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
10835

Project Type
FSP

Type of Trust Fund
GET

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

Project Title
GEF GOLD+: Advancing formalization and mercury-free gold in Ecuador

Countries
Ecuador

Agency(ies)
UNDP

Other Executing Partner(s)
Ministry of Environment and Water of Ecuador

Executing Partner Type
Government

GEF Focal Area
Chemicals and Waste

Sector

Mixed & Others

Taxonomy

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

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

6/18/2022

Expected Implementation Start

6/6/2023

Expected Completion Date

6/5/2028

Duration

60In Months

Agency Fee($)

360,000.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-1-1	Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination	GET	4,000,000.00	33,200,176.00
		Total Project Cost($)	**4,000,000.00**	**33,200,176.00**

B. Project description summary

Project Objective

Minimize risk to mercury exposure of human beings and environment due to the use of mercury in the ASGM sector in Ecuador, in compliance of Minamata Convention.

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	1. Increased formalization through multisectoral, integrated approaches and capacity building of ASGM stakeholders	1.1 National and local stakeholders? capacity strengthened to assess, plan, and implement sustainable mercury-free interventions in ASGM territories. 1.2 Jurisdictional Approach (JA) piloted to optimize land allocation through ASGM zones in Tier 1 sites.	GET	952,380.00	7,904,796.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2. Access to finance enhanced by financial inclusion and responsible supply chains	Technical Assistance	2. Improved income for ASGM miners through the attainment of better gold prices facilitated by transparent and responsible supply chains.	2.1. Opportunities created for ASGM sector with financial institutions to procure/retrofit equipment and invest in business skills for men and women. 2.2. Proof of concept for technology-assisted mineral supply chain due diligence developed and tested in target regions.	GET	1,066,670.00	8,853,408.00

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	3. Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners.	3.1 National and local stakeholders strengthened to support sustainable mercury reductions across the mine-life cycle. 3.2. Assay lab, processing plant and training center(s) established to promote resource efficient mining with clear provisions on ore characterization and tailored mineral processing techniques.	GET	1,409,522.00	11,699,095.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
4. Knowledge sharing, communication and local capacity building support	Technical Assistance	4. Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction.	4.1 Knowledge management system for best practices and communication platform at national level established. 4.2 Miner, investment and CSO focused communication strategies explored, tested, deployed and scaled up.	GET	180,952.00	1,501,909.00
5. Monitoring and Evaluation	Technical Assistance	5. Country-level M&E plans inform management, implementation, and adaptive management	5.1 M&E and adaptive management applied to capture and share with others, including the planetGOLD Global Programme lessons learned.	GET	200,000.00	1,660,009.00
			Sub Total ($)		**3,809,524.00**	**31,619,217.00**
Project Management Cost (PMC)						
				GET	190,476.00	1,580,959.00

Project Management Cost (PMC)		
Sub Total($)	**190,476.00**	**1,580,959.00**
Total Project Cost($)	**4,000,000.00**	**33,200,176.00**

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($)
GEF Agency	UNDP	In-kind	Investment mobilized	30,000.00
Recipient Country Government	Ministry of Environment, Water and Ecological Transition (MAATE)	In-kind	Recurrent expenditures	9,820,927.00
Recipient Country Government	Ministry of Energy and Mines (MEM)	In-kind	Recurrent expenditures	7,419,652.00
Recipient Country Government	Agency of Regulation and Control of Non Renewable Natural Resources (ARC)	In-kind	Recurrent expenditures	4,262,722.00
Other	Geological and Energy Research Institute (IIGE)	In-kind	Recurrent expenditures	4,993,953.00
Other	Coast Polytechnic School (ESPOL)	In-kind	Recurrent expenditures	72,922.00
Other	Duke University	In-kind	Recurrent expenditures	600,000.00
Private Sector	Argor Heraeus	Grant	Investment mobilized	6,000,000.00
			Total Co-Financing($)	**33,200,176.00**

Describe how any "Investment Mobilized" was identified

The investment mobilized refers to investments that will be done in the future and does not include any past investments. Activities involve the reduction of releases of mercury in the ASGM sector that are aimed to be eliminated during the Project's implementation period. Among the activities that have been identified there are namely: Elimination of Mercury and Development of National Capacities. Investment mobilized will provide assistance for the implementation of Component 3 of the project, mainly through the upgrade/Retrofit of existing ASGM production plants to eliminate Hg from production processes. Furthermore, Investment mobilized Co-financing will support the improvement of existing Gold Supply chains to promote Hg-free Gold; by allowing formalized ASGM miners fully engaged by this FSP selling their mercury-free gold through formal markets, at fair price and in accordance with Ecuadorian export laws.

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($)
UNDP	GET	Ecuador	Chemicals and Waste	Mercury	4,000,000	360,000	4,360,000.00
			Total Grant Resources($)		**4,000,000.00**	**360,000.00**	**4,360,000.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **true**

PPG Amount ($)

120,000

PPG Agency Fee ($)

10,800

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

Core Indicators

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

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

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 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	30.00	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)
	30.00		

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		269		
Male		2,420		
Total	0	2689	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

As agreed during the GOLD+ design phase, a multiplication factor of three is applied to target 9.2 (10 tons) for the ten years following project implementation; delivering a total of 30 tons of mercury avoided in ASGM production systems in Ecuador; through scaling up of results by (i) improved tenure security, (ii) enhanced access to financial products/services and responsible supply chains, (iii) fair gold prices, and (iv) the uptake of Hg-free technologies by miners. Please note: Total number of beneficiaries includes 26,896 miners (x average household size). As per the demographic data from the National Institute of Statistics and Census, total number of beneficiaries under the JA approach in the participating TIER 1 and TIER 2 cantons is 147,891 people, of which 72,200 are women (49%) and 75,691 are men (51%). These figures will be monitored and reported in the PIR during FSP implementation Environmental co-benefits under the Ecuador Child project will be visible due to the impact that the Project will have in politics strengthening, mainly focused on biodiversity conservation, such as protection of water basins. These actions are related to protect associated environments like bays, creeks, slopes, tropical and subtropical forests, among others. Additionally, from a landscape approach, the project will enhance the protection of aquatic fauna in the areas where will be placed on, through elimination of pollutants associated to mining activities. As part of JA pilots, co-benefits of the FSP planetGOLD+ Child for Ecuador are expected under GEF Core Indicator 4 ?Landscape area under improved practices?, measured in hectares. This global environmental indicator captures the landscape area that is in production (i.e. mining, agriculture, and other

productive sectors) and whose soil, air and water are managed in a sustainable manner. The area of landscapes that would benefit from improved practices (excluding protected areas) at the end of the project by carrying out the following main actions under Activity 5.1.ii of the Project Document: ? Undertake an alternative livelihoods audit to support economic diversification and avoid loss of access to natural resources leading to economic displacement for rural small-holders. ? Train surrounding communities in selected mining territories to diversify income-generating activities. ? Train artisanal and small-scale gold miners and communities in sustainable land management practices and encourage integrated mine closure practices to avoid, reduce and/or reverse adverse impacts. ? Raise community awareness of integrated mine closure throughout the mine life cycle, cost effective strategies for mine rehabilitation/reclamation (i.e., applied nucleation) and social welfare improvement. Jurisdictional Approach (JA) pilots will be tested in three (3) of the above Tier 1 mining intervention sites to encourage pollution prevention measures and promote improved management practices to avoid and reduce losses of productive land and biodiversity. Sustainable Land Management (SLM) practices. A preliminary assessment has identified three territories as priority intervention areas, although Tier 1 (priority) sites will be confirmed during the project?s inception phase through verification with environmental and social criteria. Therefore, environmental co-benefits calculated at the CEO endorsement stage include 222,693 hectares. The JA approach under this FSP considers total surface area of Cantons (municipalities) where Tier 1 and 2 pilot sites belong. This is a condition of the to make operational the Jurisdictional Approach under this FSP.

Part II. Project Justification

1a. Project Description

1a. Project Description.

1. Activities carried out during the PPG phase were aimed at complementing information and validating the assumptions underlying the Project Identification Form (PIF). The Table below shows an overview of stakeholder additions made in alignment between the project design at the ProDoc stage and the original PIF, as well as defining the role of project counterparts. After an extended participatory process (please refer to Table 2: Summary of PPG Stakeholder Engagement Activities of Annex 9 of the ProDoc), some adjustments were made to the original project strategy (as outlined in the PIF) in order to respond to changes in project institutional context and the identified stakeholders.

Changes in Project?s Strategic Results Framework between PIF and CEO ER	
Additional stakeholders integrated at the PPG stage	**Comments / Rational for additions**
Extended participation of national government entities, state public agencies, International Cooperation agencies, private sector, civil society, academy and other relevant groups.	During the PPG, a wide range of stakeholders were actively engaged during the execution of the different activities to achieve the foreseen outcomes, depending on the natura of the participating sector. Table 14 of the ProDoc now describes the meaning of these stakeholders for this FSP and their role in the FSP.

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

The global environmental problem

2. Ecuador is one of seventeen megadiverse countries worldwide[1]. Due to its location in the neotropics, a diverse range of ecosystems coexist[2], divisible into four main regions: the marine coast, Andean highlands, eastern Amazon, and Galapagos Islands. Globally recognized for vast floristic richness, it is estimated that Ecuador has more plant species per unit area than any other South American country[13] and the highest species biodiversity per square kilometer of any nation on earth[3]. The main threat to biodiversity in Ecuador is deforestation[14] driven by firewood harvest, urban expansion, petroleum exploration and exploitation, unsustainable agriculture, and mining. Ecuador?s deteriorating biological richness in continental and island areas is a growing source of concern, including regions where artisanal and small-scale mining occurs[4].

3. Gold mining has existed in Ecuador since times of the Inca[14]. Within the last century, gold mining has been largely developed as artisanal or, small-scale mining operations and is deeply entrenched in communities. Despite abundant reserves, the country has historically lagged behind its Andean neighbors Peru and Chile in developing large-scale gold mines. With several industrial scale projects anticipated to begin by 2025, Ecuador?s gold mining sector continues to grow in scale and

consequence[14]. In general, the most significant environmental impact caused by ASGM operations is the contamination of soil and water resources[15]. One of the worst practices used by ASGM activities has been the adoption of mercury amalgamation in the artisanal and small-scale processing alongside more recent expansion of cyanidation[5].

4. Uncontrolled mercury emissions and releases from informal ASGM practices are an emerging threat to Ecuador?s sensitive ecosystems. Environmental pollution originating from ASGM operations adversely impacts the health of miners and their communities, also impacts downstream livelihoods, food safety and other important economic sectors (e.g., agricultural exports, aquaculture ect). Furthermore, since most artisanal miners are not formalized, potential tax and royalty revenues are not collected by the State.

5. As the COVID-19 pandemic spread across the world, Ecuador was one of the hardest-hit countries. Impacts provoked by the pandemic, combined with the effects of a global oil crisis caused Ecuador?s socio-economic context to contract sharply in 2020. Among the most important human impacts were: an increase in the number of people living in poverty and extreme poverty, household food insecurity due to income losses, school dropouts, increases in the already high rates of chronic child malnutrition in boys and girls, and an unprecedented shift in labour markets[16]. Unlike standard recessions, COVID-19 has had a dramatic impact on unemployment, decreasing the labor force participation in Ecuador disproportionately impacting young workers, particularly females[6].

6. Consistent with the GEF Policy on Gender Mainstreaming, the proposed Full Size Project (FSP) recognizes the gender dimensions of mercury use and differentiated exposure risks in or as a result from ASGM. Analyzing exposure risks in ASGM communities requires both gender-disaggregated (i.e., occupational roles, salary levels and frequency of mercury exposure in men and women) and sex-disaggregated data.

7. From a gender perspective, mining in Ecuador, as with many parts of Latin America, is viewed as a masculine or male dominated activity. In practice, mining and processing is predominantly carried out by adult men. It is important to note that the NAP has identified, as one of the illegal mining activities in Ecuador the non-observance of the prohibition of child labor in all mining activities[7]. This is not in tune with the Mining Law, Art. 69, which prohibits the work of children or adolescents by any means in all mining activities.

8. In 2020, Ecuador made significant advancement in efforts to eliminate the worst forms of child labor. Although the National Council for Inter-Generational Equity worked closely with the Ministry of Economic and Social Inclusion (MIES) to complete a partial study on child labor that was published in early 2019, the GoE has not conducted a comprehensive nationwide survey of child labour since 2012. Worryingly figures available in Ecuador do not show the impact of COVID-19, which has almost certainly pushed more children into informal work owing to school closures and rising poverty rates in rural communities. Government and civil society agree that a lack of updated statistics hampers efforts in eradicating child labour, including measures to address worst forms of child labour in the ASGM sector[8].

9. Reported incidences of Peruvian adolescents being recruited under false promises of employment into forced labor in illegal gold mines in Ecuador is a source for concern. Migrant and refugee children from Colombia and Venezuela are particularly vulnerable to exploitative labor practices in artisanal mining in southern Ecuador and in the northern Imbabura province. Child prostitution also occurs near illegal mines, which disproportionately affect migrant, indigenous and Afro-Ecuadorian girls in remote areas. In 2020, the MOL signed a Framework Agreement for Inter-Institutional Cooperation with the Association of Municipalities of Ecuador for the implementation of

public policies, plans, programs, and actions aimed at the prevention and eradication of child labour, including provisions for the ASGM sector61.

10. Women in artisanal mining communities are often confined to the low paying jobs which are considered subsistence activities, absent from government structures, decision making, and leadership, fully responsible for all reproductive and care activities at home using their low income to meet basic family needs, limited from accessing financing, capital, and income for investing in an artisanal mining business under the pressure of harmful customs, practices, and beliefs[9]. This set of facts makes them remain in conditions of poverty and extreme poverty. About 1,000 mining women in Ecuador - known as *jancheras* dedicate themselves to the manual selection of waste mineral. This is an underestimated and invisible activity due to both, its magnitude and the diversity of its expressions; it is not legalized, inventoried or classified because it is developed from a material considered unprofitable (i.e., does not generate economic profitability for the mining operator)[10], hindering the formal organization of the activity. For instance, the mineral plants and/or informal gold buyers do not paid a fair price neither these women can have access to formal financing or the attention of social impact investors; in order to invest in and upgrade their operations, also to open up new market opportunities and access to technology to improve their current practices for their social and economic empowerment.

11. Although men and women are exposed to similar health hazards due to heavy metal exposures during mineral processing activities, especially mercury amalgamation, roughly 10% of the primary ASGM work force are women, or roughly 1,500 individuals. There are additional dangers affecting women due to the gender roles that have been imposed on them, especially if they come in contact with mercury, which can lead to health problems for the fetus or for infants in the pregnancy and breastfeeding periods. Even if they don?t work in the mines, the risk of mercury poisoning is higher among women than men, as they remain at home for most of their tasks, and this is the place where the mercury amalgam is usually burned. Men, on the other hand, spend most of their time in the only place that is not contaminated: the mine. A high percentage of women who informally work in ASGM to supplement their income with other activities, such as agriculture or commerce. The small-scale mining sector takes in women as contract work or through unpaid work, with a lack of social security and often in deplorable working conditions. In many cases, women miners are not paid because they are the wives, concubines, daughters or family members of the mine operator and therefore, helping in production tasks is considered their duty[11]. This fact is an effect of the gender stereotypes that are still in force in the mining sector.

12. To ensure that gender is mainstreamed effectively throughout the project, the PPG stage and the Social and Environmental Screening Procedure (SESP) have identified potential risks differentiated by gender and mitigating actions. Risks identified included, potential reinforcement of discrimination against girls and women and other forms of gender inequality. Furthermore, a series of stakeholder meetings, a meeting with one of the researchers, and email and telephone exchanges with informants were conducted to yield the information for the gender analysis.

13. A Gender Analysis was developed to mainstream a Gender Action Plan throughout the project?s activities (Annex 10), to upscale the opportunities for women to benefit from training and employment opportunities and develop gender-disaggregated data, accounting for multiple factors (i.e., race, ethnicity, nationality, education level, occupation, age, social security affiliation) to strengthen their view that ASGM should be mercury-free. To ensure equality of results and benefits, during its implementation, the project will actively engage women, indigenous communities and other marginalized groups, as change agents and participants, not merely as victims of inequalities or forms of discrimination that constrain equal access to and control over resources.

14. Regarding gender equality and integration, the project will build upon initiatives carried out by the National Program for the Environmentally Sound and Life-Cycle Management of Chemical Substances (GEF-ID 9203), known as the National Chemicals Management Program (PNGQ), which include the improvement of women livelihoods through income diversification and more sustainable productive alternatives (other than mining), in addition to the social recognition of their work. In accordance with planetGOLD criteria for socially and environmentally responsible mining operations, the Ecuador Child project is committed to respecting and protecting the rights of indigenous peoples throughout project design, implementation, monitoring and evaluation. During the PPG phase, specific criteria on indigenous peoples was used to support selection of Tier 1 and Tier 2 sites.

Root causes and barriers that need to be addressed

15. The development challenge is to overcome a sectorial context that encompasses a series of institutional, financial, technical, environmental and cultural gaps that delay the national capacity to comply with the obligations of Ecuador under the Minamata Convention for the ASGM sector, in an environmentally sound management approach.

16. The main objective of this Full-Size Project is *to achieve Global Environmental Benefits by reducing mercury releases from ASGM practices through the introduction and promotion of best practices and techniques for gold extraction in Ecuador*. It is estimated that an amount of **ten (10)** tons of mercury used in ASGM operations needs to be eliminated in an environmentally sound manner, as the Global Environmental Benefit of this FSP.

17. With rising global poverty rates in the wake of COVID-19 and record breaking gold prices in 2020[12], the coronavirus pandemic threatens to drive an expansion of mining activities. Governments and vulnerable societies in crisis face unprecedented policy, regulatory and fiscal choices as they act to set a course for a more resilient and sustainable future for the ASGM sector. The choices made today, if made well, could be the tipping points that transform the lives of miners, their families, host communities and the planet for the better. Emerging evidence suggests the gold mining industry ? both large and small-scale ? will expand in both scale and consequence, requiring intervention at operational, management and strategic levels.

18. The baseline analysis also reflects a major concern amid the coronavirus pandemic (COVID-19) that has impacted Ecuador in 2020-2021 and it was fully considered during the elaboration of the Theory of Change; an analysis carried out during the PPG has identified critical risks due to this global pandemic which are fully considered in Section IV under the Risk sub-section. The key risks that have been identified ?in this regard- may threaten the project?s activities as presented in Annex 7 (UNDP Risk Register), in turn, a risk management strategy to handle them while minimizing harm has been developed.

Barriers to overcome to reduce/eliminate the use of Hg in the ASGM sector

19. The analysis of the development challenge carried out at the PPG stage for the preparation of the problem tree has distinguished three different levels of causes for managing the use of mercury within the framework of national and international guidelines on chemical substances and hazardous waste management, i.e.: immediate causes[13], underlying causes[14] and structural/root causes[15].

20. A group of immediate causes may delay compliance with the commitments of the Minamata Convention and will maintain over the long-term the poor socio-economic conditions of this sector, a fundamental reasoning for the project. Initially, the following four (4) immediate causes have been identified at the PPG stage and they need to be tackled by the project:

i. Limited enforcement of the existing regulations for sound environmental management of mercury.

ii. Need to enhance innovative investment opportunities into the ASGM sector.

iii. Essential need to implement alternative, cost-efficient, profitable and sustainable mercury-free technologies; based on the lack of information barrier in this sector.

iv. Account for the impacts of COVID-19 into the change of the existing paradigm.

21. Four underlying barriers and their root causes were also identified as the basis of the immediate causes mentioned above. These underlying causes, that prevent the country from achieving the environmentally sound management of mercury in the ASGM sector, are determined by their root causes in the following manner:

a) Informality:[16] This underlying barrier is determined by a variety of root causes which refer to the existing structural challenges to be faced in order to reduce/eliminate the use of mercury in the ASGM sector.

? Lack of effective regulations to respond accurately to the actual state of the ASGM sector.

Mercury use is widespread in the ASGM sector and the prohibition that is currently in place in the territory has intensified the informal market and contraband of this substance[17]. Artisanal miners and small-scale miners are supplied with mercury to guarantee the availability of this basic input for their extraction and processing model. Therefore, it can be inferred that mercury is entering the country following the same route as the money that finances these activities[18].

The existing regulations apply to the administrative procedures that each actor in the ASGM production chain must comply with, but it does not attend in a timely manner the economic, fiscal and environmental aspects that derive from it, that is, how these operations should be carried out to obtain the best use of the processed mineral, to increase the income generated and to improve the environmental performance of the projects.
A more positive image will contribute to social license to operate in ASGM mining communities and will also improve high risk perceptions of financial entities and regulators. Issues such as child labour, environmental pollution, land degradation, human health risks, and low levels of community acceptance create reinforcing barriers for legitimate Mining Entities (ME)[19] that want to improve social and environmental performance.
More recently, the institutions in charge of regulating and controlling harmful substances (mercury and cyanide) have had budgets reduced as a consequence of the drop in oil prices and the political instability in recent years, a situation that has been further aggravated by the effects of the COVID-19 pandemic.

? Limited technical and institutional capacity to enforce regulation[20].

In Ecuadorian mining regulations, the use of mercury is prohibited for gold extraction. This has generated an illegal market for mercury and its improper use, causing an overexposure of miners and their families to the chemical element. Ecuador does not yet possess an updated mining cadaster since January 2018 to identify the mining development profile with a territorial approach, such as places were the exploitation of mineral resources should not occur; informal and illegal scenarios face limited transparency, national capacity to meet international standards.

Although the UNDP GEF-funded project for the *?National Program Environmentally Sound Management and Life Cycle Management of Chemical Substance in Ecuador?* (UNDP/GEF ID-9203) has made substantive efforts to improve the conditions of ASGM covering only hard rock mining in three geographical areas, problems remain in the rest of the country, especially in alluvial mining which was not targeted by this project.

Current context hinders formalization efforts and transition from mercury and creates daunting challenges for mining authorities to regulate the sector, and provide information to the general public and ASGM communities; such as illicit activity with mineral resources; owners who allow illegal mining activities in their areas; non-observance of ASGM prohibitions in certain areas and financing or provision of machinery for the illicit extraction of mining resources, including active participation of organized crime groups[21].

? A critical need to mainstream gender equality in the ASGM sector.

The degree of exploitation and experience of men and women in artisanal mining is dependent on the local circumstance, along with socio-cultural beliefs that can affect access to, and control over, resources and their benefits. In general, women have unequal access to ore deposits, mining entities, finance, equipment and more lucrative roles in the gold mining value chain. These income disparities can translate into broader inequalities, leaving women behind, such as the ?*jancheras*?. Gender mainstreaming aims in ASGM communities to transform unequal social and institutional structures in order to make them profoundly responsive to gender inequalities and human rights[22].

b) Lack of access to finance: As an underlying barrier, ASGM activities in Ecuador are undercapitalized for a variety of reasons, even though, compared to other commodities, miners would receive a relatively higher price for the gold, but the numerous intermediaries required to get the gold to the market means that miners receive far lower revenues than the international price of gold. From a finance perspective, the following are root causes which refer to the existing structural challenges to be faced, which currently impede access to financial products and services.

? Informality hinders financial inclusion and social cohesion.

Most ASGM miners in Ecuador are informal, hindering their access to legitimate finance and the Best Available Technologies (BAT) to reduce environmental and occupational risks, while improving miner incomes. Despite its importance as a rural livelihood, Ecuador?s ASGM sector is associated with occupational health and safety risks, as mentioned above, hazardous chemical pollution, child labour, gender inequalities, illegality and, in certain regions, money laundering and suspected links to illicit financial flows or crime networks. The situation for artisanal gold miners is worsened by their exclusion from legal frameworks, leaving them with few property rights and open to extortion. Many miners remain unbanked, lacking bank accounts or access to formal financial services, leading to financial exclusion. In many scenarios, miners in remote areas have little choice but to buy equipment from and sell their gold to middlemen, entrenching reliance on illegitimate or informal finance networks.
In many ways, informality of the ASM sector limits its potential, and due to limited capital investment, miners lack the resources to con?duct formal exploration, geologic analysis or invest in BAT, leading to low recovery and high gold losses to mine tailings, disadvantaging artisanal miners. Repeated savaging and reprocessing of gold-rich tailings can enhance pollution hazards and discourage mine rehabilitation and closure.

? Artisanal miners cannot afford BAT due to higher capital costs.

The amounts that financial institutions would be willing to finance (microcredit) is not in line with the needs of the miners. On the other hand, for larger amounts they require mortgages as collateral, which in turn, it is a major challenge because in many occasions, small miners are holders of the concession, but not of the land in which they carry out their work, so they cannot constitute real or collateral guarantees so that they can access the credits[23].
Access to financial services and financial inclusion creates a range of incentives for miners to change behavior and adopt new practices. The present lack of economic incentives for the ASGM sector limits the willingness of mining entities to introduce mercury-free technologies and adopt best environmental practices. Without access to loans or financial services, artisanal and small-scale miners cannot afford resource efficient alternative solutions to mercury amalgamation and open-air burning of amalgam due in part to the higher capital costs of introducing more advanced technologies.
This is particularly noticeable in the ASM production chain. Without access to legal funding (i.e. banks or any other financial organizations), they ask to larger ASGM producers or processing plants owners for funding in change of payment in gold and not in cash, which compromises the small operators to a dependence situation and difficult changes in the value chain.

