold digging increases chances of finding gold.? Third, research conducted by ISS shows that this illicit market is embedded in a redistributive corruption system that involves officials and community authorities.
>
> Senegal and Mali must urgently implement a policy of positive discrimination to facilitate women?s access to mining land to help reduce their economic vulnerability and encourage their **formalisation** and involvement in the sector?s **governance**.

23. As a result of the above three factors, any change efforts targeting the ASGM sector will face significant barriers at the level of understanding the governance structure in order to work effectively with it.

? ***Informal and non-transparent gold value chain***

24. As stated above, the mercury that is used in the ASGM sector in Mali is known to be 100% illegally imported. It is known that this material is distributed via the gold buyers who use it as part of the currency for buying the gold from artisanal and small-scale miners. This part of the trade is necessarily managed in a secretive manner. It features incomplete or altogether absent documentation.

25. Since a significant part of the product is sold to the informal gold merchants/aggregators who defy full traceability of their activities, it is impossible to carry out a reliable mass balance to account for every gram of gold produced in the country. This is in addition to the unknown production figures from the militarised north-eastern part of the country where primary research is never conducted.

> The above-mentioned gold off-takers have considerable economic power (relative to the financially excluded artisanal miners), which allows them to pre-finance the miners (via loans, mercury supplies or cash advances) in exchange for capturing their gold supply. In these cases, the affected gold producers usually become so highly dependent on the gold merchants that they become the primary agents obfuscating their own operations and undermining the traceability of Malian ASGM gold supply chain.

? ***Lack of incentives for wider uptake of mercury-free technologies***

26. The Mali NAP recognises that, informally, cyanidation technologies have crossed the border from Burkina Faso into Mali, helping to maintain a low Mercury-Gold Intensity (at 1.44) in the ASGM sector in Mali. Indeed, ambitious targets of 1.15tons and 0.65tons by 2026 and 2029, respectively, have been set for this factor.

27. However, to-date, there are no targeted incentives to encourage neither individual miners nor cooperatives nor their off-takers to pro-actively replace their mercury-based technologies with non-mercury alternatives. There are no financial packages nor widely disseminated training programs in place to achieve this target.

28. The NAP has set the identification of technologies alternative to mercury as a target for 2023 (Action 14.1), the development of an awareness program for 2026 and 2029 (Action 14.3), and the encouragement of financial institutions to provide credit for artisanal miners for 2023 (Actions 5.1, 5.2 and 5.3).

? ***Lack of access to finance***

29. The financial inclusion indicator[4] from 2014 states that Mali has been well-under average of sub-Saharan Africa (SSA) and low-income countries (LIC) for the years 2011 and 2014. The percentage of people owning a financial institution account and with savings compared to the SSA reference is significantly lower. The Technical Note on the Microfinancing Sector in Mali[5] from the World Bank of the year 2015 concludes that Mali lags behind on most key measures of financial inclusion compared to the SSA and LIC references, as Table 1.2.3 shows.

**Table 1.2.3**: Financial Inclusion Indicators (% of adults older than 15 years). Source: Findex 2014. FI = Financial Institution.

30. It?s important to note that around 25 percent of Malians older than 15 had a mobile money account in 2017 compared to only around 12 percent three years before. Debit card ownership also more than doubled (4,0 to 9,5) during the same period.

31. The rate of borrowing money from financial institutions also significantly increased but still remains at a very low rate of 6,3 percent which is comparable to the general rates in SSA and LIC.

32. In the project preparation phase the stakeholder consultations revealed that the ASGM sector in Mali has very little experience of and almost no interaction with the banking sector. A very limited number of cooperatives and individual goldminers are holding bank accounts, although they may have access to formal or informal micro-financing and to mobile money.

33. The above scenarios combined with the fact that there are no deliberate government incentives facilitating for deliberate access to finance for the ASGM sector means that the ASGM sector currently has little to no access to formal (lower cost) finance and is yet to begin building up a credit history on which decisions may be based for granting access to more impactful levels of finance in the near future.

? ***Lack of access to high quality geological data***

34. A lack of geological data results in lack of mining precision and can lead ASGM miners to enter already large-scale mining concession areas, creating tension between ASGM miners and large-scale mining companies in the area. It can also create difficulties when requesting bank loans or other support services when ASGM miners do not have geological information as collateral. Without access to geological data, those working in the ASGM sector are often left with little to drive their activities except guesswork or trial and error. This often results in low yields, loss of investment and increased environmental degradation. Mapping a country?s potential reserves and land use, and providing access to this data, is crucial to determining appropriate locations for ASGM activities. Benefits to small-scale miners would include more efficiency and longevity at sites, minimized environmental degradation and improved profitability. For Mali, Barrick Gold is handing over a large concessional land together with the geological data. This will significantly help to address the above challenges.

### 1.3 Barriers

35. While [root] causes are independent events or conditions which lead to other events or conditions, barriers are conditions that stand between two events, preventing one from contacting or turning into the other. In this case, the barriers are the conditions which do not in themselves *lead to* continued use of mercury and/or low incomes for the workers in ASGM [in Mali] but which *prevent* workers from earning better wages and/or replacing mercury-dependent technologies with alternative ones.

36. Barriers are conditions that prevent alternative outcomes from arising when the impacts of root causes are competing with the impacts of causes that would lead to different outcomes. In this case, for example, lower literacy could easily lead all Malian youth to seek jobs in unskilled roles in industries other than artisanal mining. However, there may be a barrier of saturated vacancies in other industries working with that root cause of low literacy to direct more Malian youth into seeking their livelihoods in artisanal gold mining.

37. While root causes may be characterised by either a *presence* or an *absence* of something, barriers are always characterised by a *presence* of something. In this case, for example, while absence of literacy may be cited as one of the causes of low uptake of mercury-free technologies, it cannot be cited as a barrier. There is a stricter criterion for identifying a barrier compared to the criteria for identifying a [root] cause.