? Lack of formal business skills and the remoteness of their operations create market access challenges.

Mining, both legal and illegal, occurs generally in remote areas where the State?s presence and footprint is weak or reduced: mining activities are carried out not only near country national borders in remote rural areas, mountains, and rivers, but also underground. This entails a considerable challenge for people in charge of monitoring and control with the purpose of responding to and prosecuting illicit activities against mining resources and other related crimes in these areas, geographically isolated and relatively inaccessible, but highly attractive due to their mining potential[24]. Likewise, in most cases, in the territories where ASM activities are carried out, access to financial institutions' service points is limited or non-existent.

? Lack of willingness of the artisanal miners to associate.

This is because of lack of knowledge or lack of trust in the process, as this would entail not only by changing category from artisanal miner to small-scale miner but also mistrust between artisanal miners

and processing plants. It has also been found that if ASGM activities are regularized, the obligations they take on are very strong in terms of taxation and ways of billing, declaring and recovering their taxes (by computation), which means acquiring obligations in the fiscal area.

Further, the labour force in ASGM is fragmented with low levels of social and organizational cohesion, which undermines efforts to organize the men and women who work in the sector, as mining is not carried out collectively. Without social or economic solidarity units, miners lack the capacity for self-regulation and planning, posing a threat to the sustainability of any formal organization founded in the present context.

? Lack of awareness by financial institutions.

Education of key decision makers in the financial institutions could act to break down these perceptions and lead to generation of finance solutions. Commercial banks, rural and community financial intermediaries, finance houses and investors lack awareness of the sector and their potential. Licenses, geological assessments are needed (e.g., collateral) to create financial services for bankable deposits, but are consistently lacking. In general, the ASGM sector is considered high-risk by commercial lenders as informal miners lack business skills and do not keep cash flow records, with an insufficient understanding of bank regulations for credit, loans or other financial products, hampering their access to finance.

c) **Low technical capacity to support formalization and mercury reduction:** For this underlying barrier, ASGM activities, in general, show limited technical capacity, leading to economic losses and environmental damage, due to a wide range of root causes:

? Low level of knowledge on available mercury-free alternatives.

There is a very low level of awareness towards free-mercury alternatives, with traditional preference for gravity concentration and amalgamation methods, despite high gold losses to tailings and inefficient economic returns.
The amalgamation of whole ore is present throughout the national mining territories. This practice goes hand in hand with the burning of the amalgam, which frequently occurs within the homes of the miners without any safety precautions, due to the prohibition of mercury use. Nevertheless it is worth to mention that many miners and plant operators know about better technologies, but motivation and strategy for changing also need to be considered.

? Lack of adaptation of mercury-free technologies to the cultural and social level of most ASGM organizations and individual miners.

In Ecuador, mining has been historically defined by a weak industrialization of the sector and a preponderance of artisanal and small-scale mining, understood broadly as any mining exploitation activity with low level of technical capacities, an intensive use of unskilled labor, and low production margins in the corresponding deposits[25].

? Lack of ASGM-specific training to enhance miners? mining skills during transfer of appropriate technology and best practices.

Ecuador has witnessed a timeline of extraction and processing activities through the application of rustic methods and a lack of technological support, which together have propitiated environmental degradation. For instance, the application of low technology practices causes significant damage to the environment resulting in deforestation, biodiversity loss, river siltation, soil erosion as well as water and soil contamination from the application of hazardous chemicals like mercury and cyanide in ore processing. In the sites visited during the data collection PPG phase and identified as gold ASM locations, there is a deficient (or null) treatment of effluents that result from gold production processes. In the same way, the practice of burning mercury is done without proper knowledge of the risks involved in mercury exposition, and without the necessary personal protection equipment.

The re-leaching of amalgamated tailings is practiced extensively; this practice is included within the ?environmental worst practices?, as it discharges mercury in soluble forms, such as methyl mercury, increasing the possibility of bioaccumulation in water bodies that receive mine discharges[26].

? Lack of mineral knowledge and mining skills.

Geological knowledge is the corner stone to resource efficient and professional mining operations. The lack of knowledge of ore, mineralogical characteristics and mineral processing hinders the average miner?s ability to understand why mercury amalgamation is a process that generally results in high gold losses.

d) Lack of a holistic approach and regional coordination: Despite regional and country level efforts, under this underlying barrier, mercury flows, migration, community consent and youth employment present challenges for improving working conditions, avoiding mercury use and advancing formalization. Meeting national mercury reduction targets requires regional coordination amongst neighboring countries, and reassessing commitment to regional and continental directives on minerals, due to the following root barriers:

? Mercury trade is usually associated with other illegal activities.

These include migrant labor and informality, deforestation and illegal timber harvest, illicit financing and illegal gold exports. Most of the mercury enters into the country using illegal channels of commerce through porous borders (blind spots) with Peru and Colombia. Besides, the capacity of customs regulators and officers at national and sub-national levels to control illegal mercury flows is limited. The supply and distribution of mercury in ASM communities is illegal, which is obtained in local businesses such as grocery stores and pharmacies or is supplied by gold buyers from large cities.

? Lack of an integrated holistic approach including all stakeholders[27].

Alluvial mining activities in the country are mostly illegal, have no exploitation or mining models, and operate with minimum technical conditions. Environmental liabilities resulting from this type of mining have altered river banks and beds through dredging activities and have created large extensions of land which have not been rehabilitated. Deforestation and vegetation grubbing are additional consequences of the expansion of the mining frontier, a result of the need to extend fronts in both exploration and exploitation. This has led to negative impacts on local ecosystems, which are altered by these activities and suffer loss of biodiversity, migration and loss of species, landslides, and eutrophication of waters, among other consequences[28].

22. In addition, the PPG identified major constrains that emerged in 2020, as a result of the COVID-19 pandemic that have disrupted supply chains and how the ASGM sector operates in Ecuador, which has been integrated in this barrier analysis. Mostly the pandemic has added more ?middlemen? in the supply chain, which as a result made that miners receive the same amount of money per gram, even if the international price of gold went up.

-

e) **Account for the impacts of COVID-19 on supply chains:** Under this underlying barrier, this pandemic has affected ASGM communities where supply chains have been interrupted, affecting household incomes for rural miners. Many gold mining areas in Ecuador are considered high-risk areas for COVID-19 because of the porous borders with neighboring countries and reduced access to basic healthcare. In fact, in a number of instances that is how COVID-19 numbers started increasing in Ecuador.

For this project, the following five risks have been identified due to the global coronavirus pandemic:

Health risk: Potential harm to people and the environment.
Description: Potential health and safety issues, including contagious exposure for stakeholders.
Management strategy: to decrease the risk of exposure, three strategies are considered: i. develop innovative virtual and remote methods for working and implementation, and ii. promote the application of the measures established by the WHO and the GoE, for the control of COVID 19, both preventive and care measures in the event of a contagion in any of the facilities of the interested parties, and iii. the FSP has planned to engage with, including the FSP staff and institutional partners, plus third party workers where the field project demonstration will take place.
Financial risk: Reduction of the committed cofinancing by the project partners.

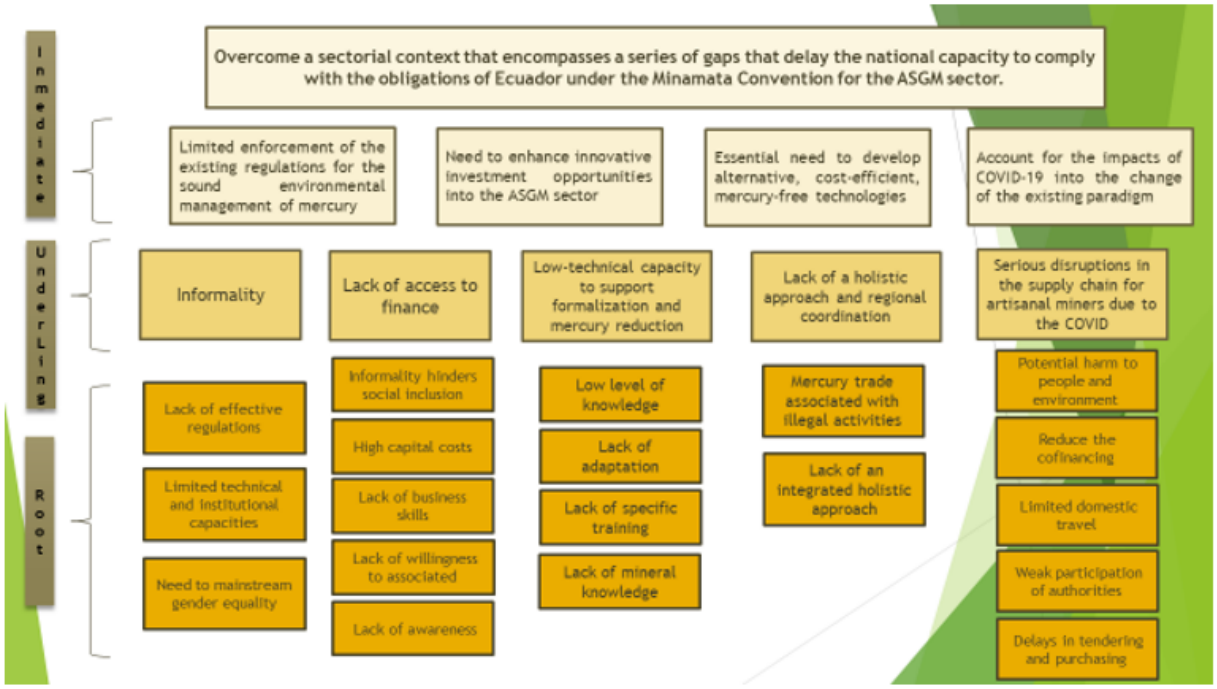
Description: Potential delays of anticipated cofinancing, both in kind and cash sources, due to COVID-19 corporate response, especially from the private sector stakeholders that need to react immediately to adjust their cash flows to cover unexpected labor costs and significant drops of business revenues.
Management strategy: For the development of the activities that the project has planned with the different interested parties, it is scheduled to sign institutional agreements that are legally binding. It is also planned that once the Project starts and before the agreement is signed, with the designed ME, a due diligence financial capacity of the counterpart and its affectation by COVID 19 will be carried out, in such a way that it is guaranteed that the project?s activities will be implemented with local partners that have the capacity to mitigate any possible cofinancial risk.

Operational risk: Limited domestic travel.
Description: Immediate impacts from domestic travel restrictions by UN, GoE requirements and unavailability of land and air transport means.
Management strategy: Develop innovative virtual and remote methods for working and implementation, as much as possible.
Political Risk: Weak participation of health and environmental authorities.
Description: The health and environmental authorities must dispose actions related to the COVID 19 pandemic.
Management strategy: Develop a strategic planning, considering material for the dissemination of activities, including virtual meetings and content, when necessary, or any other channels to implement such strategy.
Operational risk: Longer periods to prepare tenders and purchase goods and services.
Description: Delay in the delivery of supplies, equipment, raw materials, laboratory tests, monitoring, among others, may affect the estimated periods for the development of the project because some activities are restricted due to the effects of the COVID-19 pandemic
Management strategy: The capacity of companies or entities that provide the in-country needed services for the project should be specially strengthened. A key action is to identify from the beginning the laboratories or companies supplying the required services and establish a work plan that allows deliveries in the required times.

23. This group of causes as a whole prevents the country from achieving the environmentally sound management of mercury in the ASGM sector, in accordance with a national environmental policy already in place as well as the National Action Plan, which guides the intervention principles of this FSP.

24. During the project implementation, these risks should be regularly screened, managed and reported to ensure the Project Coordinator has relevant data from across all activities for effective decision making and to determine when escalation is required. As part of its track monitoring role of GEF projects, UNDP, through the Country Office, will track and monitor this global outbreak and its immediate implications for this FSP; if necessary, the Risk Register (Annex 6) will be updated consequently. Likewise, indicators convened under the Project Results Framework (Section V of ProDoc) will be adjusted. These two actions will be also tracked, monitored and reported in the Mid Term Review.

Business as usual situation
This set of shortfalls are summarized in the Figure below.



Theory of Change: Problem Tree Analysis Diagram

2) The baseline scenario and any associated baseline projects;

The baseline scenario

25. Artisanal and Small-scale Gold Mining (ASGM) is the largest global source of anthropogenic mercury releases into the environment with about 38% of total releases from a multitude of sites in over 70 countries[29], and accounts for about 15% of the world?s annual gold (Au) production (Metal Focus, 2019)[30]. The UNEP Global Mercury Partnership estimates that the amount of mercury used by the sector annually is conservatively evaluated at 1,500 metric tons (MT), making ASGM the largest intentional use sector and leading source of mercury emissions into the environment[31]. ASGM occurs almost entirely in developing countries and countries with economies in transition, where Mercury (Hg) is used in separate gold from sediments, whole or concentrated ore using rudimentary processing methods.

26. The GEF Program, ?*Global Opportunities for Long-term development of Artisanal and Small-scale Gold Mining (ASGM) Sector Plus ?GEF GOLD+?,* aims to achieve Global Environmental Benefits (GEBs) by reducing mercury use from ASGM practices by addressing root causes of informality, capacity limitations of ASGM actors to access finance, technology and geologic information required to improve gold extraction and recovery techniques. By professionalizing ASGM operations, GOLD+ targets upstream production issues to improve miner incomes and reduce poverty while building downstream market linkages to bring responsible small-scale mines to market through due diligence measures addressing issues of inequality and exclusion.

27. The Republic of Ecuador is located on the north-western of South America, bordering Colombia and Peru, with 2,237 km of diverse coastline adjoining the Pacific Ocean. With a population 17,643 million inhabitants - including 14 distinct indigenous peoples - Ecuador is experiencing a period of recovery under key structural challenges. The country is facing the consequences of having high levels of public spending in the wake of volatile oil prices in the absence of fiscal buffers to encourage economic diversification. As oil prices boomed between 2001 and 2014, annual GDP growth averaged 4.5 percent per annum (above the regional average of 3.5 percent) and 1.4 million Ecuadorians escaped poverty, on the back of high oil prices[32]. However, growth lost momentum in 2018; currently, about 60 percent of impoverished populations continue living in rural areas, even though only one-third of the national population lives in these areas[33]. Declining social conditions in rural areas have been further aggravated by the in-flux of migrants, and more recently, due to the COVID-19 global pandemic.

28. The Government of Ecuador (GoE) signed the Minamata Convention in 2013, and ratified it on July 2016 and entered into force in August 2017, including in the year 2018 an initial evaluation of the presence of mercury in different areas and its main applications, including gold mining, and most importantly the following document that contains the *?National Action Plan (NAP) on the use of mercury in Artisanal and Small Scale Mining (ASM) of Gold in Ecuador?*, which represents a road map with responsible parties, strategies and specific lines of action, which together allow the country to comply with the provisions of Article 7 of the Minamata Convention, which establishes measures to reduce and, when feasible, eliminate the use of mercury and mercury compounds in ASGM gold[34].

29. In 2021, the Ministry of Energy and Mines registered an alarming increase in illegal gold mining operations throughout the Ecuadorian territory due to the lack of regularization gold mining activities during the COVID-19 pandemic. The Economic Commission for Latin America (ECLAC) warns that COVID-19 will have serious effects in the short and long term on supply and demand at the aggregate and sectoral level, the intensity and depth of which will depend on the internal conditions of each economy, world trade, duration of the epidemic and social and economic measures to prevent contagion[35], so that social and environmental imbalances reinforce each other.

2.2 The ASGM Sector in Ecuador

30. Artisanal and Small-scale Gold Mining (ASGM) is a practice carried out by individual miners or small businesses with limited capital investment and production that relies on toxic mercury (Hg) to extract their gold. During mineral processing activities, mercury losses to the environment occur at two stages, during the amalgamation process and amalgam roasting, mostly carried out by small informal gold shops. Whole ore amalgamation (worst practice under Article 7 of the Minamata Convention) is endemic to certain regions and open burning of Hg-containing amalgam without mercury capture devices is widespread, leading to exposure risks for miners through inhalation of toxic mercury vapors[36]. Depending on how it is released into the environment, mercury can be dispersed over large areas (km^2) or concentrated in hotspots ($100m^2$). In cases where mercury emissions and releases are uncontrolled, ASGM can extend health risks to neighboring downstream communities through fluvial transport of contaminated sediments in river systems[37].

31. As a naturally occurring element, mercury does not degrade to non-toxic forms and undergoes transformation in aquatic environments, enabling its bioaccumulation to harmful levels in fish and seafood. Due to the adverse impacts of mercury on human and ecosystem health, including transboundary rivers[38], eliminating mercury use in the Ecuadorian ASGM sector is a high priority on the political agenda20. Despite a strict regulatory ban on mercury use in gold mining - issued in 2015 - amalgamation of whole and concentrated ores is widespread throughout the country. Furthermore, practices such as the addition of mercury during ore grinding and burning of amalgams in industrial and

residential areas, represent an imminent risk to public health, ecosystems and their biodiversity. At sufficient doses, workplace exposures for miners and their families can trigger a series of diseases and/or adverse human health effects that are often irreversible.

32. According to Ecuador?s National Action Plan (NAP), 23.6 tons of gold were produced in 2018, of which 10.1 tons were recovered with amalgamation and released 29.6 tons of mercury into the environment[39]. The sector is widespread in twelve provinces with high concentration of ASGM activities in El Oro, Morona Santiago, Esmeraldas, Sucumb?os, Pichincha, Napo, Cotopaxi and Zamora22. Within mining areas, techniques vary based on geographic location, geology, and mineralogy alongside social and environmental factors (described below). In general, processing of (primary) hardrock deposits includes: a) amalgamation in grinding cylinders (called *Chanchas*); b) amalgamation with gravimetric concentrators (called *Chanchillas*); c) combined amalgamation and cyanidation; and; d) concentration by flotation. In contrast, processing of alluvial (secondary) deposits involves concentration with vibratory sieves (called *Zetas*). Mercury: Gold (Hg:Au) ratios vary from 0.45:1 where retorts are used, with higher mercury use and releases to the environment from alluvial versus primary deposits, where ratios may exceed 11.79:1[40].

33. While the ASM sector is recognized in national law, many operations remain informal or illegal[41]. According to the 2009 Mining Law, ASM is defined as that activity that processes up to 300 metric tons of mineral per day (tons/day) in primary deposits and 1,500 m3 of mineral per day in alluvial deposits. This broad definition includes a great diversity of actors, from artisanal miners who extract material with rudimentary, non-mechanized techniques ranging to more sophisticated small-scale formal, centralized processing plants with significant capital investment. Operations processing up to 10 tons/day are considered ?artisanal? in scale whereas, operations that process between 10-300 tons/day (in primary ores) are considered small-scale[42].

Mining Regime	**Metallic Underground Mining** **Ton/day**	**Metallic Open Pit Mining** **Ton/day**	**Metallic alluvial mining** **m3/d?a**	**Non Metallic Mining** **Ton/day**	**Alluvial Construction Materials** **m3/day**	**Hard Rock Construction Materials** **m3/day**
Artisanal	10	NE*	120	50	100	50
Small	300	1.000	1.500	1.000	800	500
Medium	301 ? 1,000	1.001 ? 2,000	1.501 ? 3,000	1.001 ? 3,000	801 ? 2,000	501 ? 1,000
Big scale	>1,000	>2,000	>3,000	>3,000	>2.000	>2.000

Source: PPG, 2022

34. According to the latest amendment to the Ecuador Mining Law in 2018, four types of mining are identified: artisanal, small-scale, medium, and large-scale mining (LSM), where articles 134 and 138 establish a legal categorization of artisanal and small-scale mining[43]. ASGM production accounts for an estimated 85 percent of Ecuador?s national gold production and is thought to produce between 20-25 tons of gold per year. In 2020, the sector was valued at USD $1,375,000,000 million (average price USD 1,800 per Oz).

35. Recognition of differences in production scale between ?artisanal miners?, ?small-scale miners? and ?centralized processing plants? in Ecuador?s ASGM sector is especially important when developing public policies and planning strategic interventions to eliminate the use of mercury and advance formalization efforts. The business-as-usual composition of the mining producers in Ecuador is the following:

? **Small artisanal miners:** These miners carry out both the extraction and recovery of the gold mineral. They usually form associations of around four people and occasionally contract staff. On average, they extract and process 2 tons per day from hard-rock deposits with an average grade of 12 grams (g) per ton of ore (g/t)[44]. These operations carry out rudimentary processes in-situ by amalgamation with mercury in rented *?chanchas*? (artisanal hand-crafted mills); using about 250 grams of mercury per ton of ore. Approximately 58% of mercury used is recovered, to recuperate approximately 40% or less of gold contained in the ore. The rest is released into the environment, amounting to 71 kg/year; or almost 27 kg of mercury per kg of gold produced (29 percent are atmospheric emissions and 71 percent are residues in tailings from the grinding processes)[45].

? **Medium artisanal miners:** These are associations of artisanal miners that hire a small number of workers (nine workers between partners and contracted) with higher degrees of mechanization compared to small artisanal miners, resulting in significant environmental degradation. Such operations, extract 5 tons per day from hard-rock deposits with an average grade of 10 (g/t) and transport material to nearby beneficiation plants, on average, once a month. Miners take the amalgam, pay a symbolic sum for the service (about 12 USD per ton) and leave at the plant site, as part of the payment, the rest of the mineral that still contains 60% of gold. Although it is the miners who burn the amalgam, the mercury used is provided by the beneficiation plants and is therefore accounted for in their balance sheets[46].

? **Centralized processing plants:** These facilities have sprung up since the 1990s providing processing services to artisanal miners and allowing batch processing. Beneficiation plants have large physical infrastructure where the processes for the recovery of the mineral start, these include stages of crushing, grinding, smelting, and refining of the major and secondary minerals. These plants may or may not have their own mining operations and by the amount of ore they process they are categorized as to small mining. Although the capacity of these plants vary, the vast majority process less than 50 tons/day. The most common service is to make profits for a nominal payment plus a percentage of the gold remaining in the mine wastes (tailings) after amalgamation[47]. They apply a subsequent cyanidation process, thus recovering 80% of remaining gold in the tailings, that is, 50% of the gold initially present in the mineral. They use 35 grams of mercury per ton of concentrated mineral and approximately 58% of this is recovered[48]. Many processing plants have profited in this way for many years, indirectly inciting environmental pollution by renting amalgamating cylinders, also known as ?*chanchas*?[49].

36. Alluvial mining remains limited in extent (especially Zamora Chinchipe and Morona Santiago) the majority of gold production comes from hardrock deposits. Regional gold occurrences are dominated by sulphide-rich quartz veins with characteristics of epithermal and meso-thermal systems[50]. Two major types of ASGM operations are carried out: on riverbanks (alluvial) in lowlands of the Andean region) and underground (hard rock mining) in foothills of the Andean cordillera. In both types, mercury is used to recover free gold. Alluvial mining - carried out by artisanal miners with less-intensive capital investment - uses a type of gravitational concentrator similar to sluice boxes, but with a Z configuration, hence the name ?*Zetas*?. For hard rock mining, miners extract ore from primary deposits (veins) with dynamite and process ore in poorly equipped plants known as ?*Chanchas?. Chancha* gravitational systems may include a Chilean mill-sluice boxes-centrifugal concentrator-amalgamation installed in centralized processing plants (*plantas de beneficio*). In some cases, such systems include a jaw crusher used before Chilean milling.

37. Chilean mills (open) are used at processing plants to grind ore and liberate gold. The intermediate product has a higher concentration of gold and is amalgamated with mercury at a later stage. With this method, mercury is emitted to the environment during amalgam burning (air pollution by vapor) or, released through Hg-contaminated tailings (soil and water pollution by liquid Hg). Miners store amalgams prior to burn them (in the plant itself or in their homes). The result is a gold concentrate that may or may not contain mercury residues, depending on the separation process used; the gold recovery rate with this method is 30-40% on average. In hard rock mining, tailings become property of the processing plant. Subsequently, these processing plants typically apply a Carbon-in-Pulp (CIP) or Merrill-Crowe cyanidation process to extract residual gold from tailings[51].

38. Cyanidation is more efficient than mercury amalgamation with an average recovery rate of 70-80 percent[52]. In southern Ecuador, cyanidation has slowly gained pace in the last two decades, and constitutes a growing practice in the ASGM sector at a national level[53]. Although mercury use is banned, the expansion of cyanidation plants is problematic where leaching of mercury-contaminated tailings, soils or sediments occurs[54]. When polluted effluents are released to rivers, mercury and cyanide (CN) form complexes capable of travelling distances downstream where they can enter and contaminate groundwater. Both active and abandoned mines can become an enduring source of contamination, which if untreated, may impact transboundary watersheds and aquatic organisms. In Ecuador, this represents a major environmental risk, especially in Zaruma-Portovelo and Ponce Enr?quez territories with the highest processing capacities in the country[55].