38. Table 1.3.1 summarises the key barriers to reduction of mercury usage and improvement of incomes in artisanal and small-scale gold mining in Mali.

| Line | Barrier | Significance | Prevents | NAP Actions |
|---|---|---|---|---|
| 1 | Weak and slow structures for training and knowledge transfer | High | Awareness of benefits and feasibility of obtaining alternative technologies | 1,2,3, 14,15, 16,20, 21 |
| 2 | Opaque gold supply chain to which many artisanal workers are economically connected or even indebted | High | ? Willingness to formalise<br>? Willingness/ability to sell product to more transparent offtake systems<br>? Access to more transparent (and cheaper?) finance | 5,6,7,8,9,10, 31,32 |

| | | | | |
|---|---|---|---|---|
| 3 | Impractical (unenforceable) laws on mercury handling in ASGM | High | Open cooperation with researchers and lawmakers | 11,12, 13,17, 18,19 |
| 4 | Misconceived idea of creditworthiness of ASGM sector in general by formal finance | High | Access to finance by individual workers as well as cooperatives of workers in the ASGM sector | 5,33 |
| 5 | Perception of tax and government bureaucracy as sunk costs | Medium | ? Willingness to formalise<br>? Willingness to sell product to more transparent offtake systems<br>? Willingness to connect to formal/transparent finance | 22,23 |
| 6 | Mercury trafficking systems importing tons of mercury into the country | Medium | Formal governance systems, which seek to discourage mercury use | 29,30, 31,32 |
| 7 | Cultural dispositions placing women in less lucrative roles than men regardless of capacity to perform in other roles | High | ? Gender inclusiveness in governance and decision making in ASGM, especially at mining and processing sites<br>? General health and well-being of families in ASGM<br>Overall/aggregate improvement in income levels for all ASGM workers | 24,25, 26,27 |
| 8 | Cultural dispositions allowing child labour on ASGM sites | High | ? Improved formal education levels in ASGM community<br>? Safety of children in ASGM community<br>? Health and wellbeing of children<br>? Family welfare in ASGM<br>? Improvement in income levels for all ASGM workers | 24,25, 27,28 |

**Table 1.3.1**: Key barriers to reduction in the use of mercury and increased worker incomes in ASGM in Mali**[6]**

? ***Weak and slow structures for training and knowledge transfer***

39. In seeking to eliminate the worst ASGM practices, according to the Minamata Convention, the Mali NAP identified the following three as worst practices still observable in Mali:

a) Open burning of amalgam (dispersing mercury fumes into air),

b) Burning of amalgam in residential areas (maximising the chances of human ingestion of the dangerous mercury fumes), and

c) Cyanide leaching of tailings to which mercury had been added without first ensuring that any mercury traces have been removed

40. These bad practices are usually quick wins where the working population is properly sensitised on the ready dangers involved. Thus, the prevalence of these practices proves the lack of knowledge in the general population.

41. Section 11.2 of the NAP further states:

> *A constant in the governance of the gold mining sector in Mali, shared with most West African countries, is the lack of reliable data, ... and the informal and illegal nature of the sector. Current knowledge gaps include:*
>
> *? The sector is poorly or not at all controlled by the state;*
>
> *? The extent of gold production in the Kidal region, as well as the financial flows from artisanal mines that could be under the control of armed groups, are very little known.*
>
> *? The different actors who are supposed to manage the sector do not master it, although some are local institutions, such as town halls, and others are represented at the local level;*
>
> *? There are no data, official or unofficial, on the number of sites in the gold regions or on gold production;*
>
> *? The Department of Geology and Mines is not represented in the major production circles, whether the gold is produced on an industrial or artisanal scale.*

42. The overall picture presented above is of a weak governance structure. This structure acts as a barrier to training and smooth knowledge transfer. It is no wonder then that the worst practices are still persisting in Mali ASGM today.

? ***Opaque gold supply chain to which many artisanal workers are economically connected or even indebted***

43. As has been alluded to in paragraph 52 above, much of the ASGM sector in Mali (and most West African countries) is informal and illegal. Indeed, while the law forbids the importation and handling of mercury, at least 33 tons per annum of mercury are formally known to be crossing the borders into Mali and used for producing up to 26 tons per year of gold. There is no traceability to the mercury used ? neither for taxation purposes nor for assurance of the health and safety of the workers handling this large quantity of hazardous material.

44. Section V (d) of the Mali NAP reads as follows:

> *The mercury trade remains one of the least known ASM sector activities in the world. Data on this trade is virtually non-existent. Mali is no exception. Indeed, any imported product is regulated by the Ministry of Commerce, which issues authorizations. But for mercury, the authorization issued by the Ministry of Commerce must be submitted to the MEADD [Minsistry of Environment, Sanistation and Sustainable Development] through the DNACPN [National Directorate for Sanitation, Pollution and Nuisance Control]. In practice, however, the DNACPN*

*is rarely asked to advise on mercury imports, and the Ministry of Commerce does not authorize mercury imports into Mali.*

*Officially, the DNGM [National Directorate of Geology and Mines] is also empowered to authorize imports of mercury as a chemical used in mining, but so far it has not authorized any imports of mercury into the country and the authorities prohibit the use of mercury.*

45. It is known that the supply chain of mercury is closely tied to off-take (future purchase) agreements with the producers of gold; they may be advanced their mercury supplies ? or even cash ? in exchange for future gold production. A web of indebtedness may begin which commits individual workers or even entire cooperatives to, firstly, supplying their gold exclusively to their creditors and, secondly, to sustaining the shroud of secrecy about their real sources of mercury.

? ***Impractical (unenforceable) laws on mercury handling in ASGM***

46. It is a dilemma as to why the law in Mali forbids the open use of mercury while knowingly benefitting from the practice at national level via the foreign exchange earned on exports (albeit directly into the hands of residents without full taxes being paid to the state) and the provision of employment to over half a million nationals.

47. The NAP has recognised this anomaly and generated actions to regularise and regulate the use of mercury in ASGM in Mali while also working on continuously reducing it.

? ***Misconceived idea of creditworthiness of ASGM sector in general by formal finance***

48. On account of the informal nature of ASGM, traditional finance tends to steer clear of the sector, preferring to offer their credit to sectors that are more tractable and amenable to collaterisation and remote follow up such as agriculture, corporate mining, manufacturing and services within the urban areas.

49. However, with the recognition and growth of the self-regulation and group collateralisation available within cooperative settings, financial houses are now more and more willing to entertain ASGM as a real target for credit.

? ***Perception of tax and government bureaucracy as sunk costs***

50. Compounding the problems of low formalisation and opaque operations is the fact that formalisation comes with added administrative requirements and, most notably, audit and taxation. Where the benefits of traceability, regular audit and the payment of taxes are not well clarified for acceptance, the toughest and most intractable resistance to formalisation may come from the artisanal miners themselves.

? ***Mercury trafficking systems importing tons of mercury into the country***

51. The already mentioned illegal trafficking of mercury into the ASGM sector in Mali must be recognised for what it is ? an established supply chain system. Bringing this unknown, untaxed and

unregulated system into the mainstream where it will be known, controlled and taxed must also be recognised for what it is going to be ? a difficult change process where the subject of the change will do all within their power to resist the change.

52. Every gain of control by official governance systems will be as a result of direct and proportional loss of control by an invisible and informal governance system. This barrier to change shall only be removed if its most fervent agents are disarmed first, i.e., the artisanal miners shall have to see strong benefits in formalising such as real gains in financial freedom, improved productivity, sustainability, health and safety and inclusiveness in decision making.