39. As per Art. 45, of the Mining Law, for small mining, the State authorizes the operation of beneficiation plants of minerals, including crushing, milling, flotation and/or cyanidation with a minimum capacity of 50 tons per day[56]. Regulations concerning CN in Ecuador are governed by Ministerial Agreement 003 of the Ministry of Environment (2013), which issues permissions concerning small-scale leaching circuits[57]. Previously, CN imports were made predominantly from the United States, but at present imports are also made from Korea, Russia and China. Different business management arrangements exist for small-scale operations. For example, business models in Portovelo-Zaruma, include groups of miners that extract ore at numerous sites (extraction units) and transport the ore to processing plants. Most of the processing centers around Portovelo-Zaruma are organized to rent centralized beneficiation facilities for crushing, milling, and cyanidation (collection a fee-for-service mineral processing, also known as toll milling). While various business arrangements are in use, miners often process their own ore at the processing plants with the assistance and oversight of processing center representatives[39]. However, there are no current mining laws or regulation in place which address cyanidation of mercury-contaminated sediments, soils or tailings[58].

40. Concentration by flotation is a continuous system used in processing plants, following crushing ore with ball mills. Through continuous strips, the ore is fed into processing tanks where floating reactants are applied to facilitate separation between sulfur-rich minerals that contain gold and sterile material (matrix). This process makes use of the hydrophobic characteristics of the reactants, and through the addition of air makes sulfides float, carried out in serrano or Denver-type cells. The floating material (concentrate) is moved to the pools for its accumulation and packaging for export, while the material that settles in the cells is sent to the tailing ponds. This system is used with both high and low grade ores, and even with tailings from cyanidation processes. This process is especially relevant when sulphidic ores are encountered. Mercury is not used, as this is a continuous process and it is not possible to obtain dor?. In Ecuador, gold obtained from flotation concentrates is not recovered and is often sent abroad to undergo gold recovery in other gold mining producing countries.

41. In Ecuador, process selection depends on geological, mineralogical, environmental, geographical, economic and political factors. Depending upon the type of deposit, ore grade, reserves, gold price and economic climate, a range of beneficiation technologies are observed throughout Ecuador. Different techniques and flowsheets influence mercury-gold ratios and extent of pollution hazards. For example, baseline provided in the NAP indicate Zetas and Chanchas show higher Hg:Au ratios compared to other techniques (see Table 1).[59]

42. Ecuador?s ASGM community has considerable workforce participation by women. However, women gold waste rock recyclers (*jancheras*) have long operated on margins of the formal gold mining economy without appropriate legal recognition or rights. In many circumstances, *jancheras* have been traditionally exploited and marginalized; and despite skilled labour is waste rock recovery and ore grading *Janchera* income levels are well below their male counterparts. Until 2021, this activity lacked an explicit legal structure hence excluding women?s equal participation is formalization efforts, historically viewed as an ?invisible segment? of the ASGM economy due to gendered stereotypes.[60]

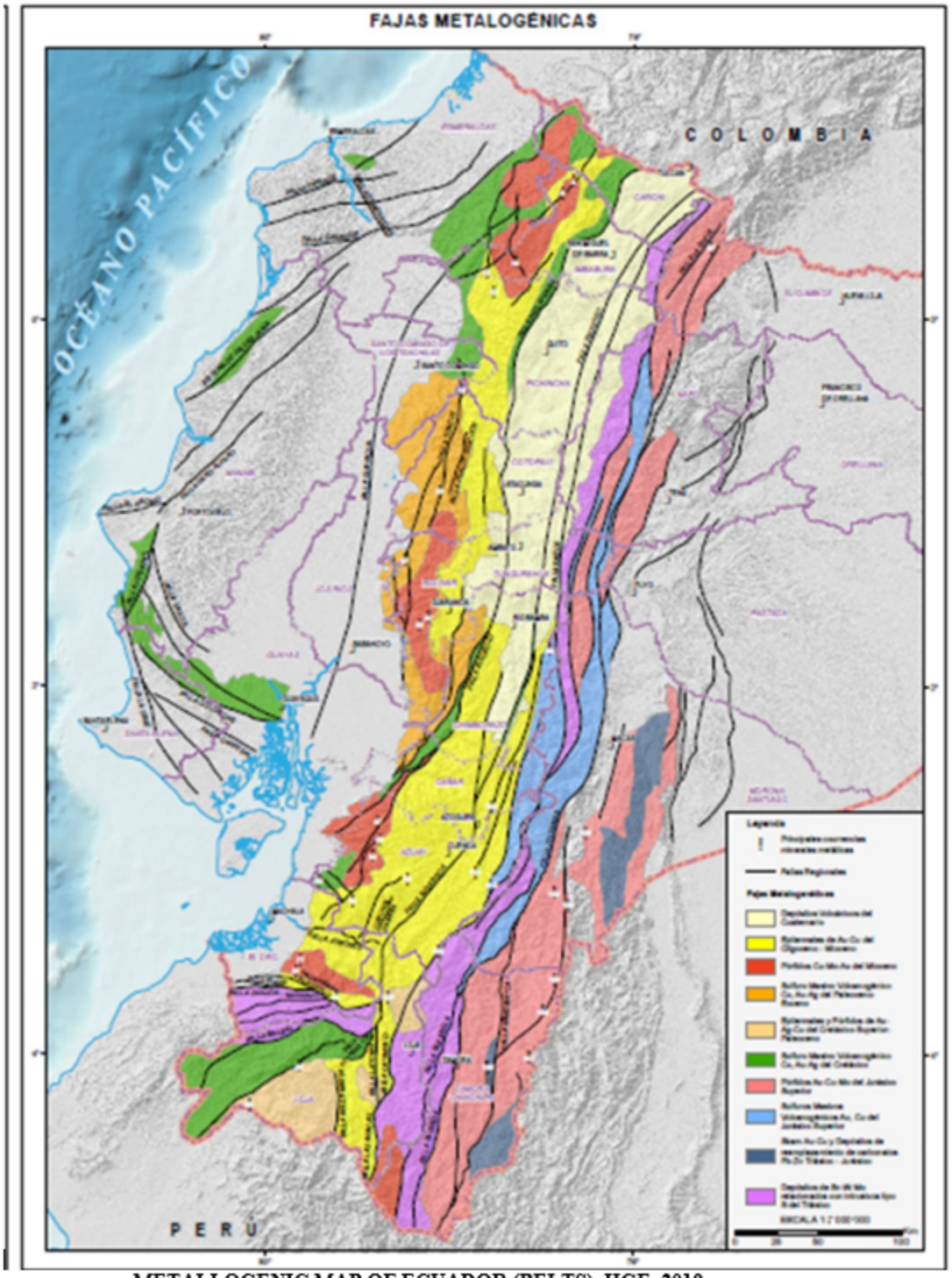
Summary of beneficiation technologies and mercury gold ratios by Province in Ecuador

Province	**Mining Site**	**Beneficiation Technology**	**Ratio (g Hg per 1 g Au)**
			Hg : Au
Zamora Chinchipe	Chinapintza	Chanchas	6.16
		Molino Chileno	2.02
	Nambija*	Chanchilla	2.47
	Nangaritza*	Zetas	11.08
		Jancheras	7.09
	San Carlos*	Zetas	11.08
		Jancheras	7.09
	Chito	Zetas	11.79
		Jancheras	7.09
El Oro	Portovelo	Beneficiation Plants	0.44
Azuay	Ponce Enr?quez	Chanchas	2.19
		Beneficiation Plants	0.45
Chimborazo	Cumand?	Chanchas	11.49
Cotopaxi	La Man?*	Zetas	7.2
Napo	Tena (Small-Scale)*	Zetas	7.2
	Tena (Artisanal)*	Zetas	11.08

		Jancheras	7.39
		Dragas	8.51
Imbabura	Buenos Aires	Chanchas	1.24
Esmeraldas	Esmeraldas (Small-Scale)	Chanchas	11.08
	Esmeraldas (Artisanal)	Zetas	11.08
		Jancheras	7.39

Source: PPG Team 2022, Adapted from NAP on the ASGM sector.

43. In 2019, the Geological and Energy Research Institute (IIGE, by its acronym in Spanish) released an updated ?Metallogenic Map of Ecuador?, where the major metallogenic belts for gold and base metals (Cu, Mo, Zn, Pb, Ag) and their geologic environments are described. As shown in the Figure below, defined belts correspond with the age of major geologic bodies and events occurred in Ecuador. The Western Cordillera shows occurrences of Au and base metals anomalies - deposits related to porphyry, VMS and epithermal systems dated from Cretaceous to Tertiary ages, while in the Cordillera Real region, Au anomalies and deposits located in porphyry, VMS and skarn systems are related to older Mesozoic bodies. Finally, in southern Ecuador intrusion and volcanism bearing mineralization date to Triassic in some places and Cretaceous ? Paleocene bodies in other zones.



METALLOGENIC MAP OF ECUADOR (BELTS), IIGE, 2019

Metallogenic Map of Ecuador (Belts), IIGE, 2019

44. The above updated map has identified 157 metal occurrences across Ecuador, most of which include gold and base metals, in typical association with volcanism and large batholiths and porphyries. As a general rule, magmatic deposits occur with higher or lower levels of sulphides in many Ecuadorian primary ores. For alluvial deposits, refractory ores are less of a concern due to higher free gold concentrations. Depending on geology, minerology and other factors, ASGM operators often treat refractory ores with flotation circuits after preliminary amalgamation or cyanidation process.

45. Beneficiation plants in Portovello-Zaruma (southern Ecuador) predominantly process local ores but also attract ores from neighboring provinces, including ores with different characteristics and processing requirements (e.g., polymetallic ore from porphyry-type mineral deposits; and sulfide-poor quartzcarbonate vein systems). Gold grades typically vary between 5 and 20 grams per ton (g/t) but as low as 2 g/t when tailings are processed by cyanidation. Most of the processing plants around Portovelo use Chilean mills (also known as pan mill, cone mill), which typically reduce ore to 100 to 140 mesh (approx. 100-150 microns). One of the main benefits of pan mills is that they also act as a concentrator, with heavy minerals including gold settling and remaining in the base on the mill while lighter minerals, which float as the mill is agitated are removed in suspension to the mill affluent.

46. Given the size and scale of informal mining of the country, the Government of Ecuador (GoE) has been keen to encourage greater transparency, governance and revenue collection across the ASGM sector. As part of these efforts, the Central Bank of Ecuador (BCE, , by its acronym in Spanish)) started a gold buying program, purchasing gold directly from artisanal and small-scale miners[61]. In 2014 the BCE began purchasing gold from ENAMI, Ecuador?s national mining company, before establishing a general fund of US$200 million to finance the purchase of gold from artisanal miners in 2016. The fund was depleted by 2019 with US$140 million deployed between 2017 and 2018. Thereafter, the BCE sought an annual budget of US$48 million to finance the purchase of gold from artisanal miners[42].

47. As the small and medium scale artisanal miners, centralized processing plant's owners also sell 80% of their gold (dor?) in the informal market at an average $38.42 USD per gram and 20% in the formal market (10% to the gold purchase program from the BCE at 46.72 USD per gram and 10% to other formal buyers linked to the jewelry industry, also at 38.42 USD per gram). In total, it is estimated that the ASM of gold represents about US$900 million dollars in sales per year of which, approximately 42% of the estimated total sales (US$403.7 million) would come from gold extracted through mercury amalgamation[62].

48. Initially, artisanal miners were required to sell their gold at BCE?s offices in Quito, about 600 kilometers from the southern region of Ecuador where the largest ASGM activities are

concentrated. In 2018 the BCE opened an additional gold buying office in the southern city of Machala42. The new office allowed the BCE to be closer to gold production activities and reduced travelling time for miners from three days to half a day. The Machala office soon accounted for 62% of the Central Bank?s total gold purchases. However, since the Covid-19 pandemic erupted in Latin America, gold purchasing activities have centered once again in Quito, where security is reportedly better than at Machala42. According to recent reports by the OECD, the Central Bank is also exploring the possibility of opening a new gold buying office in a northern region of Ecuador[63].

49. While artisanal miners are not subject to taxation when they sell gold to the BCE, they are subject to a discount on the internationally published gold price. This is defined and approved by an internal committee and is usually set at around 2%. Before selling their gold to the BCE, artisanal miners must deposit extracted gold ore at local refineries where it is refined into non-monetary gold in the form of gold dor? bars. The Central Bank purchases these bars and stockpiles them until the export costs become justifiable. The bars are then sent to London Bullion Market Association (LBMA) accredited refiners to be cast as Good Delivery bars. According to the BCE, gold exports from Ecuador totaled 169,000 ounces in 2019. In the case of Ecuador the Central Bank sells at least a proportion of their purchases to LBMA-accredited refineries, demonstrating that they have been able to satisfy international due diligence expectations42.

50. The BCE also conducts extensive due diligence to ensure that the gold it purchases is responsibly sourced. Mining companies, cooperatives and individuals must be registered before they are able to sell their gold to the Bank. Counterparties must also have bank accounts with registered financial institutions and be able to issue invoices. They are assessed for compliance with anti-money laundering regulations and local authority requirements before being checked for outstanding tax obligations. A second round of due diligence is conducted for counterparties that have had a relationship lasting six months or more with the Central Bank. Two days prior to the purchase of gold, counterparties are checked for involvement in ongoing litigation, arms trafficking, terrorism and fraudulent activities. The amount of gold to be sold must also be consistent with the counterparty?s past transaction volumes as a check against illicit gold inflows. Categories of metallic mining in Ecuador under the mining law are organized production capacity, origin of title, royalties, environmental obligations, commercialization, period of operation and area are listed in Table 2.

Categories of metallic mining in Ecuador under the mining law

Scale	Artisanal mining	Small mining	Medium mining	Large mining

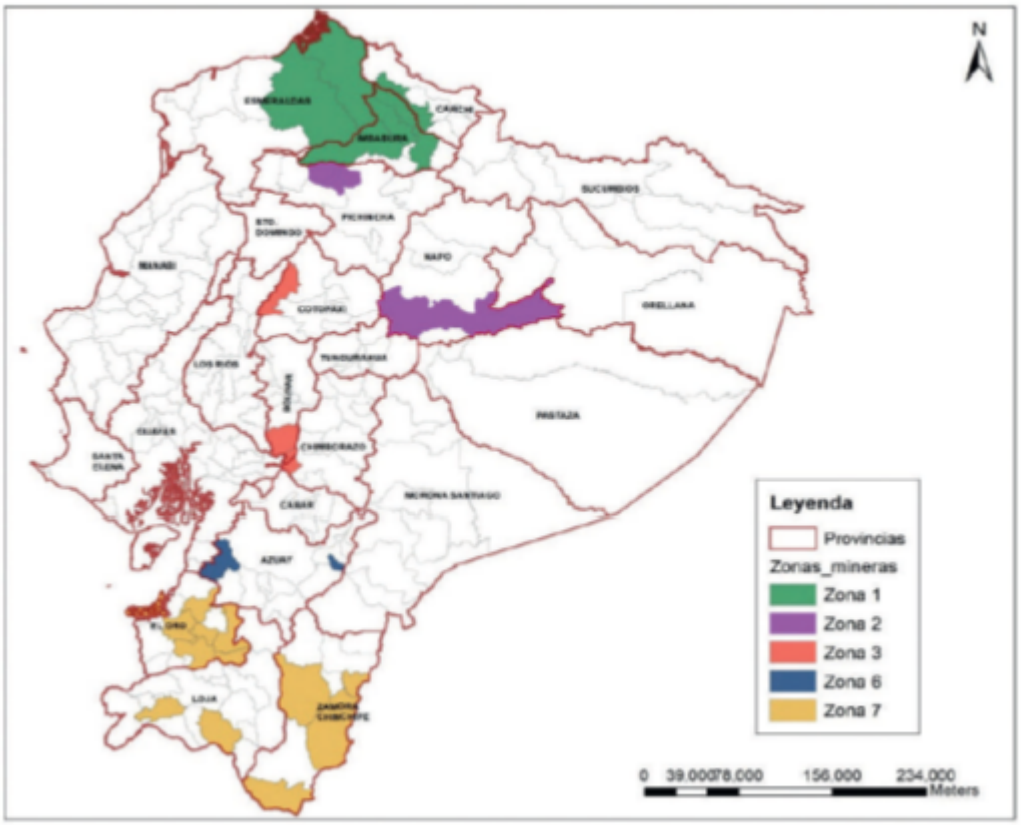
Production capacity from metallic mining	Up to 10t/day underground and 120m3/day alluvial	Up to 300t/day underground and 1,000t/day open pit; and up to 1500m3/day alluvial.	Between 301 and 1000t/day underground; 1,001 and 2,000t/day open pit, and up to 3000m3/day alluvial	In excess of medium mining in all materials and volume
Origin of title	Domestic	Domestic and/or foreign	Domestic and/or foreign	Domestic and/or foreign
Royalties	0%	3%	4%	5% and 8%
Environmental obligations	Registration	License	License	License
Commercialization	Central Bank	Central Bank/Public Bank	Open market[64]	Open market
Operation	10 years	25 years	25 years	25 years
Area	Up to 4 hectares (underground) and up to 6 hectares (open pit)	Up to 300 hectares	Up to 5,000 hectares	Up to 5,000 hectares

Source: Adapted from Central Bank of Ecuador and World Gold Council (2021).

51. During the Project Preparation Grant (PPG) phase, a list of potential intervention sites denoted as Tier 1 (priority) and Tier 2 (secondary) sites were identified and evaluated with site selection criteria based on Ecuador?s NAP on ASGM. Tier1/2 sites were produced in consultation with the Government, policymakers and stakeholders utilizing criteria on gold production, workforce estimates, hazardous chemicals use, evidence of representative mining entities, proximity outside of protected areas and other considerations (presented in Table 9). Site selection criteria were domesticated from UNDP guidelines to address country-level risks and opportunities to reach project objectives. Site criteria may require domestication and verification during implementation.

52. ASGM activities, both formal and informal, are present in twelve provinces: two coastal provinces, two Amazonian provinces and eight in the Andean Sierra provinces, where mercury use was identified in 25 mine sites (districts), which include primary deposits production zones, placer

deposits (alluvial deposits) production zones, and gold processing areas, mostly in the south of the country, in the provinces of Azuay, El Oro and Zamora Chinchipe. The Figure below[65], illustrates ASGM Areas in Ecuador highlighting cantons and important concentrations of ASGM mining territories.



Map of Gold ASGM Territories in Ecuador (Source: NAP)

53. In regard to the territorial distribution of artisanal mining activities in 2015, the National Action Plan (NAP) indicates 1,821 permits for metallic ores, distributed primarily in southern areas of the country. Distribution of permits indicate the highest number in Zamora Chinchipe (Zona 7) with 744 concessions; followed by Loja (297 concessions); El Oro (226 concessions); Morona Santiago (219 concessions); Azuay (165 concessions); and remaining in different southern provinces. However, as the mining cadaster has been closed since January 2018, no new registration or regularization processes have been filed for processing plants thenceforth[66].

54. Primary extraction is the main driver of ASM for gold, representing 94% of the gold produced (22,054 tons of Au), relegating alluvial mining to 6% of the gold produced (equivalent to 1.5 tons of Au)[67]. As described above, processing actors offer differentiated services based on the volume of ore that requires processing by crushing (*chancado*), from amalgamation cylinders for

women in precarious mining labor, known as *jancheras****[68]***, to Chilean mills for small mining companies and processing plants that include cyanidation processes and even concentration by flotation for mine owners and licensees.

55. In recent years, small-scale surface and hard-rock gold mining, including mechanized excavation, hydraulic monitoring and river dredging techniques degrade land, forests, and aquatic ecosystems. With rising global poverty rates in the wake of COVID-19 and record-high gold prices in 2020, the coronavirus pandemic has threatened to drive an expansion of illegal and informal mining activities in Ecuador. In 2021, the Ministry of Energy in coordination with the National Police registered an alarming increase of illegal gold mining operations throughout Ecuadorian territory due to the lack of regularization of the sector during the pandemic[69]. Among the provinces with clear evidence of illegal alluvial mining is Esmeraldas, specifically in the San Lorenzo Canton; this indicates that measures established in this territory in 2011, which prohibit any type of extraction in the area, are being disregarded. As a consequence of the activities carried out in the sector, on 18 November 2020 there was a landslide in an illegal mine that resulted in the death of several people.

56. However, only formally established ASGM actors can access formal sales channels of providing to the Central Bank for national reserves or to authorized traders. Still, the vast majority of gold goes to the informal market. It is estimated that only 30% of the gold produced is reported to the Central Bank and to the Mining Regulatory and Control Agency (ARCERNNR), while the rest is traded illegally. Regarding commercialization, the artisanal miners who produce less sell their gold mainly to intermediaries in unfavorable conditions .

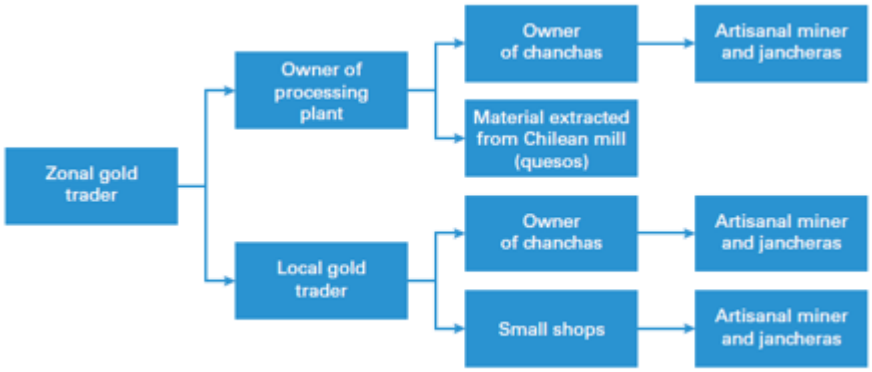
57. In 2020, Ecuador?s NAP estimated about 11,500 people directly involved in gold ASGM activities at a national level of which a high percentage of workers who are involved in ASGM are considered floating or ?transient? workers. Miners in many regions are highly mobile and may be located in a site seasonally, but after a week could move to any other site within the national territory. As a result, the total population directly involved in the ASGM sector could rise to 20,000 throughout the year. The provinces with the highest number of people involved in gold ASGM activities are: Imbabura (5,000 approximately), Zamora (3,500) and Azuay (2,245)[70].

58. With regard to the number of workers present in a mine site, artisanal concessions have an average of 35 workers, compared with small-scale concessions that have an average of 200 workers on site. Of these figures, only 0.7% of partners and 1.7% of workers are women. In regard to the miner?s educational level, there are two different scenarios: from the universe of artisanal miners, about 61% have completed their elementary school studies, and of this number, about 30% completed their high school studies. On the other hand, for small-scale miners, 65% completed

their high school studies and 32% have pursued and finished their college and post graduate studies. For artisanal miners, especially the *jancheras*, the social security situation is precarious, with only 25% of individuals affiliated to social security and working jobs that are not regularized by contract, but only by a permit from mine owners[71].

59. As indicated above, the use of mercury in mining is banned by law, and in spite of the government control measures, mercury is used clandestinely throughout the ASGM sector and by trafficking-based supply chains that introduce the product into the country through uncontrolled border areas. This constitutes both a problem and a challenge to be tackled by competent authorities. The use of mercury has brought consequences related to health and the environment that are often not circumscribed to the sites where the operations take place, but have a noticeable effect within the areas of indirect influence of ASGM operations[72], mainly downstream of the sites.

60. Mercury is sold at different mine sites through local establishments such as shops and/or hardware stores. At mine sites with access to cyanidation leaching circuits, it is common that owners of *chanchas* provide mercury free of charge in exchange for tailings that remain after grinding is completed. Due to inefficient comminution (crushing and grinding) and tailings often resulting in one of the worst practices identified by the Minamata Convention, which is the cyanidation of tailings with mercury contents, that should be banned at a national level. It is also common to find that zonal gold traders are also mercury suppliers. Their roles as local intermediaries facilitate the distribution logistics, as they are located in convergence areas for both wholesale suppliers and retail distributors[73], as shown in the Figure below.



Source: Ecuador National Action Plan

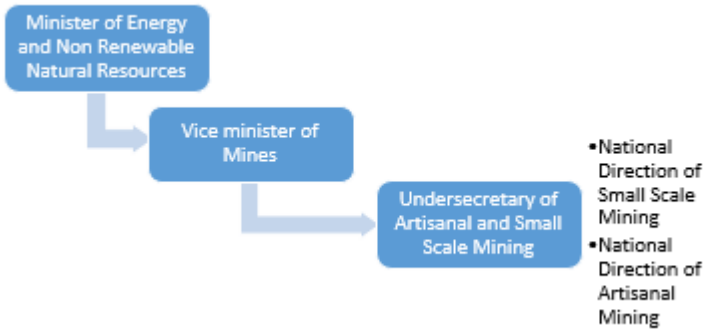
Mercury Distribution Model in Ecuador

61. Ecuador is well positioned to support the system transformation designed under the GOLD+ programme, which plans to pilot holistic, multi-sectoral and integrated strategies emphasizing optimized land allocation for ASM activities through ASM zones, including multi-stakeholder dialogue, cohabitation strategies and models of coexistence, which may include ?tributer? systems[74]. To reduce the negative impacts caused by ASGM, access to geologic data and ore characterization will be key to building local capacity and promoting resource efficient mining practices across the mine life cycle.

62. In Ecuador, ASGM is a vital income source but the sector is limited by a lack of technical capacity. Technical capacity in ASGM areas is weak and support is required to assist the sector to continue enhancing on mercury-free techniques and build capacities. Improving regulation and enabling the adoption of mining practices that mitigate impacts on deforestation, biodiverse ecosystems and pollution of inland waters where mercury releases and poor tailings management, endanger human and ecosystem health is also critical, including the design of low-cost strategies for stakeholders on mine rehabilitation and closure.

2.3 Institutional and legal framework

63. ASGM in Ecuador is ruled and controlled by the Ministry of Energy and Mines (MEM) and its subsidiary agency, the Energy and Non Renewable Resources Regulatory and Control Agency (ARCENNR), both with headquarters located in Quito. These government units are in charge of granting, administration and extinction of mining rights. The MEM structure for ASGM is presented in the Figure as follows:



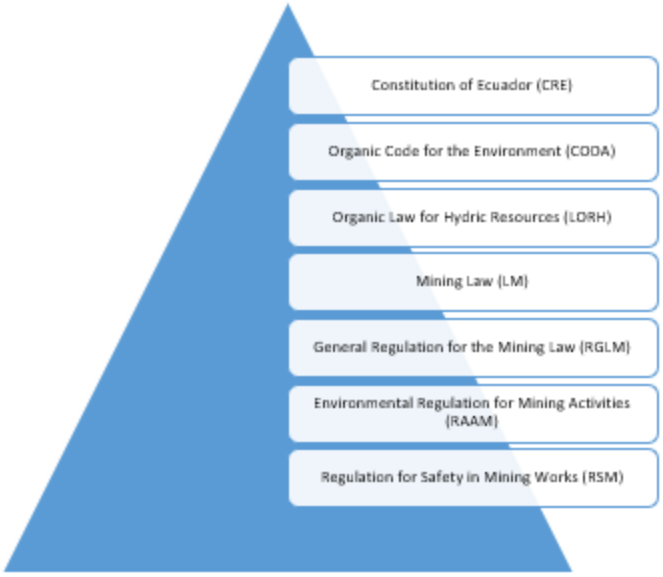
Policy Framework in Ecuador

64. For environmental and water permitting and control, the Ministry in charge for mining is the Ministry of Environment, Water and Ecologic Transition (MAATE). This Ministry has several units in charge of mining control in any scale as follows:

- ? Undersecretary of Environmental Control: In charge of environmental permitting and control.
  - o National Direction of Environmental Regulation: Licensing and permitting for mining activities at any scale
  - o National Direction of Environmental Control: Control, auditing and monitoring of environmental plans and permits.
- ? Vice Ministry of Water: In charge of water permitting and control.
- ? Water Control Agency ARCA: In charge of hydrology studies and control.

65. Other government units related to mining are: The Institute of Energy and Geology Research (IIGE), the National Mining Company ENAMI EP, the Central Bank of Ecuador (BCE), the Ministry of Labor (MDT), the Ecuadorian Institute of Social Security (IESS), and the Ministry of Public Health (MSP) while Decentralized Autonomous Governments (GAD) oversee permitting for raw materials for construction activities only (quarries).

66. Regarding the legal framework, there are several regulations related to ASGM activities which can be summarized as follows:



Regulating Framework for ASGM in Ecuador

2.3.1 Institutional Organization of ASGM Sector

67. From the institutional point of view, at a national level, leadership and organization of the ASGM sector is shown in the following Table:

Institutional Map for ASGM Management in Ecuador

Organization/Institution	Role
Ministry of the Environment, Water, and Ecologic Transition (MAATE)	National Environmental and Water Authority, which establishes and execute the national environmental regulatory framework. It is the Focal Point for the implementation of the Minamata Convention.
Ministry of Energy and Mines, Vice Ministry of Mining, (MEM)	This Ministry is the head authority in the establishment of national policies regarding the management (utilization) of mining (metallic and non-metallic) and energy resources. Its major functions according to law is to grant, to manage and to extinguish mining rights.
Geological and Energy National Research Institute (IIGE)	It is an entity affiliated to the Vice Ministry of Mining, in charge of generating, systematizing and managing geological-mining metallurgical information in the country. Additionally, this Institute provides capacitation to mining actors.
Energy and Natural Non-Renewable Regulatory and Control Agency (ARCERNNR)	It is an entity attached to the Ministry of Energy and Mines and in charge of regulation, control, auditing, intervention and sanction for the Energy and Natural Non Renewable sectors.

Ministry of Public Health (MSP)	This Ministry is the national authority for the management of Public Health. The MSP oversees provision of guidelines for assistance and monitoring of diseases at a primary level (local level).
Ministry of Labour (MT)	This Ministry is the authority in charge of issuing directives for hiring and labor relations. In addition, it is responsible for issuing technical regulations related to occupational health and safety for the mining sector, whose compliance is verified in the field by ARCOM.
National Department for Risk Management (SNGR)	This entity is in charge of risk management at a national level, both in cases of natural cause or by human actions/activities.
Ecuadorian Institute of Social Security (IESS)	This entity through Occupational Hazards Insurance, covers contingencies related to labor activities (compensations, disabilities, pensions, etc.) for all affiliates of the Universal Mandatory Insurance which, in the case of the analyzed mining zones, is presented as the Farmer?s Social Security (*Seguro Social Campesino*).
Ministry of Economy and Finance (MEF)	This entity is provides financial oversight for the ASGM sector, including responsibilities related receive and collect: Annual amounts for conservation patents (mining rights); and Annual royalties (Small-scale mining); All taxes from mining exports. The Ministry also has the ability to authorize government expenditures for mining processes (e.g. Social participation processes) and deliver a portion of royalties to local government as established in the mining law. Revenues collected transit through a National account and is the Ministry?s responsibility to monitor and direct funds to local governments.
Ecuador Central Bank (BCE)	An entity that possesses a preferential option for buying and selling gold produced through small-scale and artisanal mining since 2009. A relevant actor due to its high potential for catalyzing positive change in the sector through access to fair price and fair markets. As of 2021, the Central Bank will continue buying ASM gold. The Bank constitutes a downstream market with the highest levels of integrity and transparency for the global precious metals industry. Through responsible sourcing programs, BCE has a purchasing program from responsibly produced gold legitimate Mining Entities (MEs).

Ref.: Adjusted from Table 5 of the NAP, page 41.

68. Regarding governance at the local level, the State will promote the artisanal mining and small-scale mining regimes through the association of natural persons under cooperative, association, condominium and micro-enterprise modalities. In 2015, according to the National Plan for Mining Development, there was a total of 859 formalized associations of small-scale miners and target to register 2,559 associations by 2020. There is a Chamber of Small-scale Mining in Ecuador; this organization attempts to channel natural and legal persons involved in exploration, exploitation, processing, concentration, smelting, refining and commercialization of metallic and non-metallic minerals[75].

69. The current population of Ecuador is 17,475,570 inhabitants and there are 14 Indigenous nationalities totalling nearly 1,100,000 inhabitants, grouped into a number of local, regional and

national organisations[76]. Of this, 24.1% of the Indigenous population live in the Amazon, divided into 10 nationalities. Of the Andean Kichwa population, 7.3% live in the Southern Mountains and 8.3% in the Coastal region and on the Galapagos Islands. 60.3% of the Andean Kichwa live in six provinces of the Central-Northern Sierra; and the remaining 8.3% live in the Coastal region and the Galapagos Islands. The Shuar, who form a nationality of more than 100,000 people, have a strong presence in three provinces of the Amazonian Centre-South, where they account for between 8%and 79% of the total population. The rest are spread in small groups across the country. There are different nationalities with very little populations that are in a highly vulnerable situation. In the Amazon, there exist the following indigenous populations: the A?i Cof?n with 1,485 inhabitants, the Shiwiar with 1,198 inhabitants, the Siekopai with 689 inhabitants, the Siona with 611 inhabitants, and the Sapara with 559 inhabitants. On the coast, there are the ?pera with 546 inhabitants and the Manta with 311 inhabitants[77].

Legal and Regulatory Framework

70. A comprehensive regulatory framework to address the adverse impacts of ASGM is already in place in Ecuador. However, ensuring social and environmental compliance of the informal ASGM sector remains a challenge.

? **The Constitution of the Republic of Ecuador (2008)**, based on the Charter of Human Rights, is one of the few in the world that has incorporated the ?Rights of Nature?, which is why the reduction in mercury use target of this project is well framed in the legal context of the country. Relevant articles for this project are:

? Article 14 recognizes the right of the population to live in a healthy and ecologically balanced environment that guarantees sustainability and wellbeing.

? Article 15 prohibits the development, production, holding, marketing, import, transport, storage and use of highly toxic persistent organic pollutants (POPs) and internationally prohibited agrochemicals.

? Article 57 indigenous communities, peoples and nationalities are recognized and guaranteed participation in the use, usufruct, administration and conservation of non-renewable natural resources that are found on their lands, typified as a collective right[78].

? Art. 71 establishes that Nature has the right to the maintenance and regeneration of its vital cycles, structure, functions and evolutionary processes. The State will encourage natural and legal persons, and groups, so that they protect nature, and will promote respect for ecosystems.

? Art 73 establishes that the State will apply precautionary and restrictive measures for activities that may lead to the extinction of species, the destruction of ecosystems or the permanent alteration of natural cycles.

? According to the Ecuadorian Constitution, the Environmental Code, its Regulations, and other secondary provisions, an environmental license is required for advanced exploration and exploitation phases. During the performance of mining activities, environmental management plans and environmental audits must be performed by independent environmental auditing firms. Extractive industries are forbidden in territories within the National Protected Areas System (NPAS) (including, national parks, natural reserves, indigenous territories and protected forests, among others).

? **The Mining Law No. 517/2009 (reformed in 2013 and 2020)** governs Ecuador?s mining sector under the responsibility of the Ministry of Environment and Water. Artisanal and small-scale mining is recognized and defined in the Mining Law, including the different categories of mining, their key characteristics and their regulatory and environmental obligations. A Mining Bill reform was issued in 2020 with new measures affecting ASGM, such as Article 17, which establishes a ban on the use of mercury in mining operations. Noncompliance with this disposition would result in the revocation of mining rights and other corresponding sanctions. As a transitory disposition, a two-year window period was established for the search of alternatives and for the elimination of mercury from these activities, which meant that by 2015 (National Assembly, 2013), mercury would have been eradicated from ASGM activities in the national territory, and event that never happened due to widespread proliferation of illegal use[79].

? **The National Development Plan for the Mining Sector of Ecuador 2020-2030.** This plan was released in 2016 as a part of the National Development Plan built under the vision of the former Ecuadorian government. This national mining plan pursues ?a transformation of the governance of natural resources, integrating the criteria for the use of resources minerals, with a focus on participation, social and environmental responsibility; focusing its efforts on maintaining a transparent and direct dialogue between the Government, mining companies and communities in order to reduce mining conflict?. It also declares that it will help mining industry to achieve a larger representation in national economy, among other challenges. It consists of 6 axes: i) economic development, ii) environmental and social sustainability, iii) research and development, iv) management and administration, v) regulation, control and fight against illegal mining and, vi) regulation improvement. In the present administration however, the government issued the Executive Decree 151 on November, 2021 aiming to set an Action Plan for the Mining Sector, considering some directives of the National Mining Plan 2020 ? 2030. The government is still working on implementing this Action Plan and is focusing its efforts too on fighting illegal mining which is causing social problems for example, in Zaruma area. Nowadays, authorities don?t have yet declared if the National Development Plan for the

Mining Sector of Ecuador 2020-2030 will be executed as released in 2019 or it is going to be modified. It is worth to mention that little of this 2019 Plan has been implemented in practice.

This Plan aims to enable a regularization process for artisanal mining through a program that intends to regularize, control and promote the implementation of good practices in artisanal mining activities in Ecuador, which is in charge of the Ministry of Energy and Mines (MEM) and its affiliated entities, specially, the Geological and Energy Research Institute (IIGE) and the Regulatory Agency and Mining Control (ARCOM). One of the main lines of action of this Plan is to promote association processes among small miners and artisanal miners, for metallurgic production, processing, sale and waste management, enabling the inclusion of other social and environmental actions as well in the regularized gold ASM sector, such as access to financing. However, artisanal miners usually don?t want to associate, because of lack of knowledge or lack of trust in the process, as this would entail to change the category from artisanal miner to small-scale miner, which means acquiring obligations in the fiscal area[80].

Nevertheless, this National Plan was changed in 2019,the existing one is not in force. The government issued in 2020 de Executive Decree 151: Action Plan for the mining sector where in its Article 12 mentions that the GoE requests to MEM to build and implement a plan of formalization of artisanal miners, to be executed up to December, 2021.

? **The Regulation of the Regime Small Mining Special and Artisanal Mining.** The Ministry of the Environment, Water and Ecological Transition (MAATE) and the Ministry of Energy and Mines (MEM) are both in charge of this regulation, which prohibits the use of mercury in the ASGM sector as well as the supporting the activities to be carried out towards that objective, as per the existing Mining Law (adjusted in 2018), as mentioned above.

? **Environmental Regulation of Mining Activities (RAAM).** The country has a legal basis for the operation of the mining sector that includes Regulations of the Special Regime for Artisanal and Small-Scale Mining. However, Ecuador has weak processes to ensure compliance with environmental regulations. Authorities recognize artisanal mining is the main source of illegal use of mercury and closed the mining cadastre to analyse, clean, improve and achieve more adequate control of all those registered. According to RAAM, different scales of mining operation have differential environmental obligations as shown in Table 2.

According to the Environmental Regulations for Mining Operations, prior to the closure and abandonment of a mining property, the contractor or concessionaire must conduct an environmental audit including the environmental liabilities found in the property and the remediation work intended to be conducted, including social works. A performance bond needs to be provided to secure compliance

of the remediation works, which performance bond must be submitted to the Ministry of Environment for approval.

? **Environmental Impact Assessment (EIA) Compliance.** An environmental assessment is mandatory prior to the execution of mining activities at any scale. The process for approval of the Environmental Impact Assessment (EIA) may be summarized as follows:

i. Preparation of terms of reference for the EIA and approval thereof by the competent authority;

ii. Obtaining from the Ministry of Environment an intersection certificate evidencing that the area does not interfere with the NPAS;

iii. Approval of the EIA, which must include public consultation and submission of the EIA, an environmental management plan and a contingency plan for the communities within the area of impact of the project;

iv. Once the EIA is approved by the competent authority or the Ministry of Environment, the environmental license is issued by the Ministry of Environment and; finally,

v. Third-party liability insurance policy must be provided by the concessionaire to protect third parties from any consequences resulting from the mining activities that may affect them, along with a performance bond guaranteeing compliance with the environmental management plan.

In addition, permits are required prior to the commencement of any mining project, including its exploration phase. Depending on the project, it may take a few or several months to obtain the environmental license. The preparation of the EIA must include a public consultation process to seek feedback and comments from the community within the area of influence of the project. NGOs are also entitled to participate in the consultation process. Public consultation is a key element prior to EIA approval.

? **Conservation and Land-use Planning.** Since 2008, the Government of Ecuador has established two major conservation strategies to halt deforestation: protected areas (PAs) and an incentive-based conservation program -Socio Bosque Program (SBP)- with the technical support of Conservation International (CI). PAs dominate conservation strategies around the world as command-and-control policy with rigorous mechanisms to keep forests and wildlife corridors intact[81]. In Ecuador, PAs also stipulate the strict protection of natural ecosystems.

The SBP represents the largest conservation strategy in the country, covering around 19% (4.8 M hectares) of the continental territory SBP, and provides direct monetary transfers to individual and communal landowners who voluntarily agree to conserve forests under a 20-year contract that is regularly monitored by the GoE. SBP covers 6.3% of the territory (1.6 M ha) and is among the ten largest incentive-based conservation programs in the world. Although more than 25% of Ecuadorian forests are under some type of conservation program, there is still a significant proportion of forests without protection. In these contexts, land-use decisions reflect the management of the production factors land, labour, and capital in connection with household demographics and exogenous elements that characterize the natural and institutional environment.

? **The Instructions for Granting Marketing Licenses of Mining Substances (Ministerial Agreement 028 of 2020),** whose observance is in charge of the Agency Regulation and Control Miner (ARCOM). Mineral rights involve a mining license (?concession?) to be granted by the Ministry. A company may earn such right after a bidding process (non-binding investment commitment), after applying for a specific area of interest to the company. At various stages there are permits required, mostly on the environmental and water-usage areas to maintain the exclusive use of a particular concession[82].

? **Labor Law:** It includes all legal provisions regarding Ecuador?s labor conditions. Mining concession holders must employ Ecuadorian personnel in a proportion of no less than 80% to carry out their operations. In addition, there must be permanent training programmes for all its personnel. Once in operation, mine owners' workers will receive a profit-share of 3% of the pre-tax profits, and the remaining 12% of profit-sharing (total of 15%) will be paid to the State and to the Decentralized Autonomous Governments. In addition to this, there are royalties, income tax, preservation patents, and sovereign share on overall economic returns of a mining operation.

? **Minimum Age for Work.** Ecuador addresses minimum working age of 15 in Article 46 of the Constitution; Article 82 of the Childhood and Adolescence Code. Minimum Age for Hazardous Work. Minimum age for engaging in hazardous work is 18, as defined in Article 87 of the Childhood and Adolescence Code[83]. At the International level, Ecuador has also ratified ILO Convention 138, Minimum Age, which establishes 18 years old as the minimum age for working.

? **Identification of Hazardous Occupations or Activities Prohibited for Children.** Addressed under Articles 5, 6, and 8 of Resolution No. 016 of 2008; Article 5 of Ministerial

Accord MDT?2015?0131. At the international level these article related to ILO Convention 189 on eliminating the worst forms of Child Labour.

? **Child Labour prohibition.** In general, it is forbidden that children and juveniles perform industrial labor in Ecuador, but small work-activities are allowed in family companies or cultural communities, taking into account that it is no intensive and harmful labor. Prohibition of Using Children in Illicit Activities is addressed under Articles 47, 219, and 220 of the Integral Penal Code. Prohibition of Military Recruitment by Non-state Armed Groups is covered under Article 127 of the Penal Code; Article 57 of the Childhood and Adolescence Code; Article 161 of the Constitution. Government policies are summarized in the Table below.

Child Labor Prohibitions in Ecuador

Policy	Description
National Plan to Eradicate Child Labor (PETI) (2015?2017)	Establishes a strategy to eradicate child labor in Ecuador by 2021 and prevent hazardous child labor in agriculture, manufacturing, construction, and mining. Led by MOL, the plan operates under the National Plan for Good Living. A new 3-year national plan to eradicate child labor is still awaiting executive approval, which is reportedly needed to improve inter-agency coordination. Although implemented by the Ministry of Labor (MOL) as a pilot initiative, PETI operates without a permanent budget guaranteeing a dedicated agency in charge of efforts to combat child labor. As of 2020, MOL and the other agencies involved in eradicating child labor continued to work under this policy.
National Action Plan to Combat Trafficking in Persons (2019?2030)	Aims to prevent, investigate, and impose legal sanctions against human trafficking with a focus on human rights, mobility, and gender, as the majority of victims in Ecuador are women. Launched in December of 2019, it includes U.S.-funded support through the UN Migration Organization (IOM), it is the government's first multi-sectoral plan on trafficking that establishes goals for every public sector institution to address human trafficking. In 2020, several initiatives were carried out under this policy including the Ministry of Social and Economic Inclusion (MIES, by its acronym in Spanish')launching of the National Strategy for Prevention, Care and Protection of People in Situations of Begging, Child Labor, Street Dwellers and Other Rights Violations.
Creation Opportunities Plan (2021?2025)	This Plan aims to support vulnerable populations from birth to advanced age through a series of social welfare programs. It aims to reduce child labor of children ages 5 to 14 to 2.7 percent by 2021; it is led by the Technical Secretariat for the Lifetime Plan. It serves as the highest political and administrative guideline for design and application of public policy in Ecuador consisting of five programmatic pillars: economic, social, security, ecological and institutional transition with emphasis on supporting vulnerable populations, including children in rural areas. Key factors that contributing to child labour in rural areas are low family incomes, few livelihood alternatives, limited access to education, inadequate labor-saving technologies, traditional attitudes towards children?s participation in small holder agriculture and mining, combined with limited labour law enforcement. The COVID-19 pandemic has had devastating effects on rural livelihoods especially in small-holder agriculture and thus increasing the risk of many children falling into child labour.

Source: Worst Forms of Child Labour in Ecuador. US Department of Labour, 2020.

The Internal Tax Regime Law. This law regulates the Internal Revenue Service (SRI) system for the collection of mining royalties, of which, the ASGM sector is considered one that must pay taxes based on what is determined in the Mining Law and other legal instruments. According to the Mining Law, Art. 134, artisanal scale gold mining does not pay royalty to the State, regardless the amount of gold produced in any permitted concession. On the other hand, small scale gold mining needs to pay a 3% royalty to SRI on the gross gold production, as stated by the National Control Agency, but it is the SRI the one in charge of receiving the taxes, royalties and related money tributes.

? **The Central Bank of Ecuador (BCE):** Resolutions 091 of 2015 and 536 of 2019, which determine that the Central Bank of Ecuador has preferential right in the purchase of no monetary gold from the ASM and commercializes it directly or indirectly, through public finances and private agents.

The ?Organic Reformatory Law? refers to the ?Monetary and Financial Organic Code for the Defense of Dollarization?, which was issued on April 2021; it allows the BCE to make international transactions with gold of the national reserves, before that, the BCE had operated only as an off-taking agent, meaning that all gold produced by ASGM was purchased for national reserves. The BCE is now working in the implementation of transparency and compliance standards to reach also international gold markets[84].

? **Extractive Industries Transparency Initiative (EITI)**. In 2019, Ecuador joined EITI, through the Ministry of Energy and Non Renewable Natural Resources, as part of the due diligence; in its request, the GoE indicated that the reformed Mining and Hydrocarbon Law includes in its Article 3 the following subsection: *?The standards of the EITI Initiative will be applicable to mining management, which must be applied by the industry in all phases of the mining operation, including the negotiation, contracting and operation of mining projects*?. According to EITI Ecuador web page, the first EITI Country report will be released on April 2022[85].

? **Indigenous and Tribal Peoples Convention, 1989 (No.169).** Ecuador ratified this Convention in 1998**,** as the only international treaty open for ratification that deals exclusively with the rights of these peoples with provisions on the extractive mining industry. The Convention applies to (a) ?tribal peoples in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs and traditions or by special laws and regulations?; and (b) ?peoples in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country...at the time of the conquest or colonization or the establishment of the present state boundaries and who, irrespective of their legal status, retain some or all of their won social, economic, cultural and political institutions.? Self-identification is regarded as a ?fundamental criterion for determining the groups to which the provisions of this Convention apply? (Art. 1).

There is no international definition of which groups are ?indigenous,? and this has to be decided at the national level. ILO Convention 169 covers both indigenous and tribal peoples, meaning those who live in a way that sets them apart from the national community, whether or not they are descended from ?first inhabitants.? For instance, in several Central American countries, Honduran Garifuna?s (or Surinamese maroons, or other terms) are descendants of escaped African slaves, and thus are not indigenous in the literal sense, but they are tribal and are covered by the Convention including Afro-Ecuadorians.

Associated baseline projects

71. Also related to institutional partnerships, there is a group of GEF-financed projects and other initiatives currently under implementation related to the development challenge this project is also addressing, which could provide some additional support to strengthening this institutional partnership approach in the Ecuador context. Thanks to the involvement of the institutional partners in some of them, under the leadership of the Ministry of Environment, it appears the achievement of the outcomes for this FSP is of mutual benefit. Specifically, this FSP will ensure coordination and count on the capacity built and knowledge gathered from the concurrent projects that are already in progress, as shown in the Table below:

Associated relevant projects and initiatives

Project	Agency	Main relevance for this FSP
Minamata Action Plan	UNDP/Minamata Secretariat	This Plan was prepared in 2019-2020, which includes a detailed inventory of gold production in the country and the use of mercury that occurs in the different areas of the country where artisanal mining exists. In addition, it includes national priorities regarding the execution of activities for the reduction of mercury in ASGM, which go hand in hand with what is proposed by the National Chemical Program (GEF-ID 9203) and with the planetGOLD Global overarching criteria.

The planetGOLD Global Program	GEF/CI	This Program aims to support the participating countries in fulfilling their commitments under the Minamata Convention. Cost-effective knowledge management practices related to formalization, technical solutions access to financing and awareness raising developed by the first group of participating countries will be adapted to the Ecuador context through this FSP. One of the key inputs of this Program to this FSP is ?innovation?, i.e.: the market does not see mercury usage in isolation, but rather as one of many factors that need to be tackled if they are to trade gold as ?ethical?. This FSP will build on the GEF planetGOLD Global Program through the use of an existing knowledge platform, lessoned learned, capacity building materials, databases, proven technologies and market opportunities. Through outputs of Component 4, it also enhances the scope of this global platform and contributes to the evidence base housed there.
Global Knowledge Management and Exchange of Child Project Results Through Networking and Outreach Activities for the GEF GOLD Program	GEF/UNEP	This GEF project, implemented by UNEP, together with the National Resources Defense Council (NRDC) and UNIDO, aims to facilitate the sharing of technical information and engage in outreach to relevant stakeholders to reduce and where feasible eliminate mercury use in ASGM. It has been initially designed to ensure that lessons learned from the individual planetGOLD+ country child projects will be captured and shared between the child projects and other ASGM stakeholders globally. This knowledge sharing platform is assisting countries where ASGM is present to increase capacity to formalize ASGM and approach the process in a holistic manner; provide technical advice with respect to access to finance for the ASGM sector; and increase technical capacity to support mercury reduction efforts through a broad range of guidance material to implement practical projects, which will be consulted during the implementation of the pilot projects of this FSP.