? ***Cultural dispositions placing women in less lucrative roles than men regardless of capacity to perform in other roles***

53. A gender analysis has been performed and it has revealed several critical aspects, including:

4 Women are lagging behind the men on all metrics important to personal and family well-being such as education, health, safety, decision making, etc.

4 Moreover, the roles that have been traditionally reserved for women are the most menial and most exposed to occupational hazards (pulling ore up from underground pits, actual panning in the muddy water and in direct contact with mercury, etc). These roles are much more poorly remunerated than the other roles reserved for the menfolk.

4 Domestic chores are still to be carried out mostly by the women. In covid19 times, the burden on these roles has increased ? longer hours at home for the entire family, etc.

54. The disproportionate yoke placed on the necks of the women tends to reduce the vitality of families, the health of children, the pre-natal wellness of unborn children and, ultimately, the earning potential of entire families across the generations.

? ***Cultural dispositions allowing child labour on ASGM sites***

55. Between 20,000 and 40,000 children are estimated to work in Mali?s artisanal gold mining sector. Some of the children maybe as young as six years old. These children are subjected to some of the worst forms of child labor, leading to injury, exposure to toxic chemicals, and even death[7].

56. Children tend to perform tasks such as such as selling foodstuff and other provisions, cleaning up, pushing tri-cycles and fetching items. A significant number of these children perform these duties instead of going to school. They dig shafts and work underground, pull up, carry and crush the ore, and pan it for gold. Many children suffer serious pain in their heads, necks, arms, or backs, and risk long-term spinal injury from carrying heavy weights and from enduring repetitive motion. Children have sustained injuries from falling rocks and sharp tools and have fallen into shafts. In addition, they risk grave injury when working in unstable shafts, which sometimes collapse. Child miners are also exposed to mercury, a highly toxic substance, when they mix gold with mercury and then burn the amalgam to separate out the gold.

57. The majority of child laborers live within the local host communities alongside their parents who send their children into mining work to increase the family income. Some of these children, who are usually poorly paid, work alongside their parents who are artisanal miners themselves.

58. A significant number of these children perform these duties instead of going to school. Many of these children working in artisanal mining never go to school, missing out on essential life skills as well as job options for the future. In cases where some of these child laborers attend schools, they often tend to struggle to keep up with their peers who don?t work in the mines since they spend holidays, weekends, and other spare time working instead of studying.

59. While helping out on the worksite may acquaint the children with the general concept of work and its connection to livelihood, its full replacement of academic instruction removes children from the path of upward social mobility.

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[1]https://issafrica.org/iss-today/going-for-gold-in-western-mali-threatens-human-security#:~:text=Institute%20for%20Security%20Studies%20(ISS,Senegal%20through%20illicit%20trafficking%20routes.&text=Mali's%20government%20estimates%20that%2033.3,tons)%20is%20used%20in%20Kayes.

[2] Kekobed Anne Sogoba / FEMIMA (2022), Global Opportunities for Development of the Artisanal and Small-Scale Mining Sector (GOLD +) in Mali ? Gender Analysis, pp27

[3] https://issafrica.org/iss-today/gold-doesnt-shine-for-women-in-mali-and-senegals-mines, Feb/22

[4] https://databank.worldbank.org/reports.aspx?source=1228#

[5] Financial Sector Assessment Program ? Developement Module, Technical Note on the Microfinancing Sector December 2015 by The Wolrd Bank, published under:https://documents1.worldbank.org/curated/en/869091468184767651/pdf/105298-FSAP-P153363-PUBLIC-Mali-FSAPDM-TN-Microfinance-Public.pdf

[6] Mali NAP

[7] https://www.hrw.org/report/2011/12/06/poisonous-mix/child-labor-mercury-and-artisanal-gold-mining-mali

**Supporting Documents**

Upload available ESS supporting documents.

| Title | Module | Submitted |
| --- | --- | --- |
| 11.ESS Risks - Measures to address identified risks and impacts | CEO Endorsement ESS | |
| Annex E - Project Budget_GOLD+ Mali | CEO Endorsement ESS | |
| Annex A - Project Results Framework | CEO Endorsement ESS | |
| Annex J - Environment and Social Management Plan_GOLD+ Mali - Final for submission | 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 | **Baseline** | **Target mid-term** | **Target**<br><br>**(for the entire project duration)** | **Means of Verification** | **Assumptions** |
|---|---|---|---|---|---|---|
| **Objective:** | Number of anthropogenic tons of mercury from ASGM to the environment avoided | | | 30.08 tons of mercury avoided | Mid-term review, and terminal evaluation | The Project Secretariat and the Project Steering Committee are provided with the necessary tools and enabling environment to enable them to perform their tasks. |

| | | | | | | |
|---|---|---|---|---|---|---|
| To reduce the use of mercury in the ASGM sector in Mali through a holistic, multi-sectoral integrated formalizatio n approach, and increasing access to Finance leading to adoption of sustainable mercury-free technologies and access to traceable gold supply chains | | 0 | 5 | | | Government, private sector and local communities fully supports the program |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | Legislation on formalization of the ASGM enacted leading to reduced Hg use in the sector. | 0 | 0 | 1 | Draft copy of legislation | |
| | Number of direct beneficiaries reached | 0 | 5,600 | 11,600 direct beneficiaries reached (52 % women) | Records of directly beneficiaries | |
| | Mitigated greenhouse gas emissions (metric tons CO2e) | 0 | 20,000 metric tons of CO2eq | 128,400 metric tons of CO2eq | Mid-term review, and terminal evaluation reports | |
| | Component 1. Enhancing formalization in the ASGM sector in Mali | | | | | |
| **Outcome 1. Increased formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization** | Number of regulatory instruments developed to improve ASGM formalization at national/local level | 0 | 0 policies, policy instruments or regulatory frameworks | At least 1 regulatory instrument developed focused on strengthening the ASGM formalization | Copies of the regulatory instrument submitted for enactment | Political will is in place and national stakeholders cooperate |
| | Register of formalized miners and cooperatives segregated by gender established | 0 | 200 miners (120 women and 80 men) legally licensed as miners | At least 400 miners supported in their formalization process (220 women and 180 men) | Records of licenses from the ministry of mines. | Government provides support and stakeholders are willing to engage in the formalization processes |

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| | Increased awareness on formalization created. | 0 | Enquiries and applications for licensing by cooperatives and individual miners increase segregated by gender 1000 (550 women and 450 men) | 2000 licensing enquiries (1200 women and 800 men) | Awareness raising events and training reports<br><br>Application for financing and technology improvements | Miners are willing to make formal their operations |
| | Landscape area under improved practices (hectares) | 0 | 0 | 7000 hectares | - Knowledge products on SLA/JA<br>- Progress reports<br>- Hectarage surveyed and confirmed that the landscape has formalized production practices | |

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| **Output 1.1.**<br><br>Government ministries, municipalities and community leaders linked to the ASGM sector have improved capacities to promote policies, programmes, regulations, and actions aimed at a greater formalization of the sector | Number of ASGM related capacity building training programmes undertaken | 0 | 20 ASGM related capacity building training programmes undertaken | 40 ASGM related capacity building training programmes undertaken | - Policy document prepared and endorsed by relevant authorities<br>Training developed reports after capacity building events<br><br>- | Government officials are interested and able to promote formalization processes for ASGM |

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| | - Number of enforcement compliance notices issued by sector officials | - Un documented number of ASGM related compliance | - ASGM related compliance violations documented | - ASGM related compliance violations reduced by 50% | - Number of Compliance notices and prosecutions | |
| | - Number of capacity building events conducted for ASGM activists, miners and cooperative members | - 0 training and capacity building events for prospective candidates of formalization and formalized entities. | - 15 training and capacity building events for prospective candidates of formalization and formalized entities. | - 30 training and capacity building events for prospective candidates of formalization and formalized entities. | Training reports, minutes and list of participants<br><br>- | |
| **Output 1.2.**<br><br>Actors in the ASGM sector both at national and local levels as well as cooperatives strengthened to promote formalization processes in the sector and related activities | - Number of specialized entities focusing on supporting formalization related activities for miners | - 10 entities focusing on promoting formalisation at national and local levels ? both Government and NGOs. | - 15 entities focusing on promoting formalisation at national and local levels | - 30 entities focusing on promoting formalisation at national and local levels | - Records on number of agencies with improved capacity to work on formalization | Local communities traditional hierarchies and the mining organizations are able and willing to undertake changes in relation to formalization |

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| **Output 1.3.**<br><br>Jurisdictional Approach (JA) and multi-stakeholder approach piloted at selected ASGM area | Pilot sites whose degraded natural habitat is restored/improved through implementation of landscape approaches | 0 | 3 pilot sites whose degraded natural habitat is restored/improved through implementation of landscape approaches | 6 sites whose degraded natural habitat is restored/improved through implementation of landscape approaches | Reports for each restored/improved site through implementation of landscape approaches<br><br>Maps showing the improvement after the intervention | A jurisdiction approach sites where all the pre-conditions are in place for a successful pilot is selected and local communities cooperate |
| | Relevant nationally approved biodiversity conservation strategies and activities including climate change mitigation measures implemented in the pilots | 0 | 3 pilot sites fully implement Biodiversity conservation strategies and activities including climate change mitigation measures in the pilots | 6 pilot sites fully implement Biodiversity conservation strategies and activities including climate change mitigation measures in the pilots | Reports from each of the sites that have implemented biodiversity conservation and climate change mitigation related measures. | Relevant Government ministries and actors willing to support the implementation of biodiversity conservation and climate change mitigation measures in the selected pilot sites. |

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| **Output 1.4.** | Number of women participating in the project and other ASGM related development activities in the selected pilot sites. | 5 | 120 women individuals and women led cooperatives are participate in the project and other ASGM related development activities in the selected pilot sites and 40% of the PSC members being women | 220 women individuals and women led cooperatives participate in the project and other ASGM related development activities in the selected pilot sites and 40% of PSC members being women | Records of number of women and women led cooperatives successfully participating in the project and other ASGM related development activities in the selected pilot sites | Women are able and willing to participate in the activities and enabling conditions are put in place to ensure their full participation and nominating institutions willing to nominate women as PSC members |
| Women capacities to participate in the project and other ASGM related development activities are strengthened and a public policy agenda is generated towards formalization, gender equality and women empowerment | Strategy on formalization, gender equality and women empowerment in the pilot sites | 0 | Strategy on formalization, gender equality and women empowerment in each of the pilot sites developed and implemented | Strategy on formalization, gender equality and women empowerment in each of the pilot sites fully implemented | Copy of the strategy on formalization, gender equality and women empowerment in each of the pilot sites | |
| | **Component 2. Access to finance enhanced by financial inclusion and responsible supply chains** | | | | | |

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| | Number of actors gaining awareness/knowledge on access to finance and responsible supply chains | 0 | 1000 actors (500 women and 500 men) gaining awareness/knowledge | 1000 actors (500 women and 500 men)) gaining awareness/knowledge on access to finance and responsible supply chains | Financial knowledge products and awareness events held. | Stakeholders are able and willing to participate in awareness raising/capacity building on access to finance |
| **Outcome 2. Increase in finance options through the attainment of better gold prices facilitated by transparent and responsible supply chains** | A national financial mechanism for the ASGM sector developed, influenced, or supported | 0 | 1 | A administrative structure of the financial and the revolving fund established. | Inception report, mid-term review, and terminal evaluation<br><br>Adminstrative structure of the financial mechanism | Government and 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 youth people) | 0 | USD 1,000,000 | USD 3,000,000 with contributions from other development partners. | List of beneficiaries | |
| | Amount of mercury-free/ responsible gold sold to formal market (Kg) | 0 | 65 Kg | 130 Kg of gold sold to formal market | Progress reports | Miners and traders are willing to share information on gold supply chains |
| **Output 2.1.** | Number of capacity building events conducted for national financial institutions and micro-finance | 0 | 5 | At least 10 capacity building events conducted for national financial institutions and micro finance institutions | Training strategies, reports, list of participants | The Government maintains political, economic support and social stability |

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| National financial institutions and micro finance institutions strengthened to increase support to ASGM, and ASGM related financial mechanism implemented | | | | | | National development banks and micro finance institutions willing to participate and support the established financial mechanism |
| | Financial mechanism established | 0 | At least 1 ASGM related financial mechanism and the revolving fund established | At least 2 ASGM related financial mechanism and the revolving fund established | Structure of the Financial mechanism and the administrative entity<br><br>Evidence of capital for the revolving fund | The Government prioritizes the establishment of the revolving fund for the ASGM sector |
| **Output 2.2.** | Number of capacity | 0 | | At least 20 capacity | Training reports and | Target ASGM sector and |