The planetGOLD Global Forum and Annual Meeting	GEF/UNEP	This FSP will be engaged in the planetGOLD Global Forum by participating in a two-yearly learning and sharing event that will facilitate face-to-face meetings (in line with COVID-19 safety protocols) between ASGM experts and practitioners, governments, gold buyers and miners in support of ongoing of experience exchanges and development of global expertise and capacity building on ASGM issues in Ecuador, in order to influence the global ASGM dialogue agenda and policy development. The project will also participate in the annual planetGOLD program meeting, meant to enhance knowledge exchange and cooperation among the planetGOLD country projects.
National Program for the Environmentally Sound and Life-Cycle Management of Chemical Substances ?PNGQ- (GEF-ID 9203)	UNDP / GEF / MAAE / MEM)	This project implements activities to adequately manage a wide variety of Persistent Organic Pollutants (POPs), with a specific component in ASGM. It handles the development of activities focused on the management of POPs and mercury within the implementation framework of the Stockholm and Minamata Conventions, respectively. The efforts for reducing mercury in the ASGM sector are focused mainly on the development of capacity building programs for artisanal and small-scale miners for hard-rock mining that would result in a conceptual change towards ore processing, with an emphasis on shifting to mercury-free technologies; including alternative means of life for the *jancheras*. One important output achieved by the MTR is the development of a financial product developed to increase access to financing by the ASGM sector, implemented by BCE and other financial intermediaries, known as the *?Green Recovery?* financial mechanism.
Environmental Governance Program (EGP)	Government of Sweden/UNDP	This project -implemented by the Swedish Environmental Protection Agency and UNDP- aims to strengthen the governance of the ASGM in Ecuador.
The Amazon Geo-Referenced Socio-Environmental Information Network (RAISG) and Info Amazonia	World Bank	This network, implemented in coordination with eight other Latin American institutions, presented recently the map of illegal mining in six Amazon countries, which identified 2,312 sites with illegal mining activities and 245 non-authorized extraction areas in which gold, diamonds and coltan are exploited in Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela. Due to exist multiple coincidences and coherences between the work to be done by RAISG Project and Planet Gold+ Project, the coordination will be executed through periodical meetings between both teams in order to stablish a working agenda.

Targeted Scenario Analysis (TSA) in the artisanal and small-scale gold mining sector in Ecuador.	UNDP/PAGE	Economic study, carried out during the period 2021, based on evidence that supports decision-making that allows achieving a more sustainable, profitable, traceable model with less impact on ecosystems and the environment in the ASGM sector in Ecuador.
Fairmined Gold	ARM	The Alliance for Responsible Mining (ARM) and Fairtrade International have developed international standards for best ASGM best practices, i.e.: ?Fairmined? and ?Fairtrade Gold?, in a move to raise public awareness on the positive impact of their consumer choices. These standards require communities to be formalized and respect social and environmental minimum requirements. ARM has further developed with Code for Risk Mitigation for ASGM engaging in Formal Trade (CRAFT), which is a code for progressive compliance for ASM producers. The above actions will also serve as guidance to the implementation of the activities foreseen in this FSP.

Source: PPG Team, Dec 2021.

3) The proposed alternative scenario with a brief description of expected outcomes and components of the project;

The proposed alternative scenario

72. The integrated approach proposed for the Ecuador child project fully responds to and reflects the GOLD+ Programme?s Theory of Change (ToC) as follows:

? Enhancing formalization strategies through commodity-specific Jurisdictional Approach (JA)[86];

? Accelerating financial inclusion[87] and creation of responsible supply chains;

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

? Knowledge sharing, learning, and synthesis of experiences; and

? Monitoring and Evaluation.

73. The integrated approach proposed for the Ecuador Child Project fully responds to and reflects the planetGOLD+ Programme?s ToC as can be deduced from the child project?s results framework. All child project components fully align with the programme components, and the child project outputs directly contribute to the PFD and outcomes as described in the project?s results framework. As such the proposed child project proposes suitable and appropriate options to tackle

systematic challenges for countries where the ASGM sector is a more than significant source of mercury pollution and environmental harm. The child project will achieve tangible and desired transformation including GEBs, enhancing environmental management and compliance of the small-scale gold mining sector toward accelerating progress on the Minamata Convention, REDD+, the United Nations Convention on Biological Diversity (CBD)[88], the United Nations Framework Convention on Climate Change (UNFCCC), the Treaty for Amazonian Cooperation (ACTO), and the RAMSAR Convention[89]. As mentioned above, gender mainstreaming will be critical to all project activities, and a Gender Action Plan has been developed to support this.

74. Ecuador has already taken important steps to comply with the commitments related to the implementation of the Minamata Convention, as presented throughout Section II of the ProDoc. Nevertheless, it should be taken into account that there are substantial aspects that need to be explicitly established or complemented, in order to improve the provisions to protect human health and the environment against the use of mercury in the ASGM sector; there are significant challenges that need to be faced to overcome the barriers addressed in the previous section. In this regard, the strategic focus of the project is to support the formalization of the artisanal and small scale gold mining sector, improve access to finance, promote technology transfer, knowledge management and communication.

75. This project will trigger adequate investments to ensure a miner-centric perspective is captured and viewed through a 360 lens of the community. For example, each mine has a story to tell in land-use history, levels of miner organization, stakeholder relations, especially where site invasion or concession sharing conflicts occur, and resource sharing challenges related to water, forests, and other natural assets. To sustainably attract and retain future investments in the ASGM sector, local stakeholders and the investment community of Ecuador can find a point of convergence in capturing the lessons learned to date during the project by exploring, documenting and translating the culture of gold mining in Ecuador into a positive narrative for local development. In this regard, the strategic focus of the project is to support the formalization of the ASGM sector, improve access to finance, and promote technology transfer, knowledge management and communication.

76. The proposed alternative approach seeks to maximize the potential of the ASGM sector in a way that the illegal use of mercury for gold production will be reduced and cease over time. This approach aims at enabling holistic development management and a strong contribution to the reduction in persistent poverty in the ASM territories; both for hard rock and alluvial mining, by strengthening the quality of human capital and increasing the offer of finance instruments to this segment of the economy. Partnering of public institutions, ASGM and other international initiatives -led by UNDP and the GEF- should develop the comparative advantages of each partner and exploit their synergies, in order to achieve sustainability to capitalize on Ecuador?s development.

77. Despite the fact that mercury is prohibited in the ASGM sector, it continues to be a latent problem for the country. The alternative scenario is of great significance for human health, environment and sustainable growth; in order to follow the existing national regulation and international guidelines on chemical substances and hazardous waste management, specifically, to comply in due time with the commitments signed by the GoE under the Minamata Convention ?especially the National Action Plan- and in accordance with a national environmental policy already in place, which guides the intervention principles of this FSP.

78. As such, the proposed child project offers suitable and appropriate options to tackle systematic challenges for countries like Ecuador, where the ASGM sector is a more than significant source of mercury and environmental harm. This FSP, as reflected through the expected outputs and corresponding outcomes will achieve a tangible and desired transformation including a significant global environmental benefit, while contributing to reducing poverty in the ASGM rural territories. This Child Project will explore various options for financial mechanisms to structure lending opportunities suited to the ASGM sector; Ecuador will have the opportunity to customize strategies for certificate of origin and traceability measures through technology-assisted, mercury-free, mineral supply chain.

79. The planetGOLD+ Child Project in Ecuador aims for the reduction of ten (10) metric tons (MT) of mercury over a five-year period, through a holistic, multi-sectoral integrated formalization approach, and increasing access to finance leading to the phase-out of mercury in the ASGM sector. Nevertheless, it should be taken into account that there are substantial aspects that need to be explicitly established, complemented, or in some circumstances even regulated, in order to improve provisions to protect human health and the environment from mercury releases as a result of the intentional use of mercury in the ASGM sector.

80. Environmental co-benefits under the Ecuador Child project will be visible due to the impact that the Project will have in politics strengthening, mainly focused on biodiversity conservation, such as protection of water basins. These actions are related to protect associated environments like bays, creeks, slopes, tropical and subtropical forests, among others. Additionally, from a landscape approach, the project will enhance the protection of aquatic fauna in the areas where will be placed on, through elimination of pollutants associated to mining activities.

81. Gender mainstreaming will be applied as a crosscutting theme for the GOLD+ Ecuador project. To this end, gender analyses has formed part of the socio-economic assessments for this FSP; the roles

women play in various stages of the ASGM process include mining, crushing, processing, concentration, mercury amalgamation (burning), gold trading, mining support services, including cooking, equipment distribution, etc. Through various processes? mercury exposure for women and men occurs at varying levels and severity. Recognizing that mercury poses unique health risks to women due to the gender division of labour and physiological risks, the potential adverse effects of prenatal mercury exposure will be highlighted in community level communications. Women will be strongly encouraged to participate in all training activities, from business skills and financial literacy to resource efficient mining and pollution prevention measures.

82. In order to achieve its outcomes, the project?s strategy will require attention and collaboration (political, financial and technical) with different sectors in a holistic way, in particular, with the small artisanal miners as direct consumers of mercury. The project will provide technical assistance through the process lifecycle to bring about integrated institutional support and coordination of groundbreaking technology interventions. Contribution from the GEF will add value in many ways, yet three elements are highlighted:

i. This UNDP/GEF project will help to assure that mercury-free activities are done in accordance with national and international standards;

ii. the project will play a coordination role among possessors of mercury techniques, contaminated equipment and materials, which will lead to lowering individual disposal costs through an improved coordination among all the stakeholders participating in the current ASGM production chain;

iii. The Theory of Change analysis for this project should be adaptive during implementation due to prevailing circumstances in Ecuador, characterized by the challenging socio-economic environment ASGM operates within, political concerns and security issues in border areas and neighboring countries, hardships due to the COVID-19 pandemic, and the uncertain impacts of climate change.

83. The alternative path will be based on reliable sources and Best Available Technologies/Best Environmental Practices (BAT/BEP) in order to mitigate potential risks due to the reduction and elimination of the use of mercury in the ASGM sector. Alternatives to the business-as-usual scenario will be evaluated and compared in light of the identified risks, and the safest, most feasible alternatives that fit the intended users will be selected. Pilot projects will be undertaken to identify the required technological changes and business models together with social and environmental safeguards in order to mitigate negative impacts, and to establish the necessary control measures; and more challenging critical risks recently recognized amid the coronavirus pandemic. Criteria for the feasible path will be drawn up and aligned with Ecuador?s socio-economic reality and specific needs of the intervened territories, recognizing gender needs and implementing ?inclusively- a gender equality action plan under a participatory approach.

84. This FSP will build upon ongoing efforts of the Government of Ecuador to fulfill its global environmental commitments through the implementation of the Convention of Minamata, in accordance with the *?National Action Plan on ASGM*?. Collectively, GEF-financed enabling activities in the thematic area of Chemicals and Waste provide critical baseline for mercury emissions and releases; and create a road map for the development of appropriate administrative and regulatory frameworks for the pursuit of an alternative development path in the ASGM sector; through nationally appropriate strategies and actions to enhance national capacity for the environmentally sound management of mercury in the ASGM sector.

85. This FSP is aligned with the seven (7) strategic axes of intervention proposed by the NAP for this sector, as presented in the Table below:

Alignment of the FSP with Ecuador ASGM NAP Development Strategy

FSP Outputs	**NAP Strategic Axis**
1.1 and 1.2	Miner formalization/regularization through a zonal (Jurisdictional) approach
1.2, 2.1, 3.1 and 3.2	Reduce discharges and risks related to mercury exposure, and correct worst practices.
1.1 and 1.2	Control the illegal trade and use of mercury
1.1, 2.1 and 2.2	Minimization of illegal mining
1.3	Public health strategy for the provision of services to the population exposed to mercury due to ASGM activities
4.1	Participation and information transfer among all interested parties in the implementation and continuous development of the action plan.
4.2	Strategy pertaining to gender issues and child labor in ASGM.

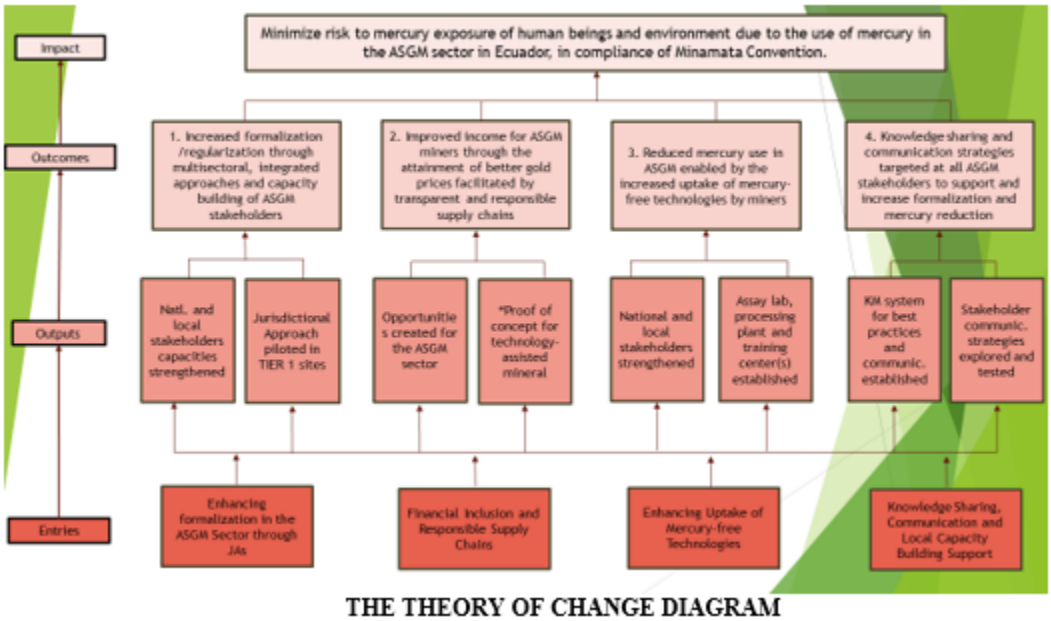
Source: NAP, Table 6, Page 54.

86. Under this policy guidance, two main purposes have emerged. The first is to protect human health and the environment from mercury while strengthening collateral socio-economic and environmental sustainability actions in small artisanal gold mining production, in order to fully comply with the country?s commitments to phase out all use of mercury in this sector over the long term. The second purpose is to trigger innovative actions for alternative technologies in order to manage gold production in this sector in an environmentally sound manner. However, the baseline actions on this front have a significant limitation; the need to ensure ? jointly - the maximum delivery of Global Environmental Benefits with prevention, reduction and elimination because of the high levels of human exposure to these substances while boosting local development in gold mining territories; considering the context of the wide variety of challenges associated with the use of this chemical substance for decades in Ecuador.

87. It is important to note that all these efforts will be implemented through a Jurisdictional Approach (JA), by raising awareness among all interested parties to emphasize that all stakeholders benefit from ecosystem services. Therefore, it is in everyone?s interest to support conservation efforts and mercury-free mining, which implies constant participation of national and sub-national government authorities, communities, private companies, NGOs, academia and others in the implementation of activities.

Theory of Change for this FSP

88. In order to improve the provisions to protect human health and the environment against the use of mercury in the ASGM sector; there are significant challenges that need to be faced to overcome the barriers to address in the causal chain analysis shown in the previous section. As summarized from the Theory of Change analysis, the following Figure shows the alternative pathway and solutions, based on the entries proposed by the project:



THE THEORY OF CHANGE DIAGRAM

The Theory of Change Diagram

89. In turn, the proposed strategy under this FSP will provide economic support to the ASGM sector in Ecuador; and the skills diversification that it provides amongst agrarian workers and rural villages is a fundamentally important feature of the mining territories and one that is providing key support during the economic turbulence as a result of the COVID-19 pandemic.

90. It is important to note that the overall strategy of this FSP and the related activities to be executed under each output will be complementary and coordinated ?through the Ministry of the Environment, Water and Ecological Transition- with the activities to be carried out under Component 3[90] of the ongoing UNDP/GEF Project *?National Program for the Environmentally Sound and Life-Cycle Management of Chemical Substances (GEF-ID 9203)*?, in order to avoid double dipping during the execution of these two GEF-funded projects. The Project Management Unit (PMU) will be responsible for guaranteeing this dynamics as well as ensuring the compliance of the agreeable and separate key indicators for this FSP.

91. The following Table illustrates the coherence between the two projects in a way to create synergism and avoid overlapping during project implementation:

Synergism between FSP GEF-ID 9203 and Child Project GEF-ID10569

SYNERGISM BETWEEN FSP GEF-ID 9203 AND CHILD PROJECT GEF-ID10569

Project	GEB	ASGM Governance	Financial Approach	Pilot Interventions	Training Materials
FSP GEF-ID 9203	2 MT	Setting up the Environmental Quality Committee.	Financial mechanism, i.e. the "*Green Recovery*", created with the Bank of Ecuador to support hard-rock MEs.	Only hard-rock mining focused on: • Portovelo • Ponce Enriquez • Chinapintza	Design of training materials to support hard-rock mining.
Child Project GEF-ID 10569	10 MT	Strengthening the role of the Environmental Quality Committee.	The "*Green Recovery*" financial mechanism strengthened and made operational with the Bank of Ecuador to support hard-rock and alluvial MEs.	Hard-rock and alluvial mining focused on mining territories in TIER 1 sites[91]: • San Carlos de las Minas (Zamora Chinchipe) • La Maná (Cotopaxi) • Nambija (Zamora Chinchipe) • Santa Rosa (El Oro)	Strengthen training materials for hard-rock and alluvial, complemented with planetGOLD information outreach platform, NRDC and CI knowledge management approaches.

Source: PPG, Dec 2021.

The Project Approach

92. The Project?s vision is to proceed with direct interventions on the immediate, underlying and root causes previously identified; recognizing the multi-dimensional impacts of artisanal and small-scale gold mining on the environment, health and poverty. The objective of this FSP is to minimize risks to mercury exposure to human beings and the environment due to the use of mercury in the ASGM sector in compliance with the Minamata Convention. This impact is clearly aligned with the UNMSDF/CPD Outcome 2: *?By 2022, Ecuador has strengthened its normative, political and institutional frameworks to improve sustainable, participatory and gender-focused natural resource management, promoting more responsible production and consumption patterns, in a context of climate change?*. Additionally, this FSP is aligned with UNDP Strategic Plan Output 2.1: *?Instruments and/or mechanisms generated or implemented nationally or locally to sustainably manage natural resources, environmental pollution, mainstream climate-change adaptation and mitigation, and transition to more sustainable productive systems 2.1.1?*.

93. For the GEF and UNDP, it is of extreme importance to assist Ecuador in setting an alternative path to overcome barriers and accomplish the development challenge while achieving significant Global Environmental Benefits. In this regard, the Project?s vision is to achieve direct interventions on the immediate, underlying and root causes identified above. For this purpose, the project?s strategy is implemented, as accepted by the GEF and UNDP, through five project components, leading to specific outcomes and outputs as stated below:

Component 1. Enhacing Formalization in the ASGM Sector

94. Ecuador is well positioned to support the systems transformation designed under the planetGOLD+ programme, which plans to optimize formalization through a holistic, multi-sectoral and Jurisdictional Approach (JA).

95. Key stakeholders, at national and community levels, will have their capacity strengthened through the implementation of a technical training program ?taking into account the gender dimension-, consolidation of the regulatory framework to advance adequate management and disposal of at least ten (10) tons of mercury currently used by the ASGM sector during the implementation of the FSP, in order to comply with the obligations under the Minamata Convention, and the need to

develop long-term relationships with Mining Entities, as key elements of the successful FSP?s exit strategy.

96. Outcome 1. Component 1 would directly address the immediate cause ?*Limited enforcement of the existing regulations for the sound environmental management of mercury*?; as indicated in Figure 7: Theory of Change Diagram.

97. The area of focus of Component 1 is to enable an ASGM formalization environment through multisectoral, holistic and integrated approaches that recognize the sector?s development potential, as such, commodity-specific Jurisdictional Approaches (JAs) to be piloted in TIER 1 pilot sites[92]. A fundamental lesson learned is that ASGM formalization is a multidimensional and multi-actor process that requires the integration of policies, strong coordination between institutions, and in some areas harmonization of regional policies between bordering countries, to ensure that every key stakeholder (i.e.: policy makers/regulators/miners/financiers) has sufficient capacity to meet the withdrawal of mercury for artisanal gold miners in Ecuador.

98. This project will support Ecuador?s policy makers with policy and institutional planning to address the challenge of a ?weak formalization enabling environment? through supporting frameworks that have a multisectoral, holistic and integrated approach in order to comply with its obligations under the Minamata Convention on mercury use reductions in the ASGM sector. In this regard, enhancement and full integration of gender-supportive policies for women miners is of key significance.

99. It is proposed that Jurisdictional Approach pilots will be used as a framework for structuring sub-national interventions with the following elements:

- ? Attempt to be holistic and integrated in land-use planning and allocation for ASGM activities;
- ? Consider coexistence of multiple land-use sectors, including agriculture, mining and forestry;
- ? Decentralize the existing governance framework of a specific jurisdiction (Canton), both at the national and sub-national levels, building upon the work already started by the EGP regarding formalization;
- ? Establish, inclusive multi-stakeholder platforms with national and sub-national stakeholders to codesign, validate and support implementation of JA pilots in Tier 1 sites;

? Attempt to ensure benefits for a broad group of stakeholders.

100. According to the Mining Law and related regulations, the following Table establishes the limit of mining production:

Range of ASGM Mining Production and Maximum Concession Areas

Mining Regime	Underground metallic mining (Ton /day)	Open pit metallic mining (Ton/day)	Alluvial metallic mining (m3/day)
Artisanal	10	Not specified	120
Small scale	300	1,000	1,500
Medium scale	301-1,000	1,000 ? 2,000	1,501- 3,000
Large scale	+1,000	+2,000	+ 3,000
Maximum Concession Areas			
Mining Regime	Maximum area per concession Underground (Ha)	Maximum area per concession ?Open Pit (Ha)-	
Artisanal	4	6	
Small scale	300	300	
Medium scale	5,000	5,000	
Large scale	5,000	5,000	

Source: PPG, 2022

101. Despite commitment and political will to reducing, and where feasible, eliminating mercury use, achieving this will be a major challenge without inclusive finance and investing in human capital (skills, knowledge abilities) of miners and their representative organizations to achieve legalization and facilitate the process of formalization, of which financial inclusion and business innovation are critical elements.

102. To monitor the compliance of the expected results under Component 1, the following indicators have been proposed and will be validated by the different participatory approaches to be carried out during the PPG:

? Number of miners supported in their formalization process (disaggregated by gender).

(This FSP indicator is in accordance with Indicator 2.1.1 of the planetGOLD Programme.)

? Number of policies, policy instruments, or regulatory frameworks influenced (at national or sub-national level) to improve ASGM formalization.

(This FSP indicator is in accordance with Indicator 2.1.2 of the planetGOLD Programme.)

Component 2. <u>Access to Finance enhanced by Financial Inclusion and Responsible Supply Chains</u>

103. Outcome 2. Component 2 would address the immediate cause *?Need to enhance innovative investment opportunities into the ASGM sector*?; as indicated in the Figure 7 Theory of Change Diagram above.

104. For miners, one of the most significant and pernicious barriers to the development of a responsible ASGM sector, is access to finance. Finance entities do not commonly provide loans to the ASGM sector as the risks are often perceived too high and such entities do not have the expertise and experience to review ASGM loan applications or to develop financial products that are tailored to the ASGM sector. On the other hand, miners? organizations do not have much experience in record keeping and reporting (e.g. resource exploration and estimation, production tracking, economic modeling, and full-life cycle mine planning) or the preparation of loan applications, which can increase their access to conventional and new financing options.

105. The area of focus of Component 2 is to extend access of ASGM-appropriate, affordable and timely financial services to enable responsible gold supply chains. Component 2 follows a two-avenue strategic approach. In one way, it will launch a set of activities to enhance education and collaboration with key potential financiers to adopt financial products suited to the ASGM sector, integrating several actors in the investment community, while tailoring services and products suited for the formal ASGM sector. On the other way, it will assist miners with capacity building to access funds, including training mining groups on business and operations management with tools to not only access the finance but also successfully execute on their investment plans to create a sustainable and more profitable mining operations. Both avenues are linked, and their enhancement are key to the creation of a sustainable ASGM sector.

106. Inter-institutional work is required to reduce as much as possible the access barriers of miners to financial products by finding instruments that allow miners to operate while environmental licenses are

being approved, among others, starting with those miners to whom this FSP is supporting to formalize. These products must be accompanied by technical assistance to miners in matters of mercury-free mining and sustainable management of natural resources; they also need to strengthen their capacities with financial education that allows them to have business plans that can be presented when they apply for credit to commercial banks. Likewise, training in financial education is of vital importance for the female ?*jancheras*? miners so that they can conceive and generate a business plan for ventures outside the mines and that strengthen their economic autonomy[93].