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|---|---|---|---|---|---|---|
| Individuals and institutional capacities of ASGM actors improved in areas of overall management, sustainable agriculture, entrepreneurship, and financial education | building events conducted on local financing opportunities, bookkeeping, and business plans development for miners, and cooperatives | | 10 | building events conducted on financing opportunities, book keeping, and business plans development for miners | lists of participants | communities are interested to participate in the activities of the ASGM and alternative livelihood related financing opportunities. |
| | Number of capacity building events on alternative livelihoods conducted for pilot ASGM communities. | 0 | 10 | At least 10 capacity building events conducted for the pilot ASGM communities on alternative livelihoods entrepreneurship | Training reports and lists of attendance | |
| **Output 2.3.** | Number of analytical | 0 | 1 | 1 analytical report on the | Analytical report based | Supply chain regulations and |

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| Efficiency, control and monitoring of gold commercialization processes increased to build transparent, traceable and responsible gold supply chains | reports on gold supply chain produced | | | gold supply chain in Mali produced | on primary and secondary data | mechanisms in the country are favorable |
| | Number of initiatives to promote responsible gold supply chains with increased transparency designed | 0 | 1 | At least 2 initiatives for responsible and transparent gold sourcing (public or private, nationally developed or internationally existing) engage with the Mali ASGM sector. | Progress reports | |
| | **Component 3. Enhancing uptake of mercury-free technologies** | | | | | |
| **Outcome 3. Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners** | Number of pilot projects using mercury free technologies implemented and operationalized in the selected ASGM sites | 0<br><br>0 | 2 | 6 pilot projects implemented and operationalized in the selected ASGM sites to reduce and/or eliminate mercury | Progress reports | ASGM cooperatives/individual miners are willing and able to implement changes in gold recovery technology |

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| | Number of miners trained in mercury-free processes and technologies and applying the knowledge (disaggregated by gender) | 0 | 200 miners (100 women and 100 men) trained, gaining awareness/knowledge | 400 miners (200 women and 200 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 training institutions in clean technologies for gold recovery strengthened | 0 | 2 | 4 training institutions in clean technologies for gold recovery strengthened to include responsible gold in its curricula | Progress report | |
| **Output 3.1.**<br><br>ASGM miners are supported to acquire and implement technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery | Number of plans to improve processing technologies developed and the acquired improved technologies | 0 | 1 plan per site to improve processing technologies developed;<br><br>10 improved Hg free equipment acquired per site | 2 plans per site to improve processing technologies developed; 20 improved technologies acquired per site | Progress reports | ASGM cooperatives/individual miners are willing and able to implement improved measures in gold recovery technology |

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| | Number of capacity building events for ASGM miners on improved processing technologies and financing sources | 0 | 15 Capacity building events for ASGM miners on improved processing and mercury free technologies and financing sources | 30 capacity building events for ASGM miners on improved processing technologies, mercury free technologies, and financing sources | Training reports, minutes and training support material for technical assistance and advisory services | |
| **Output 3.2.**<br><br>ASGM productive actors? awareness on supply of mercury-free equipment increased and linkages with technology providers created | Number of events on equipment for cleaner technologies for gold recovery organized | 0 | 5 activities on mercury free process and equipment for gold recovery organized per site | 5 events on mercury free process and equipment for gold recovery organized per site | Activity reports | There is interest from the private sector to supply cost effective mercury free technologies |
| **Output 3.3.** | Number of certified courses on mercury free technologies developed in academic units | 0 | 3 certified courses on mercury free technologies held | 6 certified courses on mercury free technologies developed held. | Certified course curriculum | Academic and educational conditions are created to implement qualification programmes at |

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| Academic centers, universities and institutes strengthened to include responsible gold production as part of the training curricula | Number of capacity building activities promoting certified courses on mercury free technologies organized | 0 | 3 | 4 capacity building activities based on certified courses on mercury free technologies o rganized | Capacity building activity reports<br><br>List of course participants s | professional level |
| | **Component 4. Knowledge sharing, communication and local capacity building support** | | | | | |
| **Outcome 4. Knowledge sharing and communica tion strategies targeted at all ASGM stakeholder s to support and increase** | Number of actors gaining awareness/kno wledge on the dangers of mercury and ways to avoid/eliminat e its use in ASGM | 0 | 800 actors (400 women and 400 men) gaining awareness/kno wledge | 1,000 actors (500 women and 500 men) gaining awareness/kno wledge on the dangers of mercury and ways to avoid/eliminat e its use in ASGM | Activity reports | |

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| **formalization and mercury reduction efforts** | 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 | 1000 (500 women and 500 men) reached with awareness raising materials | 2,000 (1,000 women and 1,000 men) reached with awareness raising materials | Activity reports and Impact assessment reports | There is interest, participation, and involvement of the different stakeholders |
| | Number of publications (blogs, news articles, events, photo essays, videos, etc) on planetgold.org or on other planetGOLD digital communication platforms | 0 | 3 publications (blogs, news articles, events, etc.) on planetgold.org or other planetGOLD digital communication platforms | 10 original publications (blogs, news articles, events, etc.) on planetgold.org or other planetGOLD digital communication platforms | Websites of Blogs, news articles, events or other publications available on planetGOLD website | |
| **Output 4.1.** | National strategy for | 0 | 1 national strategy for | 1 revised national | Strategy | There is sufficient |

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| Inter-institutional mechanisms and platforms where different stakeholders exchange, disseminate and share information related to ASGM in Mali established. | sustainable exchange mechanism for the ASGM sector developed | | sustainable exchange mechanism for the ASGM sector developed | strategy for sustainable exchange mechanism for the ASGM sector developed | | technical and financial support to build the sustainable exchange mechanism |
| **Output 4.2.** | National knowledge management platform for information dissemination and Record of lessons learnt Number of activities related to the sharing lessons arising from the implementation of responsible ASGM activities at national and | 0 | 15 activities related to the sharing lessons arising from the implementation of responsible ASGM activities at national and jurisdiction level organized | 15 activities related to the sharing lessons arising from the implementation of responsible ASGM activities at national and jurisdiction level organized 40 | Activity reports | Pilot experiences generate relevant lessons learned to be disseminated and replicated |

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| Information, knowledge and lessons learned on key ASGM topics from the pilot sites generated and disseminated at the national and international levels | jurisdiction level organized | | 2 | | | Links with the media are generated |
| **Output 4.3.** Women?s capacities in leadership are strengthened and regional exchanges among women miners in the pilot sites are promoted to increase visibility of gender in ASGM | Number of capacity building leadership programs organized | 0 | 5 | 10 capacity building events on leadership organized | Training reports | Women miners are engaged |
| | Number of physical/virtual regional events for women miners organized [CPO.1] | 0 | 3 | At least 5 physical/virtual national and regional Gold+ events for women miners organized | Meeting reports | General public has an interest on gender aspects in ASGM |

## 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).

| Annex B: Addressed comments from STAP, Minamata Convention on Mercury, Germany, and Switzerland | | |
|---|---|---|
| ***Comments from the STAP*** | | |
| **Comments** | Response from GOLD+ Mali | Reference in documents |
| STAP Comment<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+ Mali project. The stakeholder engagement plan includes regiona l and global coalitions to facilitate transformational change. Among the stakeholders are: private sector actors, including multinational corporations, national industry associations and private financial institutions including the local communities. | Annex I ? Stakeholder Engagement Plan |

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| TAP Comment<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. | The JA has been designed with inputs from local experts taking into account the local context and previous experiences. Further, during the project implementation, the JA activities will be closely coordinated with and leverage on existing national policies, strategies and initiatives on biodiversity and climate change. Refer to assessment of jurisdictional approach for the GOLD+ Mali project and output 1.3 of the logical framework. | CEO Endorsement document |

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| STAP Comment<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+ Mali project. Mali has a very strong penetration of mobile phones in the rural areas. This project will leverage on this existing infrastructure. While stakeholders in the cities will be served using the traditional digital infrastructure normally available in cities such as Zoom and teams meetings, WhatsApp, facebook, e.t.c . | CEO Endorsement document |

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| STAP Comment<br>? As rightly noted in the risk section of the PIF, the introduction of new technologies or ensuring mercury-free<br>gold mining may inadvertently result in loss of livelihood. In such cases, alternative livelihood strategies may be<br>required to achieve the project objectives. This is particularly important because mercury-based ASGM may be<br>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<br>not to put enough emphasis on interventions for addressing this issue. | Incorporated under component 3 of the GOLD+ Mali project. The project has recognized this risk and will conduct an assessment of the potential adverse impacts that may arise such as loss of livelihood especially for the vulnerable groups such as women before the new technology is implemented. The recommended technology will be evaluated with consideration to local context. Further, alternative livelihood such as supporting the women to eke a living in agriculture, and other business ventures will be provided as options. | CEO Endorsement document |
| STAP Comment<br>? It is good that the PIF acknowledged that the project would contribute to other GEF core indicators, including<br>the area of land restored, area of landscapes under improved practices, and greenhouse gas emission reduction.<br>The PIF did not, however, present clearly how the interventions will lead to these benefits. We encourage that<br>the project proponent elaborates further on this and provide a detailed estimation of all expected GEBs at the<br>PPG stage (as promised in the PIF). | Refer to (**global environmental benefit** )GEB core indicators of the GOLD+ Mali projects for co benefits. The CEO endorsement package has elaborated on how this will be achieved. | CEO Endorsement document |

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| STAP Comment<br>? For a project that will depend on significant multi-stakeholder engagement for its success, the stakeholder<br>section of the PIF is inadequate. Please provide a detailed analysis of stakeholders expected to be engaged in the<br>project in the participating countries. Please, also highlight how they will be engaged, their expected role in the<br>project, and whether they have been engaged already or if this is ongoing. | Refer to Stakeholder Engagement Plan of the GOLD+ Mali project. | Annex I ? Stakeholder Engagement Plan |
| STAP Comment<br>? It is good that the PIF acknowledges the potential impacts of projected climate change, for example,<br>desertification on achieving project objectives. The effects of climate change may also influence decisions on<br>ASGM sites? We recommend that a detailed analysis of climate risk and management strategy should be<br>presented for the project. | Refer to climate change-related risks<br>included in the Environmental and<br>Social Management Plan (ESMP) for the GOLD+ Mali project. | Annex J ? Environmental and<br>Social Management Plan |
| ***Comments from Switzerland*** | | |
| **Comments** | **Response from GOLD+ Mali** | |
| Switzerland Comment<br>? Could you clarify what will happen with the mercury still in use at this stage and the various mercury waste<br>stocks in the ASGM areas of the recipient countries of the program? Where will the mercury waste be treated<br>and by whom? Who will transport it? The treatment of the waste is key to ensure that the mercury intake to<br>the environment will be avoided / limited as much as possible. | Environmentally sound management<br>of tailings is foreseen under component 3 of GOLD+ Mali project. | CEO Endorsement document |
| ***Comments from the Minamata Secretariat*** | | |
| **Comments** | **Response from GOLD+ Mali** | |

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| Minamata Secretariat Comment<br>? While this project clearly advances implementation of the Minamata Convention, the program description<br>provides limited attention to the Convention requirements, and we are concerned that the various governmental<br>and non-governmental partners going forward will therefore not gain sufficient understanding and advancement<br>of their Convention obligations. We would like to ensure that the child projects clearly focus on Article 7 and<br>Annex C requirements and finalization and implementation of NAPs. | The project has addressed Minamata Convention in detail. Component 3 focuses on the Minamata Convention. The main objective of the project is to reduce and/or eliminate mercury emissions and releases in the activities and processes listed in Annex C of the Minamata Convention, especially those activities that generate the highest emissions and releases. This project will also seek to strengthen national legislation, as well as regulatory capacities to comply with the Minamata Convention obligations. Further, as part of the capacity building, all trainings will start with the introduction of the Minamata Convention, objectives and its obligations, among others is expected to take place. | CEO Endorsement document |

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| Minamata Secretariat Comment<br>? Gender - Is the gender distribution noted here a widely used metric when very specific community-based data<br>is not available? Or is it simply a placeholder? We note that gender impacts will be more thoroughly evaluated<br>in the child projects. It would also be useful to ensure good estimates of populations "directly" involved (working<br>in ASGM) as well as impacted by ASGM. | Refer to the Gender Analysis and<br>Action Plan of the GOLD+ Mali<br>project. | Annex K ? Gender Analysis and Action Plan |
| Minamata Secretariat Comment<br>? Component 2: The activities on collaborating with local financial institutions should also involve linkages with<br>the formalization efforts, such that formalization schemes and financial products are mutually reinforcing. | Interlinkages between formalization and mercury-free<br>technologies and access to finance have been considered in the GOLD+ Mali project. 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<br>appropriately listed as one of the technologies in the chart. However, no mention is made of the Convention?s<br>requirement that ASGM National Action Plans elaborate actions to eliminate ?cyanide leaching in sediment, ore<br>or tailings to which mercury has been added without first removing the mercury.? This requirement should be<br>prominently featured such that any support for cyanide operations focuses on this critical need. | These actions have been considered<br>under component 3 of the GOLD+ Mali project. | CEO Endorsement document |
| ***Comments from Germany*** | | |
| **Comment** | **Response from GOLD+ Mali** | |
| Germany Comment<br>? To include the international multi-stakeholder working group on Women and Mining<br>(www.womenandmining.org) as a global knowledge-sharing partner on gender aspects of the proposal. | The GOLD+ Mali 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. | Annex I ? Stakeholder Engagement Plan<br>Annex K ? Gender Analysis and Action Plan |