107. It is important to note that a financial instrument was developed under UNDP/GEF Project *?National Program for the Environmentally Sound and Life-Cycle Management of Chemical Substances?* jointly with the BCE and other private financing entities, in order to grant loans to formalized or legal ASGM[94]; this instrument is intended as an incentive for informal ASGMs to associate and formalize. This child project will build upon this effort and enhance the scope of this innovative funding mechanism during its implementation.

108. To monitor the compliance of the expected results under Component 2, the following indicators have been proposed:

? Loans/investments for the purchase of mercury-free processing equipment/investments are accessible to legitimate ASGM miners.

? Amount of funds (in USD) made available to ASGM through financial mechanisms (disaggregated by gender and indigenous people).

(This FSP indicator is in accordance with Indicators 3.2.1 and 4.1.1 of the planetGOLD Programme.)

Component 3. <u>Enhancing Uptake of Mercury-free Technologies</u>

109. Outcome 3. for Component 3 would address the immediate cause *?Essential need to develop alternative, cost-efficient, mercury-free technologies?*; as indicated in Figure 7 ?Theory of Change Diagram? above. It is important to note that this Component will be linked to the ?ore selling strategy? proposed under the National Chemicals Management Program (PNGQ) by building upon the work already started and improving the boundaries of its ongoing operations.

110. The area of focus of Component 3 is the creation of supportive ASGM business models for TIER 1 sites. These models will be applicable and adapted to different levels of ASGM mining entities (MEs) ?for both, underground and alluvial gold mining- financial and technical capacity to achieve high gold recoveries through safe, resource efficient practices. Under a holistic approach, the development of a model operation includes prospecting, environmental licenses, relevant registration, laboratory analysis of ore, development of work flows, design of processing equipment train, and financing of equipment.

111. Under Component 3 *?Enhancing uptake of Mercury-free technologies?,* the alternative path will be based on reliable sources in order to mitigate potential risks. Alternatives to the business-as-usual practices will be evaluated and compared in light of the identified risks, and the safest, most feasible alternatives that fit the intended users will be selected. Pilot projects will be undertaken to identify the required technological approach as well as environmental and health impacts, to establish necessary control measures; and more challenging, critical risks identified amid the coronavirus (COVID-19) pandemic. The Geological and Energy National Research Institute (IIGE) and academic-oriented centers will be involved in this process as responsible parties. Criteria for the feasible path will be drawn up and aligned with Ecuador?s specific needs, recognizing gender is a cross cutting concern through a Gender Action Plan (Annex 10) of ProDoc.

112. Through this Component, this FSP aims to establish closer interaction and collaboration with the miners who are involved in the use of mercury for gold production. Coordination mechanisms and the implementation of commercially-driven pilot experiences will foster alternative investments; by establishing incentives for the chosen pilot locations and by enhancing dialogue and collaboration along the gold production chain. The ultimate objective of the coordination mechanism will be to balance benefits for each of the participating stakeholders in the mercury elimination chain to deliver maximum gold recovery and transition to mercury free processes.

113. To monitor the compliance of the expected results under Component 3, the following indicators are defined:

? Number of miners trained on mercury-free processes (disaggregated by gender).

(This FSP indicator is in accordance with Indicator 1.1.3 of the planetGOLD Programme.)

? Number of pilot projects implemented and operationalized in target jurisdictions.

? Amount of responsible gold produced without mercury (in kilograms)

Component 4. Knowledge Sharing, Communication and Local Capacity Building Support

114. The area of focus of Component 4 provides support for capacity building across the different components, knowledge sharing and communication with an increased focus impact at the miner level, particularly on the topics of formalization, market access and technology transfer to adopt mercury-free recovery technologies. It includes the design of an awareness raising campaign and information strategy and a programmatic monitoring of FSP global indicators (specifically, GEF Core Indicators 9 and 11), together with dissemination of on-going activities to ensure successful project implementation in accordance with UNDP and GEF procedures. Awareness raising and gender sensitive training materials will be developed and made widely available in Spanish and relevant indigenous languages, as needed.

115. Under this component the project will capture lessons-learned, monitor project?s activities and provide the required feedback. Engagement with government officials, regulators, miners and their families, mining communities, civil society, foreign mining companies, and international partners and/or downstream actors, especially the private sector, will be participatory to generate various forms of media (i.e., short films, animations, infographics, etc.).

116. The child project in Ecuador will be closely aligned with the global coordination, knowledge management and outreach project of the planetGOLD Global Program. Close coordination and exchange of information and sharing of best practices will be ensured with the GEF planetGOLD+ project and with the GEF planetGOLD projects in Colombia, Peru, Bolivia, Suriname, and Honduras. This will foster a community of practice among the participating countries in this region and will allow for the sharing of successful models with a wide range of global actors and stakeholders. This child project will participate actively in international meetings and events, such as the Global Forum (organized by the global project), a two-yearly learning and sharing event that will facilitate face-to-face meetings (in line with COVID safety protocols) between ASGM experts and practitioners, governments, gold buyers and miners to support ongoing exchange of experiences, as well as development of global expertise and capacity building on ASGM issues and networking and learning, to influence the global ASGM dialogue agenda and policy development.

117. To monitor the compliance of the expected results under Component 4, the following indicators are defined:

? Number of people reached with awareness raising materials, by mode of communication (e.g., online, in-person, via SMS, WhatsApp, etc.) disaggregated by gender (i.e., sex, age, indigenous status).

(This FSP indicator is in accordance with Indicator 5.1.1 of the planetGOLD Programme).

Component 5. Monitoring and Evaluation

118. The project results will be monitored annually and evaluated periodically during project implementation, through the corresponding indicators and mid-term and end-of-project targets according to the project results framework. If baseline data for some of the results indicators are not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Section VII of the Project Document details the roles, responsibilities, and frequency of monitoring project results.

119. Also, associated to Component 5, close coordination will be ensured with the GEF planetGOLD+ Global Programme and with the GEF planetGOLD child projects in Colombia, Peru, Bolivia, Suriname, and Honduras for overall monitoring and evaluation.

120. To monitor the compliance of the expected results under Component 5, the following indicators are defined:

? Percentage of project expenditure spent on the FSP planned activities.

3.4 Key Assumptions

121. The project?s approach is based on key assumptions that will be critical for achieving the expected changes as per the Theory of Change analysis[95]:

? Decision makers are willing to receive training on improved environmental management of ASGM and the GoE commits to making the adequate human resources available for the duration of the project and beyond.

? When formalizing mining activities, continuous efforts will be made to integrate consensus-based decision making with informed consultation of local mining communities and project stakeholders. An agreement should be reached regarding land-use with other rural women and men users.

? Stakeholders? willingness to participate and appropriate capacity building instruments designed.

? Key success features of Jurisdictional Approach (JA) such as political will, land use spatial mapping, multi-stakeholder processes and pro-active role of the private sector and local communities.

? A collaborative approach to policy making that is sustained and continuously improves, integrating gender related issues across the implementation of the proposed activities.

? Implementation of the Gender Action Plan (Annex 10) will help strengthen gender equality and empower women by improving their working conditions when directly participating in the activities related to the environmentally sound management of mercury-free technologies and best practices with special attention to the potentially disruptive nature of technology transfer for women in mining.

? The selection of the mercury-free technologies considers BAT/BET aspects and affordability (operation costs, maintenance and waste disposal) as well as the compliance in due time of all the regulations ?at national and local levels- for their proper operation.

? This FSP seeks to promote adoption of technologies that are accessible (financially, geographically and culturally) and locally procured where possible.

? The proposed alternative offers efficient recovery techniques (resulting in improved financial returns), therefore it will level off the costs associated with proposed alternative solutions.

? There are economic incentives for the centralized processing plants to make the necessary investments and to pay a competitive and fair price to miners for their gold. This would be achieved, among other things, through a strengthened program of gold purchases from ASGM by the BCE and other committed buyers who pay fair gold prices.

? Impacts for the Ecuador economy amid the coronavirus situation (COVID-19), especially in rural areas and ASGM mining territories due to changes in conditions of beneficiaries, will be timely mitigated to guarantee successful completion of the proposed activities and achievement of outcomes.

? A proactive engagement of the PMU with the ASGM miners on the ground will be sustained through FSP implementation in order to ensure that the different targeted mining groups and the local mining communities are engaged, well-trained and willing to adopt the proposed alternative, mercury-free mining techniques and associated activities, such as understanding chemical analysis reports.

? Success in the implementation of the co-financed planned activities, therefore, mining communities can easily access services.

? Effective synergies and communication created between public authorities at national and sub-national levels and ASGM entities will enable a favorable environment for multi-stakeholder dialogue.

? Existing mercury traders, both, national and international, who are profiting from the illegal trade and retail commerce of mercury in Ecuador, will not stand in the way of the project?s success by any means.

Expected outcomes and components of the project

122. The project has five substantive components aligned with five main outcomes and nine outputs, embracing the *institutional*, *regulatory*, *technological* and *information-outreach* dimensions needed to reach the proposed structural change defined in the Theory of Change analysis, in order to strengthen the national capacity in Ecuador to the environmentally sound management of mercury in the ASGM

sector within the framework of national and international guidelines, mainly under the guidance of the Minamata Convention.

Expected Results

Component 1. Enhancing formalization in the ASGM sector

123. This component builds on the planetGOLD Program component *?policy and institutional frameworks?*. Under this guidance, this project will assist Ecuador with the policy and institutional strengthening to address the challenge of a ?weak formalization enabling environment? through supporting frameworks that have a multisectoral, holistic and integrated approach in order to comply with its obligations under the Minamata Convention on mercury use reductions in the ASGM sector. It is proposed that the Jurisdictional Approaches (JA) will be used as a framework for structuring interventions in a holistic multisectoral and integrated way. This approach will also support improved contribution to the SDGs and bring up significant co-benefits.

124. Outputs of this component will be underpinned by a Strategic Environmental and Social Assessment (SESA) principles and its approach. It is important to note that a SESA process will be applied to the Jurisdictional Approach to advance formalization in those key ASGM zones, focusing on the territories where TIER 1 pilot projects will be implemented to ensure affected people are engaged and that downstream impacts of its implementation have been taken into account and safeguard measures will be developed; considering also social issues such as labour and child labour risks.

125. Outcome 1 of Component 1 is: *?Increased formalization through multisectoral, integrated approaches and capacity building of ASGM*

stakeholders[96]?.

The proposed outputs under this outcome seek to encourage miners related to gold ASGM activities to formalize their activities, to develop an ASGM governance process that is bringing together the interests of different stakeholders, policy makers, rural authorities, community leaders, miners, potential financiers, international NGOs, academics and by promoting technical and business-like partnerships with the private sector.

This outcome proposes capacity-building through the different levels of organizations to enable technical assistance in the formalization process, taking into account a territorial outlook where special attention is paid to identified ASGM sites and to the specific long-term needs of each territory, such as improve the identification of the sector and its practices, thus facilitating its recognition and regulation; make the formalization process less bureaucratic; promote innovative ways to educate and organize ASM actors; and provide long-term technical assistance[97]. Formalization propositions will be aligned with the NAP strategy to ensure they are built from stakeholders? propositions.

126. <u>Output 1.1</u>: *?National and local stakeholders? capacity strengthened to assess, plan, and implement sustainable mercury-free interventions in ASGM territories?.*

This output aims to strengthen the policy and regulatory framework that will make the formalization process (application process for local concessions, the issuing of environmental licenses and other permits) user-friendly, more efficient, and more affordable so that they are accessible to miners and well-functioning ASGM groups within in a reasonable time frame and at reasonable cost.

127. The following incremental activities will be carried out to achieve Output 1.1:

i. Conducting an overall review and validation of national policies, plans and regulations to streamline ASGM formalization.

Strengthening the policy and regulatory framework will include the following actions:

? Conduct an assessment of policies, plans, regulations, standards and measures in place pertaining to the formalization of ASGM and mercury phase-out in the ASGM sector.

The assessment will identify remaining needs and gaps, overlaps and ambiguities relevant for the ASGM sector, like needs for gender mainstreaming, land tenure, and illegal trading; subsequently and through a Strategic Environmental and Social Assessment process, it will provide a list of recommendations and actions to address these under the scope of this FSP, including the participation of key national institutions as needed. This action follows the specific Strategy 2.5.1 ?Miner formalization/regularization?, specific objective a1[98] as well as Strategy 2.5.3 ?Strategy for the control of illegal trade and use of mercury?, specific objective j[99], of the NAP.

? Defining specific categories of ASGM miners based on territorial mining locations.

Within national regulations and based on the geological, social and entrepreneurial features of ASGM mining locations, this activity will classify the different levels of ASM for both, hard-rock and alluvial ASGM mining, in order to create incentives for improved organization and permitting. This action follows the specific objective a3[100] of the NAP[101].

? Strengthening the Environmental Quality Committee.

This project must act in full coordination with the various actors in the mining sector, coming from civil society, private and public companies, international organizations, communities and, of course,

state institutions. In order to achieve a well-coordinated and participatory process, the project plans to strengthen the Environmental Quality Committee, an inter-institutional mechanism created by the National Chemicals Management Program. This committee has different ?roundtables?, related to various topics. The project will concentrate on the ASGM roundtable, to strengthen it and make this space an inclusive mining governance tool; in accordance with the specific Strategy 2.5.1 ?Miner formalization/regularization? of the NAP.

ii. Carrying out a formalization diagnostic.

Due to geographic and geologic differences in mine production systems, scale, and stakeholder relationships; target ASGM communities will be assessed under the project by a ?formalization diagnostic?. This diagnostic will be based on the planetGOLD criteria[102] and the CRAFT Code[103], developed and implemented to assess the potential of Tier 1 and Tier 2 ASGM communities in select mining jurisdictions; in line with Conservation International (CI) criteria, Ecuador can improve their international image by proactively adopting measures of the CRAFT Code. This Code is a tool adapted by the Alliance for Responsible Mining (ARM) and Resolve Intl. to promote a flexible market entry standard based on OECD due diligence guidelines[104]. This action follows the specific Strategy 2.5.1 ?Miner formalization/regularization?, specific objective b2[105].

iii. Capacity building for public authorities and Mining Entities (MEs)[106] to positively manage community relations.

As per the NAP[107], this activity will design and implement a technical assistance program for miners involved in artisanal and small-scale mining, including ?*janchera?* activities to encourage their involvement as a vulnerable group. The program will encompass different regulatory, procedural and technical-productive aspects, new technologies, environmental, and work safety and workplace health issues. The program will include all key entities, which will coordinate efforts to define their competencies clearly and to develop a consensual technical assistance program[108], as well as the establishment of agreements with private educational institutions or research centers with the objective of creating technical assistance programs or services and training for the ASGM community, endorsed by Technical Secretariat of the National Qualifications System (SETEC), the Vice Ministry of Mines and IIGE[109] to scale Hg-free technology deployment.

iv. Preparing and validating methodologies to comply with gender, social and environmental protocols for ASGM miners.

As per the NAP, this activity responds to the need to highlight the benefits of formalization for the artisanal and small-scale miner, which include productive improvements in the legal, social, environmental and economic fields.

Among others, this approach will include the following actions:

? Carrying out a Strategic Environmental and Social Assessment (SESA).

A SESA process will be applied to JA pilots to ensure that downstream impacts of its implementation have been taken into account and safeguard measures are developed. The project will provide means for local communities and affected populations, including marginalized communities (rural mining women) and indigenous peoples, to raise concerns where activities may adversely impact them and seek ways to mitigate these impacts; it could result in the relocation of the proposed mercury-free processing plants, if needed. This process will ensure that all potential environmental and social impacts will be taken into account. Sequencing of site verification, the SESA (Step 1), site-specific ESIAs (Step 2) and site specific ESMPs is outlined in Figure 8 below.

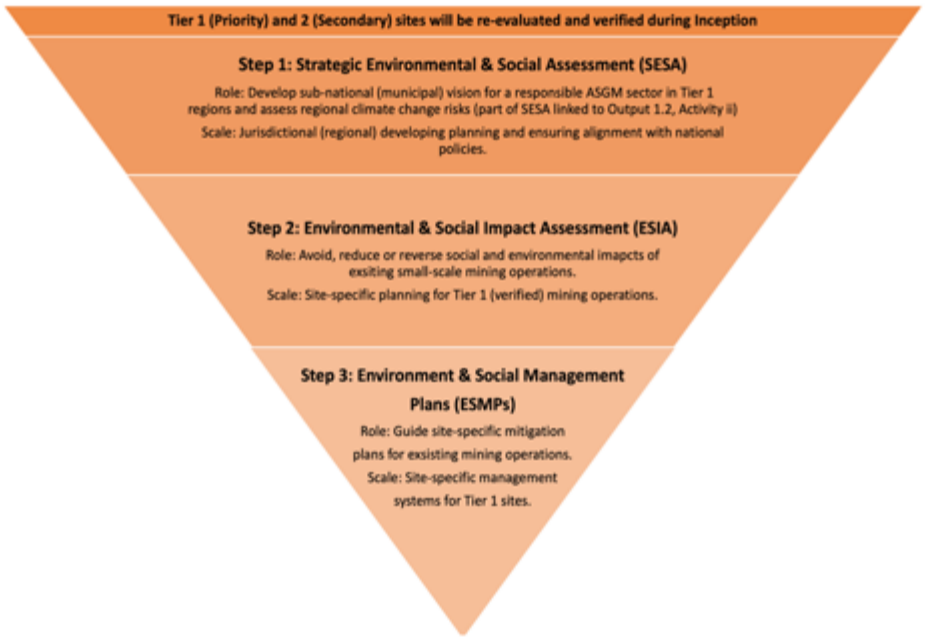


Illustration of Tier 1 (priority) and Tier 2 (secondary) site verification.Note: This approach will be triggered during project inception (first year) and sequencing of the SESA, site-specific ESIAs an corresponding site-level ESMPs during FSP implementation.

? Strengthening Free, Prior and Informed Consent (FPIC).

This action will strengthen the national capacities to increase its capacity, including development of FPIC protocol instruments and an understanding of gender in FPIC processes, regarding activities affecting lands, territories and resources or impacting on cultural identity and to freely give or withhold informed consent. As stated in the ESMF, FPIC will be applied in decision making processes concerning habitats and living areas of marginalized indigenous peoples and Afro-Ecuadorian minority groups.

? Carrying out an site-specific Environmental and Social Impact Assessment (ESIA) for each pilot demonstrations to be carried out under Component 3.

As stated in Output 3.2, Activity i., an ESIA process will be conducted prior to commencement of the field project activities in Tier 1 sites, guaranteeing that no activities may cause adverse social and environmental impacts are to proceed until assessments are completed and appropriate mitigation and management measures are in place; however, implementation and monitoring of identified risk management and mitigation measures is required throughout the project life-cycle. This is activity will occur after site verification and follow Strategic Environmental and Social Assessment (SESA), includes a climate change risk assessment (Output 1.2., Activity ii).

? Supporting community health and safety (mercury-free) through a community-based educational program.

Following Public Health Approaches for the provision of services to the population exposed to mercury due to ASGM activities, a national program of this kind will integrate the externalities associated with the use of mercury to the different benefit processes using health costs as a reference for the magnitude of this impact. This will generate a decrease in mercury discharges from amalgamation processes, which in turn will reduce all the effects caused by mercury contamination in the surrounding ecosystem and in the affected basins: accumulation of heavy metals in aquatic fauna; damage to human health due to ingestion of contaminated species and inhalation of gases in the production process; loss of quality in water sources and others[110].

Since there is a strong need to connect health and social workers in tackling human health monitoring or community health issues, a hands-on Health Education Programme (HEP) will provide health care public workers and teachers ?at the community level- with the capacity to assess cases of mercury poisoning in a timely fashion and to effectively manage them, by building proper community preventive health education and neatly supplemented efforts to raise awareness of the health consequences of mercury use and exposure, and mobilizing the community ?through teachers and students- in order to lead into a more sustained impact, in close coordination of the Ministry of Public Health[111].

? Conducting livelihoods assessments and providing alternative support services for women, men, youth and vulnerable people.

This activity will actively engage national and sub-national government institutions to participate in miner-government joint training with the aim to education, professionalize and formalize Ecuador?s ASGM sector as an emerging economy, pandemic constraints and driver of local economic growth. Simplified modules of the CRAFT Code will be introduced as field-based mitigation measures for social, technical and economic risks observed in different mining scenarios select from Tier 1 sites. The Knowledge, Skills and Attitude (KSA) approach to institutional strengthening will engage government and MEs aiming to build relations as well as enhance awareness, ability and attitudes of government as extension service providers to sustain responsible, profitable gold mining operations, in order to improve miners? relations and build trust with public authorities.

v. Building up/improving an official ASGM Cadastre based on National priorities.

Reopening of the Mining Cadaster, mainly aligned with the project goal of formalization for ASGM operators, is essential to invigorate the ASGM regularization processes, it will be necessary to put the mining cadastre, which is closed since 2018, back into operation. The Vice Minister of Mining, as the national authority for mining affairs, together with the Mining Regulatory and Control Agency, have planned to operationalize the mining cadastre, including gold ASGM activities, provided all necessary reforms have been implemented for continuing the formalization and regularization processes. The mining cadastre will allow involved actors to differentiate permits and registries at a national level between small-scale mining and artisanal mining, and through this data undertake a process of review and reform of public policies with the aim of boosting the sector in compliance with the current legislation and under a coherent environmental, social and sanitary approach[112]. This action follows the specific Strategy 2.5.2 ?Miner formalization/regularization?, specific objective a2, of the NAP[113].

128. **Output 1.2**: ***?Jurisdictional Approach (JA) piloted to optimize land allocation through ASM zones in Tier 1 sites?.***

Under this output, and adapted to the Ecuador context, commodity-specific Jurisdictional Approach (JA) pilots will be piloted to reduce mercury use across selected jurisdictions (ASGM mining territories)[114]. This will involve engaging different actors, such as sub-national government authorities, communities, private sector, financiers, and downstream actors in deploying mercury-free approaches. If needed, the multisector integrated approach of the project will perform climate change vulnerability assessments and implement climate adaptation strategies as an emerging concern for the mining industry in Ecuador. Risk 4 of the SESP *?Project inadvertently perpetuates or increases risk of sexual violence and harassment against women?* will be investigated in the Strategic Environmental and Social Assessment (SESA) for upstream activities. In addition, as per the SESP, site-specific Environmental and Social Impact Assessment (ESIA) will be conducted prior to commencement of project activities.

The SESA will help to bring to light:

? Climate change vulnerabilities and risks at a sub-national (Canton) scale in advance of site-specific ESIAs and corresponding management plans for geographically explicit mining concessions[115].

? Any unexpected risks while the comprehensive Stakeholder Engagement Plan and Gender Strategy and Action Plan, which were prepared during the PPG, provide any interested miners and workers with the opportunity to participate in the project without discrimination.

? Selection of the location of the proposed processing plant and other facilities will be undertaken taking into account proximity to protected areas and residences as well as cultural heritage sites and indigenous peoples lands to ensure that they will not be adversely impacted.

? Jurisdictional (Canton level) risks related to climate-induced natural hazards and/or extreme weather events will inform the potential scope of wastewater discharge risks from project activities including mining operations and processing plants in relation to landscape elements and trends. Detailed pollution prevention and management will be defined in site-specific ESIAs and ESMPs before operations commence to avoid uncontrolled releases of suspended solids, chemicals and fuel residues, and achieve acceptable limits in line with national or international standards.

? Evaluate the impact of suspended solids, chemicals and fuel residues (as applicable) on other water users.

? Monitor contamination of waste water with pollutants to ensure that water quality does not represent an imminent risk for the health and the livelihoods of other water users or a serious ecosystem risk.

129. To promote commodity-specific JA pilots the project will also work on increasing the technical knowledge of miners and raising awareness regarding the risks of using hazardous chemical substances, which, hand in hand with new technologies, opportunities for adequate financing and incentives will create a generation of miners committed to the environment, who understand that conservation is beneficial for all actors in the mining sector. All the work will also be carried out using the JA to involve all stakeholders, which will ultimately improve the governance of the ASGM sector. Since the Environmental Governance Programme (EGP) with the objective to strengthen the governance of the ASGM in Ecuador will be taking place simultaneously, it will be vital to coordinate governance efforts with such project. Jurisdictional Approach to ASGM formalization for this FSP will be also supported by the planetGOLD Global Program to enhance a common vision for a clean global supply of gold from small-scale miners. It is important to reinforce that all country project activities will ensure that all planetGOLD beneficiary Mining Entities (MEs) conform to the planetGOLD Criteria for Environmentally and Socially Responsible Operations.

130. The following incremental activities will be carried out to achieve Output 1.2:

i. Implementing a Jurisdictional Approach (JA) to advance formalization in key ASGM territories.

Piloting of JAs in ASGM settings will be proposed in Ecuador based on a ?phased approach? that allows the GoE to characterize different mining areas based on their potential to produce responsible, mercury-free gold and align promising territories with site criteria promoted by Conservation International (CI), as an implementing GEF agency[116]. It is expected that this activity will allow the country to create an approach to assessing a formalization diagnostic tool, identify the challenges that may exist in implementing this approach with the ASGM sector, and customize its application beyond the lifetime of the project. This approach includes needs of environmental permits of ASGM in order to comply with Environmental Management Plans. This action follows the specific Strategy 2.5.1 ?Miner formalization/regularization?, specific objective[117].