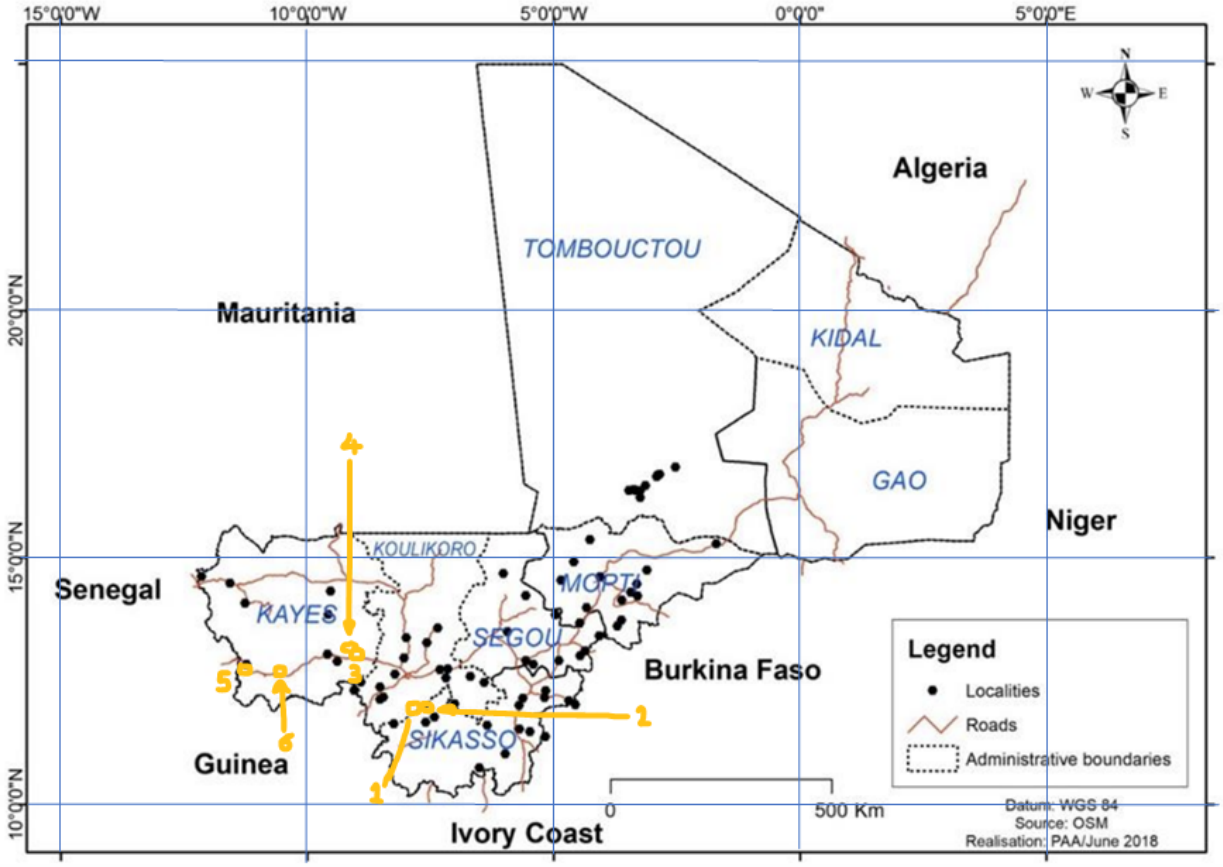
**ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:**

**Table 1. Status of Utilization of Project Preparation Grant (PPG)**

| *Project Preparation Activities Implemented* | *GETF/LDCF/SCCF Amount ($)* | | |
|---|---|---|---|
| | *Budgeted Amount* | *Amount Spent To date* | *Amount Committed* |
| Stakeholder engagement activities | 10,000 | 9,885 | |
| Preparation of Stakeholder Engagement Plan | 10,000 | 10,500 | |
| Baseline data collection | 15,000 | 15,000 | |
| Study on financial mechanisms | 10,000 | 12,000 | |
| ESMP development | 10,000 | 10,500 | |
| Gender assessment | 10,000 | 10,000 | |
| Follow-up on co-financing letters | 10,000 | 5,000 | |
| PEE assessment | 10,000 | 9,672 | |
| Stakeholder Engagement/Dissemination and Validation workshop | 10,000 | | 11,000 |
| TOR for execution preparation | 10,000 | 7,000 | |
| Development of project work plan and project document | 15,000 | 13, 460 | |
| Finalization of prodoc | 30,000 | 30,000 | 5,983 |
| **Total** | 150,000 | 133,017 | 16,983 |

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

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


15°0'0"W
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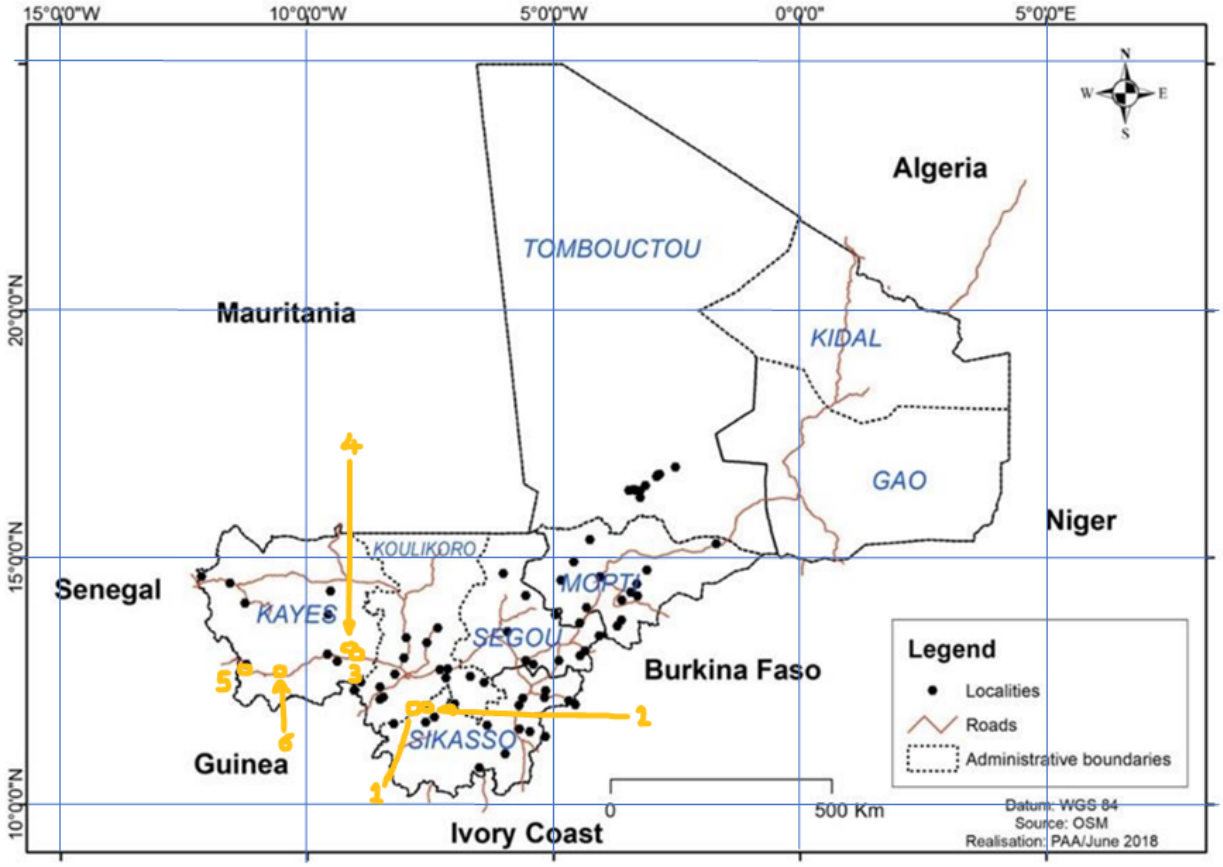
Niger
KOULIKORO
MOPTI
Senegal
KAYES
SEGOU
Burkina Faso
SIKASSO
Guinea
Ivory Coast
Legend
Localities
Roads
Administrative boundaries
0
500 Km
Datum: WGS 84
Source: OSM
Realisation: PAA/June 2018



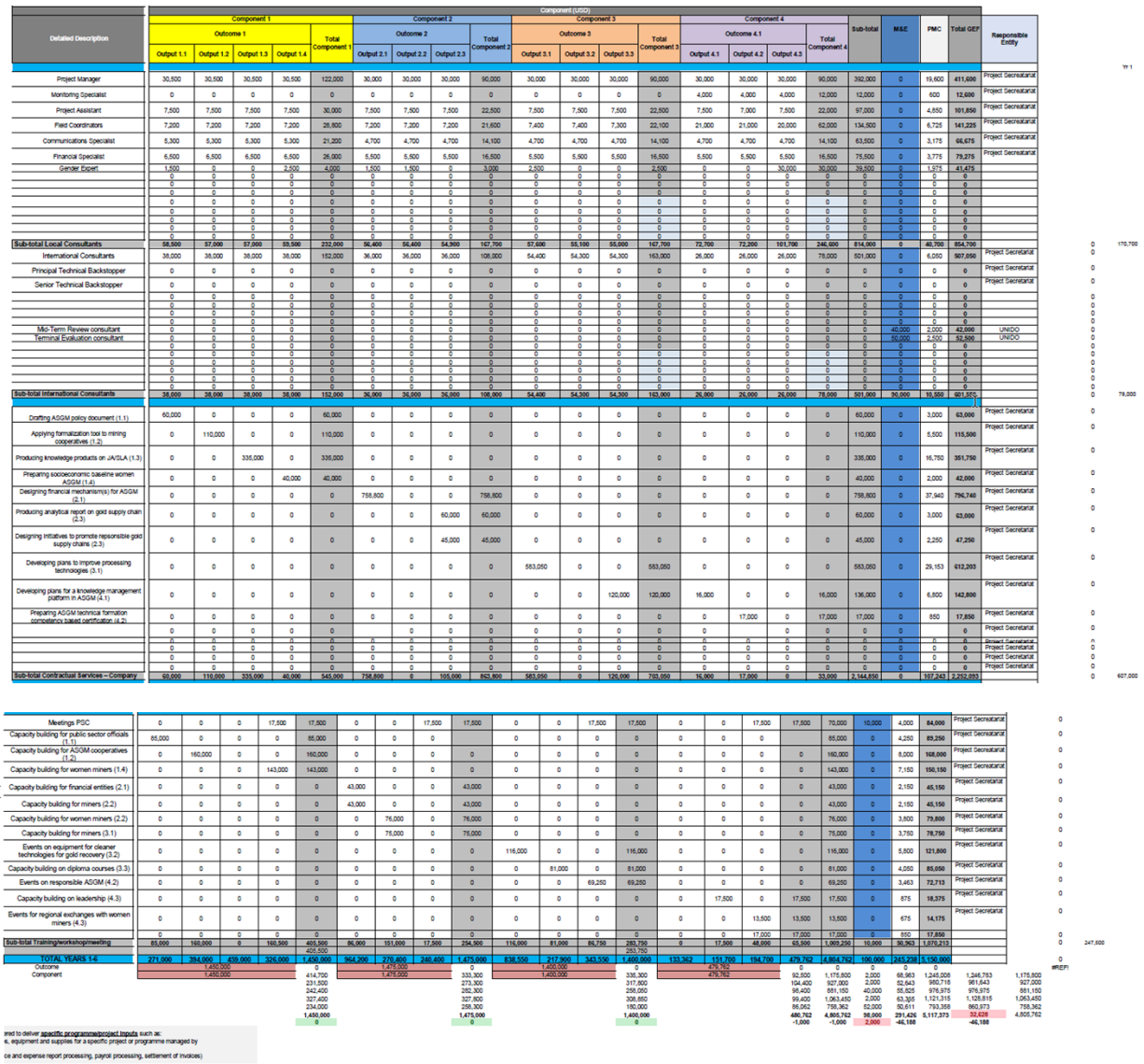

**GEO LOCATION INFORMATION**

**The Location Name, Latitude and Longitude are required fields insofar as an Agency chooses to enter a project location under the set format. The Geo Name ID is required in instances where the location is not exact, such as in the case of a city, as opposed to the exact site of a physical infrastructure. These IDs are available on the GeoNames? geographical database containing millions of placenames and allowing to freely record new ones. The Location & Activity Description fields are optional. Project longitude and latitude must follow the Decimal Degrees WGS84 format and Agencies are encouraged to use at least four decimal points for greater accuracy. Users may add as many locations as appropriate. Web mapping applications such as OpenStreetMap or GeoNames use this format. Consider using a conversion tool as needed, such as:https://coordinates-converter.com Please see the Geocoding User Guide by clicking here.**

| Location Name | Latitude | Longitude | Geo Name ID | Location & Activity Description |
|---|---|---|---|---|
| Mali - | 17.57 | -4 | | |

## ANNEX E: Project Budget Table

## Please attach a project budget table.



**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