Prioritized areas for this project are those with the highest use of mercury according to the information registered in the Minamata NAP; areas where the previous National Chemicals Management Program (financed by the GEF) is already actively working have been excluded. With these criteria, the project aims to benefit, at least 26,896 miners[118], directly in the mining areas as per the following Table.

Proposed TIER 1 (priority) and TIER 2 (secondary) intervention sites in Ecuador

Criteria	**Proposed GOLD+ Intervention Site**					
Priority	**Tier 1 sites**				**Tier 2 sites**	
Province	Cotopaxi	El Oro	Zamora Chinchipe		Napo	Loja
Canton	La Man?	Santa Rosa	Nambija	San Carlos de las Minas	Carlos Arosemena Tola	Hualtaco
Parish Size (Hectares)	26,814	82,180	n/a	334,798	50,100	57,922
Type(s) of deposit	Alluvial	Alluvial	Hardrock	Alluvial	Alluvial	Hardrock
Annual Au production (kg/year)	25091	ND	791.25	78.11	ND	ND
ASGM Population	84	ND	1500	56	ND	ND
Protected Area (PA)	No	ND	No	No	No	No
Indigenous group(s)	No	ND	No	No	No	No

Rural land-uses	Banana, Oil Palm, Livestock	Banana	Mandioca, Homegardens	Mandioca, Homegardens	Mandioca, Homegardens	Forestry
ASM hotspot (parish)	Plant (1-150K)	ND	Plant (1-150K)	Plant (1-150K)	Plant (1-150K)	Plant (200K)

Source: PPG, Jan. 2022

Average Hg:Au ratios for different sites based on alluvial or hardrock deposits is required. If possible, average gold pricing (as a percentage of LBMA) for each site is desirable, alongside interview data with miners about changes in daily incomes and distribution among different supply chain actors. Once this information is collected from Tier 1 sites, a more detailed visual of the supply chain can be created.

ii. Carrying out a climate change risk assessment

As part of the holistic multisector integrated approach, the FSP will perform climate change vulnerability assessments and implement climate adaptation strategies, as part of the SESA at the canton (Municipal) level, as described in Annex 9 (EMSF)[119]. Due to geographic and topographic features, climate variability in Ecuador is closely related with the El Ni?o Southern Oscillation (ENSO) with increased rainfall and floods in the coast and Western Andes, and droughts in the Northern and Eastern areas. In the medium to long-term, climate change trends in Ecuador are expected to result in major impacts for the country[120]. This activity will assess - for the technical design of the mercury-free facilities- a natural disaster risk assessment that could eventually affect operations in the places where the planned pilot projects will be implemented. As part of the SESA, climate change risk assessments aim to analyse landscape elements and sub-national (Canton level) climate vulnerabilities and sub-national trends. This assessment for Tier 1 sites will include four steps, as the STAP guidance on Climate Risk Screening, i.e.: i. hazard identification, ii. assessment of vulnerability and exposure, iii. risk classification and, iv. risk mitigation plans. Risks assessments will consider not only the duration of the FSP but also lifetime of the expected GEBs.

iii. Preparing and validating Best Available Technologies (BAT) and Best Environmental Practices (BEP) guidelines for the ASGM sector.

This FSP will support the Ministry of Energy and Mines (MEM) in the preparation and further validation with miners of BAT/BEP operational guidelines ?mercury free- in the management of ASGM, focused on gold-bearing rock mining waste and shallow (dig and wash) alluvial operations. This guide will include a chapter dedicated to the environmentally sound management of waste (tailings) as well as of contaminated sites.

Adopting inputs and lessons learned from previous actions, the project will simultaneously promote the definition of technical standards for reduction, management, and elimination of mercury in this economic activity, as well as the development of guidelines for introducing

best practices within the ASGM production chain, both adapted to the specific conditions of the selected ASGM territories. Also linked to this activity, and pending approval of the Technical Guidelines for ASGM, the Government of Ecuador, through the MEM, will accelerate efforts on domesticating the CRAFT Code to implement due diligence practices for both national and international regulations, like advancing mineral-supply chain traceability efforts in the country. Table 10 visualizes the range of mobile and fixed Hg-free technologies that are most suitable for Tier 1 sites.

planetGOLD+ Ecuador technological interventions for Component 3

Hg-Free	**Technologies**	**Gold Recovery**	**Suitability**	**Financial Cost**	**GOLD+ Ecuador**
Gravity Only	Pans (*batea*) Improved sluices	Basic-Good Mineralization dependent Good, coarse alluvial Poor for fine (lode) Au High deposit grading Quick recovery (t)	Individuals Small organizations Informal or formal Low levels of organization	Low cost Low maintenance Low replacement cost Low supervision	?
Improved Gravity	Centrifuges Shaking tables	Good for course/fine Au Poor for ultra-fine Au Quick recovery (t)	Advanced individuals Mining Entities Formalized set up Financial literacy Medium level of organization	Medium-High cost Medium maintenance High replacement cost	?
Gravity/ Direct smelting	Direct Smelting Kit with suitable fluxes	Basic-Good Mineralization dependent Good, coarse alluvial Poor for fine (lode) Au High deposit grading Quick recovery (t)	Advanced individuals Mining Entities Formalized set up Medium level of organization	Medium-High cost Medium maintenance Low replacement cost	?

Gravity/ **CN Leaching**	Vat leaching Carbon-in-pulp (CIP)[121]/ Carbon-in-leach (CIL)[122]	Very good Maximum recovery Coarse and fine Au Longer recovery (t)	Mining Entities Formalized set up Financially capable Human resources Tailings management	Medium-High cost High operating costs Supervision required	**X**
Digestion/ **Leaching**	Complex leaching Na+ Thiosulphate (agitated leaching)[123] Bioleaching (experimental)	Very Good Maximum recovery Longer recovery (t)	Mining Entities Formalized set up Financially capable Human resources Tailings management	Medium-High cost Supervision required R&D Stage	**X**

Source: PPG, 2022

iv. Promoting access to responsible, traceable gold markets.

The project will develop a roadmap for the ASGM sector to access differentiated international markets rather than relying on local markets to sell their gold, often resulting in low gold prices; for instance, to promote access either to the CRAFT guidelines or the planetGOLD criteria place legitimate Mining Entities (MEs) in a position to demonstrate risk-based due diligence measures in accordance with OECD Due Diligence Guidance (DDG) for mineral supply chains enabling access to international gold markets. These initiatives support responsible production and marketing of gold that is more respectful of the environment, human rights, and anticorruption efforts. In addition, those who achieve full CRAFT module compliance or, meet minimum requirements for planetGOLD criteria will receive technical assistance and fair market price for their gold in international markets, which may result not only in the recovery of alternative, Hg-free, technological investments in less time but provide an incentive for maintaining mercury-free production systems. Complementarily, traceability of mercury-free is further supported by activities under Output 2.2 to bring responsible, small-scale gold mines to market.

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

131. Component 2 of this FSP builds on the planetGOLD Program component *?Promotion of investment options and direct market access for artisanal miners and their communities?* by continuing to focus on educating financial institutions to support the development of the ASGM sector and improving the supply chain in order to unlock new markets for ASGM miners.

132. In this regard, Component 2 follows a two-pronged strategic approach. In one way, it will launch a set of activities to educate and collaborate with key potential financiers (upstream and downstream) to design and provide financial products suited to the ASGM sector, integrating several actors in the investment community, such as local rural savings and credit entities, territorial micro-finance institutions (MIFs), international gold corporations, commercial and national development banks, among others. On the other hand, it will assist miners with capacity building to access funds, including training miners on business and operations management with tools to not only access the finance but also successfully execute their investment plans to create sustainable and more profitable mining operations.

133. The activities under Component 2 are key to breaking the dependence of small artisanal miners towards large ASGM groups in order to allow them to make their own decisions under a framework of associativity, for instance, taking advantage of the incentives already created under the Target Scenario Analysis (TSA), such as the consolidation of the ?*Green Recovery*? financial mechanism.

134. Outcome 2 of Component 2 is: *?Improved income for ASGM miners through the attainment of better gold prices facilitated by transparent and responsible supply chains?*.

The deployment of ?mercury-free? infrastructure plans ?over the long-term- will require innovative means of accessing inclusive capital markets, willing to enhance global environmental reasons as well as to deliver local socio-economic benefits for those clusters of populations that depend heavily upon artisanal mining. The term capital markets generally refers to platforms for raising long-term capital ? capital available for more than a year ? in the form of debt or equity, offering a wide variety of options for investors, a pre-condition that it barely exists in the current context of the ASGM sector in Ecuador.

135. Output 2.1: *?Opportunities created for ASGM sector with financial institutions to procure/retrofit equipment and invest in business skills for men and women?*.

This output aims to: i. establish partnerships with financial entities and build their capacity and understanding to develop financial products that would be tailored to this sector and better assess loan

applications from miners, ii. work with legitimate MEs and individual miners to build their capacity in developing loan/investment applications for Hg-free processing equipment/investments and subsequently apply for loans, social impact investments or any other legally-binding financial scheme, and iii. support vulnerable mining women with diversified livelihood options and basic financial literacy training.

136. The following incremental activities will be carried out to achieve Output 2.1:

i. Educating and collaborating with local and national financial institutions.

This activity aims at engaging potential/innovative lending sources of green/environmental financing through education and collaboration to provide financial products suited to the ASGM sector, for instance, micro-finance institutions willing to operate or facilitate in the territories of intervention. This includes training of staff of the financial entities in the assessment of ASGM investments (such as gold sales records, records of ore production, risk assessment, evaluation of legal and technical requirements, etc.) as well as the appraisal of loan guarantees to evaluate the economic case for loans, leases or even, equity participation with due attention given to gender equality issues and languages spoken by mining communities.

Lessons from the Global planetGOLD Programme and the existing ?*Green Recovery?* financial mechanism?, already set up by BCE and BanEcuador, will be used to improve the process of getting these financial products to market by providing case studies and best practices ? in other planetGOLD participating countries- that can then be adopted to suit the local environment. Initiatives that explore new models that assist in capacity building for risk-based due diligence measures at the mine-level will be encouraged.

ii. Capacity building for organized miners in accessing funds for the adoption of sustainable practices.

Training miners on business, operations management and financial literacy will provide them with the tools to not only access finance but successfully execute their investment plans -adapted to the local context- to create more sustainable and profitable mining operations, with the aim of improving miner incomes through the attainment of better gold prices facilitated by transparent and responsible supply chains. It includes workshops/awareness raising events conducted to increase miners? awareness (including women miners like the ?*jancheras*?) on the value of due diligence, compliance with mining regulations and how compliance can facilitate access to different types of financial products. This activity follows the specific Strategy 2.5.1 ?Accompany and strengthen the capacities of mine producers for general improvement and compliance with their obligations?, specific objective d1)[124], of the NAP.

Among others, this approach will include the following actions:

? Assisting mining locations with technical assistance and financial support for the adoption of sustainable practices.

It will encourage the formulation of fair contracts for the sale of artisanal miners to the processing plants. The miners would then sell their ore at a standard price instead of the payment in-kind they make for the separation and amalgamation service provided by these plant?s owners. Thus, polluting practices and the health risks of the rudimentary process carried out in-situ, which is based on the burning of gold and mercury amalgams, would be reduced. In the proposed transaction model, the amount for the purchase of the mineral must be fair for both parties, which would create an economic incentive within the sector to join the model[125].

Interventions along the supply chain will be performed to encourage an understanding and commitment to procuring the benefits of responsible mining. Quantifying and communicating the financial benefits of responsible mining to ASGM miners and gold traders is a crucial incentive and will be used to encourage the adoption of sustainable practices. Engagement with gold traders in deploying gold provenance solutions and associated business benefits to ensure their buy-in will be key to the success of responsible mineral supply chain interventions. Where JA pilots are used for Tier 1 sites, the project will facilitate knowledge sharing on ASGM topics among relevant stakeholders of the landscape.

? Assisting the ASGM miners and financiers in closing the suitable deals.

Although the project will not have full control over the approval process of the loan applications, the project will regularly (on a yearly basis), conduct an assessment of the number of project-supported loan applications that have been approved, the percentage of approvals as well as other relevant statistics (total amount of funding, funding per loan approved, gender-specific information on receivers and amounts of loans, etc.). The results of these assessments will provide an indication of the success of the project in supporting Mining Entities (MEs) in the development of their loan applications.

If at the time of the Mid-Term-Review, it appears that insufficient loans are being approved, the project will assess whether it must provide loan application training, or whether additional financial support to mining communities/groups should be in place. The recommendations coming out of the Mid-Term-Review will then reshape the direction of the project in this regard.

iii. Carrying out a technical, environmental and economic analysis of the most feasible technologies.

In addition to completing an inventory of mercury-driven practices in the ASGM sector in TIER 1 sites (Output 1.2, Act. i.), the identification of cost-benefit assessments for the alternative technologies more suitable to the Ecuador mining sector, risk assessments and management arrangements; this FSP will allow defining a set of criteria for the selection of the most viable substitution alternatives for this chemical substance, in order to define and launch a long-term path, technologically speaking, under Component 3.

iv. Consolidating the ?*Green Recovery*? financial mechanism.

Access to better, mercury-free technology is directly related to the miners' ability to access financing, as stated in the Theory of Change. The project will expand the work carried out by the National Chemicals Management Program (UNDP/GF ID-9203), where a financial product has been created that operates in two public banks (mainly the Central Bank and other financial intermediaries), increasing the number of miners that can access this green line of credit. Additionally, it will work at the level of cooperatives and credit unions to show them that it is possible to reduce the risk they perceive in the mining sector (normally linked to informality) and create green credit lines that reactivate the sector with a focus on ?*green recovery*." It is important to note that this activity is in tune with the strategic line of the post-COVID Recovery Strategy, i.e.: ?*Establish new innovative public financing instruments that allow the achievement of resources for investment projects aimed at meeting sustainable development goals (green bonds, SDG bonds, gender bonds)*?[126]. This activity will enhance current ongoing efforts as a results of the activities carried out by the previous UNDP/GEF ID-9203 on the following[127]:

? Financial mechanism for the Artisanal and Small-Scale Gold Mining (ASGM) sector in the mining territories of Chinapintza in the province of Zamora Chinchipe, Portovelo in El Oro and, Camilo Ponce Enriquez in Azuay.

? A mechanism to provide environmental incentives for the optimization of natural resources and reduction of emissions of mercury.

? A Competitive Funds Mechanism, with the purpose of financing environmental and social projects and technological innovations related to the management of chemical substances at the national level, given ASGM associations that are made up of vulnerable artisanal miners, those with youth participation and women miners, such as the *Jancheras*.

137. Output 2.2: ?Proof of concept for technology-assisted mineral supply chain due diligence developed and tested in target locations?.

To build the confidence of financial intermediaries in supporting change through investment (providing financing for upgrading processing plants and eliminating mercury use), while also providing miners with insights in the economic opportunities such upgrades can bring about, the project will develop evidence based on economic models of processing plant upgrades integrating BEP and mercury-free pilot plants will be supported, as well as previously established and well-functioning mercury-free processing plants. The results will present strong economic arguments (including payback periods) to miners and financiers to encourage change through suitable investments. Traceability technologies, including physical and chemical systems in accordance with leading practice from legitimate gold buyers and the London Bullion Market Association (LBMA) refiners will be assessed for proof-of-concept mineral supply chain due diligence pilot suitability at Tier 1 sites, combined with adequate mine-level due diligence.

138. The following incremental activities will be carried out to achieve Output 2.2:

i. Designing suitable financial products/mechanisms (including women-friendly financial products) for the ASGM sector.

The project will work with local financiers (for instance, with local rural savings and credit entities) to bring their interest to this sector and at the same time, with formal miners? groups and organizations to build their capacity in developing loan/investment applications for mercury-free processing equipment/investments, based on a variety of financial mechanisms suitable for both parties. This activity includes crafting a guidebook for the gold miners in a user-friendly manner to help them with their loan or financial applications. The PPG phase identified several financial instruments to enhance the participation and competitiveness of the financial offer to the ASGM sector, which can be supported during the implementation of the FSP, as shown in the following Table:

Financial mechanisms for access to sustainable, mercury-free markets

Financial Instrument	Description	Feasibility of being implemented under this FSP
Social and environmental responsible public purchases of gold from formal miners and Mining Entities.	It consists of financially supporting the set-up of responsible public purchases of gold produced in a socially and environmentally sustainable manner.	This FSP will provide technical assistance to the Central Bank of Ecuador to incorporate formalized artisanal gold mining associations into the purchase quotas, and other assistance required and consistent with the Project. Additionally, a higher price can be set up if the gold is certified to be free of mercury.
Public programs for traceability and mercury-free gold certification.	The project will support activities to promote certified gold, as well as to cover the cost of traceability that guarantees differentiation to a responsible buyer throughout the gold value chain using a chemical marker such as the one developed by ARGOR-HERAEUS.	FSP activities associated with initiatives such as the CRAFT Code, for miners to produce gold under certain standards (environmental, social and ethical), for instance, through the Central Bank of Ecuador.
Concessional loans	These are financial instruments that are created when a financial institution extends credit funds directly to a miner and receives a non-negotiable instrument as evidence of the asset as a provision for repayment of principal and interest. These credits can be offered by public or private financial institutions under certain conditions that are softer than commercial ones, destined for associations of ASM producers committed to environmentally and socially responsible management, for example, under a cleaner production reconversion scheme.	The project will support the Central Bank of Ecuador which can buy gold from artisanal miners and reduce the credit risk so that financial institutions do not grant credit to the ASM sector. Financing can be included to support the Central Bank of Ecuador so that through its operations to purchase gold from artisanal miners they can overcome their barriers to access formal financing, for example, designing financial products with grace periods, longer terms for payment and/or fewer guarantees.
Small grants for formal ASGM Mining Entities.	Provide non-reimbursable resources (grants) for Mining Entities whose destination is training, formalization and access to differentiated gold markets.	The project is expected to provide small grants to implement pilot projects to reduce the use of mercury in ASM through increased adoption of cleaner technologies. These pilot projects will be carried out as demonstrative examples to promote productive reconversion towards more sustainable practices throughout the value chain.
Competitive funds for associative ventures.	It consists of supporting, through a competitive and transparent process, local organizations with non-reimbursable financing for environmentally and socially desirable enterprises and technological innovation in the ASGM sector.	The project will support the establishment of competitive funds for organizations and producers, with an emphasis on youth, women and academia for the financing of sustainable productive enterprises or technological innovation throughout the productive chain of the ASM sector. Competitive funds are included for the *jancheras* who wish to undertake activities outside the ASM sector.

Financial Instrument	Description	Feasibility of being implemented under this FSP
Revolving funds	These are revolving trust funds in order to promote responsible environmental management without mercury. They are administered by financial organizations set up for this purpose and act by complementing government actions and promoting the participation of civil society in the ASGM sector.	The project can encourage the creation of a Fund for Technological Innovation in Mining in order to promote a mercury-free ASM sector. UNDP has managed several revolving funds.
Fiscal and tax incentives	It consists of tax reductions or exemptions for the acquisition of machinery and equipment with cleaner technology (mercury-free); this instrument may include tax exemptions for a certain period of time.	In the Organic Law for Development Economic and Fiscal Sustainability -after the COVID-19 pandemic- it is established that an additional 100% of expenses for donations, investments, and/or sponsorships in environmental projects are deductible from Income Tax, an instrument that may be promoted by the project.
Voluntary agreements for the purchase of gold in the future (streaming) with the mining chambers or with medium and large gold mining companies.	These are voluntary mercury-free future gold purchase agreements that can provide liquidity and can be traded on financial markets for responsible gold investors/buyers, under a win-win scenario that defines a clear ore segregation policy of upstream production sources (ASM vs. LSM) as to market appropriately.	This FSP will provide technical assistance to enhance voluntary agreements between the Mining Entities and responsible suppliers such as mining chambers or with medium and large gold mining companies.
"Green Recovery" Financial Mechanism	To enhance green stimulus and green recovery instruments that aim at restoring the economic activities while also favouring inclusive and sustainable production and consumption process.	The project will support the design of environmental, regulatory and fiscal packages or reforms which enable the recovery of prosperity after the COVID-19 pandemic. They aim for a holistic and inclusive response to the COVID-19 that mainstreams climate change consideration into short-term economic recovery and promotes sustainable, low-carbon and climate-resilient economic transformation.

Source: PPG Team, Dec. 2021.

ii. Preparing and validating standard covenants between financiers and organized miners.

This activity will assess existing financial products and lines of credit of financial partners in terms of accessibility and suitability for women and men Mining Entities and recommendations for their improvement and reconversion processes, like access to local rural savings and credit entities, commercial and national development banks, pre-financing from downstream gold buyers, impact investors, and donors and philanthropic investors.

Specifically, for TIER 1 sites, the FSP will create a connection between the ASGM processing plants in TIER 1 sites and the BCE?s gold purchasing program, to enhance the financial

mechanism supporting social and environmental responsible public purchases of gold from formal miners and Mining Entities, launched in 2016. This will guarantee a market and obtain good prices for the gold for these actors, motivating other plants to replicate the model in a ?win-win? logic. The existence of a gold buyer that pays competitive prices and that generates less environmental impact and stability in the local economy is essential for the viability of the proposal[128].

iii. Setting up solidarity microfinance funds aimed at financing women's ventures in ASM communities.

The project will work with local financiers (for instance, with local rural savings and credit entities) to bring their interest to this sector and at the same time, with formal miners? groups and organizations ?being a priority target the ?*jancheras*?- to continue building their capacity in developing loan/investment applications for mercury-free processing equipment/investments, based on a variety of financial mechanisms suitable for both parties. This activity includes crafting a guidebook for the gold miners in a user-friendly manner to help them with their loan applications.

4.1.3 Component 3. Enhancing Uptake of Mercury-free Technologies

139. The area of focus of Component 3 is to promote the adoption of technologies and/or procedures for the processing of gold by ASGM miners, both transitively and definitely, but that will ultimately bring forth solutions for finding alternatives to the use of mercury, thus eliminating worst practices related to the use of this substance in ASGM[129]. This component proposes to upscale lessons from the planetGOLD Program on the deployment of technology. These models will be applicable to different levels of ASGM organizations within mining territories, financial and technical capacity to achieve high gold recoveries through safe, resource efficient practices. Under a holistic approach, the development of ASGM mercury-free business models includes prospecting, environmental licenses, relevant registration, analysis of ore, development of work flows, design of processing equipment train, and suitable financing of equipment.

140. In order to avoid, reduce, mitigate and manage potential impacts as identified in the SESP (Annex 5) such as worker health and safety and pollution risks resulting from project activities, a targeted assessment and management of potential social and environmental risks through an *Occupational Health and Safety Plan* will be prepared and mitigation measures put in place, prior to the initiation of any project activity that may cause adverse impacts, in particular any actions that may lead to or cause environmental and health effects and impacts on local peoples, as clearly indicated in Annex 9, *?Environmental and Social Management Framework?*, Section 9.4.

141. An *?Occupational Health and Safety Plan?* will be implemented to ensure that miners and workers are safe during mining activities and during operation of the processing plant or any facility developed by the project. The plan will include conditions under which the use of Personal Protective Equipment (PPE) is mandatory. It will ensure that first aid kits are available on site with trained

workers, if not health staff, prepared to care for minor injuries. For major injuries, emergency, primary and preventative care miners will have access to health facilities. Moreover, the PPG will assess the likelihood of this risk and prevalence of child labour within the ASGM sector in the target TIER 1 areas and propose measures to reduce it and find working persons under the age of eighteen perform tasks appropriate to their age.

142. The identification of the current and projected climate vulnerabilities at the project pilot locations is of critical importance ?as indicated in Risk 6, i.e.: ?*?Natural disasters could eventually affect the locations and operations where the planned demonstration projects are carried out?* of Annex 6 - including information on overall vulnerability[130] (the product of exposure, sensitivity and adaptive capacity) of targeted natural resources in the pilot?s areas to climate change. The selection of sites will take into consideration short and long term risks associated with climate change and natural disasters.

143. The technology used in alluvial mining will be analyzed to propose improvements (gravimetric) that increase the percentage of gold recovery achieved by miners, without the use of mercury. For hard-rock mining, the mineral sale strategy implemented by the National Chemical Program (GEF-ID 9203) will be replicated and strengthened, in which small mining plants are strengthened to serve as buyers of miners ?raw mineral.

144. Outcome 3 of Component 3 is: *?Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners?*.

This outcome aims to conduct a deep assessment for identifying *?the best available techniques**[131]**?* and determine business models for mercury-free use in the ASGM sector while enabling a sustainable environment beyond project?s duration.

This outcome aims to address the challenge that mercury-free technologies exist but largely remain under-deployed by the Ecuadorian miners or hardly used. In addition, it will seek to develop models that are applicable to different levels of ASGM organizations, financial and technical capacity as well as the achievement of high gold recoveries. For Ecuador, it is essential to work with both mining systems, i.e.: alluvial and hard rock gold mining which although different, present the same environmental and health risks caused by the use of mercury for gold recovery, in order to:

? demonstrate innovative technologies to reduce and eliminate mercury use in ASGM;
? pilot community mining concept in three selected landscapes;
? pilot remediation of degraded and contaminated mining areas using proven models;
? support community investments in alternative livelihoods enterprises that aim to reduce unsustainable and harmful mining practices;

? Identify opportunities to integrate environmental and social safeguards for sustainability in the assessment of feasible technologies; and
? document knowledge and promote networking to support policy development and influence.

145. The above actions will also contribute to mitigate the risk of exacerbating human rights issues and leading to conflict due to the presence of organized groups that could also sabotage the process of change.

146. <u>Output 3.1</u>: *?National and local government institutions strengthened to support sustainable mercury reductions and invest in mining organizations?.*

This output aims to strengthen technical national capacity for sound training in ore processing technologies without the use of mercury: This will be accomplished by developing and implementing three pilot projects (TIER 1 sites) to demonstrate how to face different technical, financial and logistics gaps and challenges for the reduction/elimination of mercury use in gold processing in Ecuador?s territory, as a means of deviating from the business-as-usual scenario.

147. The following incremental activities will be carried out to achieve Output 3.1:

i. Considering geological surveys in ASM territories to identify mineralogy and metallurgical properties of gold ore.

To optimize technical interventions strategies for Tier 1 sites, geologic analysis and ore characterization is required early on in project implementation, with IIGE support. Geologic analysis can be undertaken through fire assay or with support from handheld X-ray fluorescence spectroscopy (XRF) devices purchased under the project to asses ore grade, process controls and verify sound chemicals management interventions. Before undertaking ESIAs, this activity is intended to verify the mineralogy of ores in Tier 1 deposits identified during the PPG.

This activity is also intended to assess and verify political commitment and alignment to the promotion of mercury-free processing techniques in selected villages/areas in Tier 1 sites. Wherever possible representative MEs or informal miner associations should be consulted through facilitated government outreach to verify arrangements between title-holders and miners, and to build trust and confidence between ASGM stakeholders. Such 'formalized spaces' offer a framework for facilitating dialogue between legitimate MEs and miners while engaging government and enforcement agencies through a decentralized platform to build local capacity. Recommendations for site-level due diligence are provided in Annex 3 to guide project teams early on during FSP implementation noting that additional data on workforce dynamics, hazardous chemicals, concession status, mining rights and multi-stakeholder collaboration criteria are critical for GOLD+ site verification.

ii. Designing appropriate mineral processing and extraction Hg-free methods for Tier 1 sites.

This activity will focus on strengthening technical capacity for mercury-free processing techniques through implementation of pilot projects to help eliminate worst environmental practices under Article 7/Annex C of the Minamata Convention. Basic modules on exploration, ore characterization, crushing, milling and grinding, gold liberation and process optimization will be presented in accessible workshop formats with complimentary field visits.

Utilizing examples of the most feasible technologies, scenarios will focus on optimizing systems for different ores, and understanding environmental hazards (i.e., physical, chemical, biological and occupational). Financial scenarios will be developed based on business as usual and optimized production systems; valuing the experience gained by other child projects under the GEF planetGOLD Global Programme in this matter, as well as in accordance with the NAP Strategy 2.5.2. ?Strategy for reducing discharges and risks related to mercury exposure and eliminating worst practices?, specific objectives f.1 and f.2[132].

iii. Setting up institutional arrangements with training centers in selected ASGM territories.

To develop a sound and sustainable shift in the current paradigm, the project will establish partnerships with existing training centers at the global level and assess the availability of ASGM training materials and resources (the Minamata Convention, the GEF planetGOLD Global Program, UNEP, CI, UNIDO, NRDC, OECD, ARM, etc.) as well as at the national level, e.g. enhancing laboratory equipment and supplies for the Geological and Energy Research Institute (IIGE) to strengthen its technical capacity for metallurgical mining research.

These facilities, along with another research centers, such as Universities, will support the technology-assisted mineral supply chain due diligence and traceability developed and tested in three (3) target territories. Among others, the project will develop or analyzed existing training programs for miners, included but not limited to the following topics:

? Obtaining mining right.

? Impact of ASGM on the environment.

? Recognizing safety aspects in the sector.

? Carrying out a prospecting / exploration plan using a manual and mechanical auger, locating ore deposits and reporting on them.

? Developing a small-scale mine taking into account ore placement, drainage and storage of processed ore.

? Setting-up and using mercury-free concentration methods.

? Smelting and purification of gold.

? Provisions for sound tailings and waste management.

148. Output 3.2: ?Assay laboratories, pilot processing plants and training center(s) established to promote resource efficient gold mining in ASM zones, with clear provisions for sound tailings and waste management*?*.

The project will provide technical assistance to the upgrading/retrofitting of at least three (3) mercury-free ore processing pilot plants in three (3) different project locations (with funding structured by the FSP under an innovative financial mechanism or a project co-financier). These training plants will be mercury-free processing facilities where miners can engage in hands-on mineral processing experiments with their own ore, determine gravity of recoverable gold yields (and prepare samples for analysis in a lab using best practices and technologies), and decide on methods for all the different ores produced. Resource efficient processing plants will serve as production centers and, where appropriate, ore buying centers for enhanced traceability. Where mercury-free, responsible gold is produced proof of concept for technology-assisted mineral supply chain due diligence with be further developed and tested in each of the target locations to bring responsible mines to market.

149. The selection of the project demonstration sites have followed a set of criteria as described in Annex 12, which includes compliance with overall governance, gender, technical requirements, community participation, climate change vulnerability, potential improvement and security and safety; complementing the geological and technical aspects. During the PPG, the analysis of the proposed sites also considered that the project should not infringe on the protection of indigenous peoples, critical habitats and biodiversity; as well as cultural heritage. Additional criteria on gold production, workplace dynamics, hazardous chemicals, formalization, multi-stakeholder collaboration, logistics and impact are outlines in the following Table.

Selected criteria for FSP demonstration sites (TIER 1 and TIER 2)

Criteria	**Description**	Proposed GOLD+ Intervention Site					
		Tier 1 Sites				Tier 2 Sites	
		Cotopaxi	El Oro	Zamora Chinchipe		Napo	Loja
		La Man?	Santa Rosa	Nambija	San Carlos	Arosemena Tola	Hualtaco
Gold	Access to economically viable gold deposit	Yes	Yes	Yes	Yes	Yes	Yes

Production	Type of deposit	Alluvial	Alluvial	Alluvial	Alluvial; Primary	Alluvial	Primary
	Established gold extraction and processing units	Yes	Yes	Yes	Yes	Yes	Yes
	Est. annual Au production2	250.91 Kg	Unknown	791.25 Kg	78.11 Kg	165.18 Kg	Unknown
Workplace Dynamics	Primary ASGM workforce (miners, processors)	84	Unknown	1500	56	168	Unknown
	Women miners, processors, traders (% workforce)	8	Unknown	150	6	17	Unknown
	Secondary ASGM workforce (services, equipment)	Yes	Yes	Yes	Yes	Yes	Yes
	Women secondary livelihoods (% workforce)	8	Unknown	150	6	17	Unknown
	Preventative measures: Child labour	Yes	Unknown	Unknown	Unknown	Unknown	Unknown
Hazardous Chemicals	Mercury use (Hg:Au Ratios)[3]	7.2	0.44 (Province rate)	2.02	11.08	11.08	4.17 (Primary MAPE national rate)
	Worst environmental practice[4]	Chancha (Amalgamation cylinder)	Zeta	Chancha (Amalgamation cylinder)	Chanchilla (Amalgamation cylinder)	Chancha (Amalgamation cylinder)	Chancha (Amalgamation cylinder)
Formalization	Presence of informal extraction units	Yes	Yes	Yes	Yes	Yes	Yes
	Presence of legally registered Mining Entities (MEs)	Yes	Yes	Yes	Yes	Yes	Yes

	Legal right to exploit gold deposit	Yes	Yes	Yes	Yes	Yes	Yes
	Willing to sell to Central Bank of Ecuador or formal markets	Yes	Yes	Yes	Yes	Yes	Yes
	Success of ore buying strategy[1]	No	No	No	No	No	No
	Coexistence with LSM actor(s)	No existence of LSM in the zone	No	No	No	No existence of LSM in the zone	No
Multi-Stakeholder Collaboration	Favourable attitude of local mining community	Somewhat favourable	Somewhat favourable	Somewhat favourable	Somewhat favourable	Somewhat favourable	Somewhat favourable
	Favourable attitude of local concession owner(s)	Favourable	Somewhat favourable	Somewhat favourable	Somewhat favourable	Favourable	Somewhat favourable
	Political will of Provincial Gov.	Yes	Yes	Yes	Yes	Yes	Yes
	Political will of Canton Mayor	Yes	Yes	Yes	Yes	Yes	Yes
	Existing multi-stakeholder platform or mining committee	No	No	No	No	No	No
Biodiversity	Avoidance[2]/ mitigation of impacts on critical habitats	Avoidance	Avoidance	Avoidance	Avoidance	Avoidance	Avoidance
	Transboundary watershed or drainage basin	No	Yes	Yes	Yes	No	Yes
Indigenous Communities	Distance from indigenous territories[3] (Kilometers)	26.6 km	59.2 km	59.6 km	59.6 km	22.6 km	83.2 km
	Cultural heritage sites impacted	No	No	No	No	No	No

	Presence of non-state insurgents/terrorist groups	No	No	No	No	No	No
	Reasonable distance/travel time from urban center	Yes	Yes	Yes	Yes	Yes	Yes
Logistics	Access to road infrastructure/ basic services	Yes	Yes	Yes	Yes	Yes	Yes
	Reliable access to electricity/ network	Yes	Yes	Yes	Yes	Yes	Yes
	Natural hazards (flooding, landslides or earthquake)	Yes, landslides	No	Yes, landslides	No	No	No

Source: PPG Team 2022

[1] Ore buying strategy comes from agreements with BCE in order to expand the government capacity to purchase mercury ? free gold with better prices than informal markets.
[2] Avoidance of impacts on critical habitats and protected areas was determined through spatial analysis of existing mining operations and granted exploitation concessions.
[3] According to the Ecuadorian Constitution, any extractive industry is forbidden in the territories included in the National Protected Areas System, which includes national parks, natural reserves, indigenous territories and protected forests, among others.

150. The following incremental activities will be carried out to achieve Output 3.2:

i. Carrying out three (3) pilot interventions at Tier 1 sites with secure mineral tenure.

It is important to recognize that ASGM communities in Ecuador are dynamic and can change very rapidly so bear in mind that the Project Management Unit (PMU) should re-evaluate and validate sites during inception at the FSP implementation stage. New land claims (legal or customary), changes in national mining policies and regulations can change who is mining where, redistributing mining hotspots and land-use intensity. As the pilot interventions will be implemented beginning in the second year, the PMU will remain flexible in its intervention site selection strategy. The ASGM hotspots (mine level) in the regions were initially identified in the locations as shown in Table 12 above. Contextual analysis carried out during the PPG, has also considered how COVID-19 has influenced workforce dynamics (gender disaggregated), gold production, and average gold price in these key areas in response to lockdowns/market disturbances. Annex 3 includes a summary of findings on TIER 1 and

TIER 2 ASGM activity hotspots that could serve as potential sites under this planetGOLD+ Child Project.

ii. On-going field pilot project monitoring and reporting.

The project will keep track on a continuous basis of the risks for human health and the environment due to the implementation of these pilot interventions with project support. If at the time of the Mid-Term-Review it appears that insufficient risk management measures are in place and with a partial revision of the results, the project will assess whether it must provide additional support. The recommendations coming out of the Mid-Term-Review will then reshape the direction of the project in this regard.

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

151. Component 4 provides support on knowledge management and communications, particularly on the topics of formalization and market access and technology transfer to adopt mercury-free recovery technologies. It includes the design of an awareness-raising campaign and information strategy and a programmatic monitoring of FSP global indicators (specifically, GEF Core Indicators 9 and 11 and indicators of the GEF planetGOLD Global Programme), together with a broad dissemination of on-going activities to ensure successful project implementation in accordance with UNDP and GEF procedures. Awareness-raising and gender sensitive training materials will be developed and made widely available in English, Spanish and relevant native spoken languages of Ecuador, as needed.

152. This component will support capacity building, knowledge sharing and communication across the different components and will include a focus on maximizing the impact of communications at the local miner level. This component proposes 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.

153. All knowledge sharing, learning, and synthesis of experiences will be completed in close consultation with the corresponding government counterparts. Knowledge generated under the project will capture results of piloting commodity-specific JAs as a strategy for holistic, integrated and innovative means to optimize formalization, while mainstreaming capacity building and gender equality for project results will be ensured. South to south cooperation will be emphasized through close coordination and exchange of information and sharing of best practices with other planetGOLD countries, especially with the other LAC countries in Bolivia, Colombia, Guyana, Peru, Suriname and Honduras.

154. **Outcome 4** **of Component 4 is: ?*Knowledge sharing and communication strategies aimed at all ASGM stakeholders to support and increase formalization and mercury reduction developed*?.**

155. Close coordination and exchange of information and sharing of best practices will be ensured with the GEF planetGOLD+ Global Programme and with the GEF planetGOLD child projects in Colombia, Peru, Bolivia, Suriname and Honduras. Knowledge products and lessons learned at national and sub-national levels will be shared with the Global Programme, which will make these experiences available through the planetGOLD platform and other outreach strategies. This will foster a community of practice among participating countries and will allow for the sharing of successful models with a wide range of global actors and stakeholders. This child Project will participate actively in international meetings and events, such as the Global Forum (organized by the Global Programme), an annual sharing event to facilitate face-to-face (if it is feasible due to the COVID-19 pandemic), meetings between ASGM experts and practitioners, governments, gold buyers and miners to support ongoing experience exchanges, as well as the development of global expertise and capacity-building on ASGM issues and networking and learning, to influence the global ASGM dialogue agenda and policy development (in line with COVID protocols).

156. The focus of planetGOLD?s global component ? ?knowledge management, communication and outreach? is to ?unify and coordinate efforts among all the GEF GOLD child projects and disseminate knowledge generated to a wider audience to help Parties achieve the Minamata Convention obligations to reduce and where feasible eliminate mercury use in ASGM, as well as to enable a community of practice, including Global Fora. Under this sub-component, a dedicated planetGOLD website has been developed, hosting a knowledge repository which has materials in the knowledge areas of formalization, technical solutions, awareness raising and access to finance. The website also has links to each of the child project countries, like this FSP, and will be an important source of information for the ASGM situation in Ecuador.

157. **Output 4.1**: ***?M&E and adaptive management applied to capture lessons learned, emphasizing prospecting, sustainable mercury-free gold methods, and sound tailings management?.***

This output will support capacity building, knowledge sharing and communication across the different components and will include a focus on maximizing the impact of communications at the local miner level. This output proposes 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; given the sanitary measures imposed by health authorities due to the COVID-19 pandemic. It will also incorporate important lessons learned from the Minamata disease, in particular the serious adverse health and environmental effects of mercury contamination, and the need to ensure proper mercury management.

The information and communication outreach strategy that will be developed and implemented as part of the project will contain important elements related to gender. Also, knowledge sharing and best practices on social and environmental risk management and safeguards will be transversally considered as part of this Component.

158. Since the general level of knowledge on mercury dangers is moderate in the Ecuador ASGM sector and the surrounding communities, it is recommended to develop effective communication aiming at a reduction of exposure in the ASGM sector, resulting in improvements of levels of knowledge and awareness. It will also incorporate important lessons learned from the Minamata disease, in particular the serious adverse health and environmental effects from mercury contamination, and the need to ensure proper mercury management. The information and communication outreach strategy that will be developed and implemented as part of the project will contain important elements related to gender.

159. As indicated in Output 3.2, Act. iii, implementation and monitoring of identified risk management and mitigation measures is required throughout the life-cycle of the project. During project implementation, certain circumstances require the revision of the completed design-stage screening. These include, but are not limited to: (a) where new information becomes available such as through a social and environmental assessment, (b) where there are substantive changes to the project (e.g. changes in design, additional components), or (c) where changes in the project context might alter the project?s risk profile. If the revised screening results in a higher risk category then the revised SESP needs to be reviewed by the Project Board or a subsequent Project Appraisal Committee (PAC) process (and where relevant by the GEF). The UNDP Risk Register (Annex 7) should be updated accordingly.

160. Finally, everything done at the local level will be registered and monitored and will serve as a lesson to be taken into account in other similar sectors. The implementation of strategies at the local level will serve as a basis for national level approaches and scalability. Following a Jurisdictional Approach, the project will seek to involve all relevant actors throughout the project implementation. Through demonstrations, training and awareness workshops, it will be shown that all stakeholders seek the same goal, since they all benefit from a well-protected environment (Jurisdictional Approach).

161. The following incremental activities will be carried out to achieve Output 4.1:

i. Designing and implementing an information and communication outreach strategy.

This activity will develop and maintain extensive social media coverage and campaigns for a range of audiences that provide awareness of the social (like the FPIC principles), economic and environmental dimensions of the sector; in alignment with the planetGOLD Global Communications Strategy[133]. Media campaigns and communication tools will be used to inform the general public, ASGM communities and local schools on the dangers of mercury and possible solutions, also, highlighting the significant development potential of formal ASGM, taking gender-based risks and the unique circumstance of Ecuador into account; at the end, public entities, mining communities and the general public have a shared and more sophisticated understanding of the ASGM sector. Among others, this approach will include the following actions:

? Take advantage of different spaces such as local cable/television, community radio broadcast, internet, mobile telephony, written press and spaces such as community meetings, fairs and festivals to share messages with the mining population, and in general, about how to carry out sustainable mining that is friendly to the health and to the environment.

? Setting up an interactive platform on artisanal mining (such as telecentres) in ASGM communities ?where available- to be permanently informed, as a knowledge management space where miners and the community have free access to information about technologies on artisanal gold mining, on dangerous effects of mercury, the practical processes to eliminate mercury completely from mining and the need to undertake collective actions towards reclaiming degraded landscapes in mining territories.

? FSP communications utilize planetGOLD country logo and brand assets for all communication materials, adhere to planetGOLD style guide and messaging guide in production of external materials, adapting global messages to national context, share and store both raw and edited photo files, video files, graphics, and other visual assets in a timely manner with the global project via a shared Google Drive for global promotion and dissemination.

? Country project communications officer will participate in programme communications network, including regular calls, digital communication platforms, trainings, and notification to the global project of significant communications-related activities or story leads at country level.

? Publish at least one original blog article per year on www.planetGOLD.org, notifying global project for incorporation in global editorial calendar.

? Share relevant (non-confidential) project materials, approaches and documents that may provide relevant information or serve as examples/models to other country projects. Examples of such material

may include information on selection of Hg processing systems; due diligence pilot results; training materials of common interest (for instance, gender in ASGM).

? Ensure that all public facing documents produced by the country project are either uploaded to the planetGOLD website or link is provided if the document is housed elsewhere.

? Create and put into practice communication channels so that miners that are dedicated to the artisanal and small scale mining of gold can be active participants in the planning and execution of activities carried out by different national and local institutions for the implementation of the National Action Plan (NAP), encouraging women to participate in decision making[134].

162. Output 4.2: *?Miner, investment and CSO focused communication strategies explored, tested, deployed and scaled up?*.

The objective of this output will be to implement an awareness raising campaign and information strategy targeting key stakeholders among miners, investors and committed Civil Society Organizations (CSOs) to create awareness, allow request for and capture of feedback, both at national and mining territories.

163. The following incremental activities will be carried out to achieve Output 4.2:

i. Implementing a strategy based on the Gender Action Plan on the elimination of mercury.

The project?s gender expert, to be retained by the project, will ensure that all activities meet the differentiated needs of female and male miners. Annex 10 presents the Gender Action Plan, as such, the gender aspect should consider triggering entrepreneurial opportunities for women to improve family income and meet basic family needs and avoid exposure to mercury, as well as the protection of populations at risk, especially the most vulnerable (elder population, boys, girls, women of childbearing age and pregnant women), through health-care regulations.

It is important to note that this activity will be aligned with the NAP Strategy 2.6.2 pertaining to gender issues and child labor in ASGM in order to consider and improve the conditions through which women carry out their activities within the ASGM community, and eradicate child and adolescent labor in mining activities.

ii. Carrying out technical workshops to disseminate the FSP main findings, emphasizing prospecting, sustainable mercury-free gold methods, and sound tailings management applied.

Among others, the following actions will be implemented duly programmed on an annual basis:

? *Miner-to-miner* exchange in order to discuss and share experiences related not only to the implementation of sustainable mercury-free interventions in ?Tier 1? sites but also to resolving grievances related to the enforcement of national regulations.

? Training workshops so that miners can learn about improvements in gold liberation, crushing and grinding of gold ores, simple and at the same time more technologically advanced methods to concentrate the ore and eliminate the minerals that are not of interest, appropriate disposal of the by-products, and best management practices to create a safer and more productive mining area.

? Publication of technical, economic, and legal information on mercury and mercury compounds, including toxicological, eco-toxicological and safety information (in accordance with Article 17 of the Minamata Convention). This information needs to be adapted to the educational level of the target audience in Ecuador.

? Systematization of the experiences of artisanal and small-scale miners, their communities, obtaining lessons learned, rescuing all the knowledge accumulated over years, testimonies and life stories and good practices of the sector, for the generation of guides and/or manuals on best practices implemented in the sector, for the knowledge of users. These experiences should integrate technical, financial and social aspects of the ongoing activities and FSP progress.

? The project will facilitate the creation of partnerships between local universities and international universities already working with the Global Program, in order to develop a strategy to measure the impact that will be achieved through the implementation of selected outputs of mutual interest. The Project Management Unit will generate information for the Project Steering Committee to decide if this approach will be carried out for Output 2.1., of improving access to credit for artisanal miners and miners' associations or to measure the impact of Output 1.2., formalization strategy through the Jurisdictional Approach.

? Strengthening the capacities of primary education directorates, teachers and parents on the risks children run when exposed to mercury.

4.1.5 Component 5. Monitoring and Evaluation

164. Monitoring and evaluation of country-level child projects: During PPG phase, a monitoring strategy with SMART indicators that incorporate the gender approach, will be developed to measure project progress on a regular basis.

165. Output 5.1: *?M&E and adaptive management applied to capture lessons learned?.*

The project results as outlined in the Project Results Framework (Section V), will be monitored periodically during implementation to ensure the project effectively achieves these results; these will be reported in a public Mid-term Review and the Terminal Evaluation reports. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP?s Evaluation Policy.

166. As a standard practice for every UNDP project, continuous monitoring of FSP results and achievements will be ensured, while the application of adaptive project management after conclusion of the Mid-Term Review will be warranted. The Project Management Unit (see Section on Governance and Management Arrangements, for detailed information) will design the project?s Monitoring and Evaluation (M&E) system and will be responsible for implementing the project?s M&E plan, including the project?s Inception Workshop, annual planning workshops, and the GEF Project Implementation Report (PIR).

167. For M&E, technical and institutional capacity, and information will be needed to address climate vulnerability and enhance project and place-based resilience. This Output will develop a Monitoring, Evaluation and Learning (MEL) strategy, implementing and evaluating the selected climate vulnerability management options in the selected project pilot locations (TIER 1 sites) over the project lifetime and evaluating the projected impact uncertainties beyond that period.

168. Implementation and monitoring of identified risks and mitigation measures are required throughout the life cycle of the project. During project implementation, certain circumstances require the revision of the completed design-stage screening. These include, but are not limited to: (a) where new information becomes available such as through a social and environmental assessment, (b) where there are substantive changes to the project (e.g. changes in design, additional components), or (c) where changes in the project context might alter the project?s risk profile. If the revised screening results in a higher risk category, then the revised SESP needs to be reviewed by the Project Board or a subsequent PAC process (and where relevant by the GEF). The UNDP Risk Register (Annex 6) should be updated accordingly.

169. The objective of this output will be to ensure overall coordination, monitoring and evaluation of the GEF planetGOLD+ Program as a whole. The following incremental activities will be carried out to achieve Output 5.1:

i. Carrying out the Project's Inception Workshop.

ii. Monitoring and Reporting.

The Project Management Unit will ensure that the global project will support the online community of practitioners in Ecuador that will be established under the planetGOLD Global Programme which promotes and maintains channels of communication among all planetGOLD project teams, and important external but related initiatives on ASGM, in order to share project results and lessons learned from this child project.

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

- The programme level indicators:
  - ? amount of mercury avoided
  - ? amount of finance mobilized (disaggregated by gender)
  - ? amount of mercury free/ responsible gold sold to formal markets
  - ? number of beneficiaries assisted in formalization by the project (disaggregated by gender)
- Additional global environmental co-benefits for which the project has set targets;
- Key achievements on project-specific outputs and activities, using template provided by global project, including reporting on efforts to ensure that all planetGOLD beneficiary Mining Entities conform with the planetGOLD Criteria for Environmentally and Socially Responsible Operations.
- The following are the co-beneficiary locations enhanced by the project:

Province: Zamora Chinchipe, in the mining site of Nangaritza.

Province : Napo, in the mining sites of Tena; punino, Ahuano-Huambuno and Yutzupino.

Province: Sucumbios, in the mining site of Cascales.

Province: Esmeraldas, in the mining sites of Eloy Alfaro and Sabn Lorenzo.

Province: Chimborzo, in the mining site of Cumand?.

Province: El Oro, in the mining sites of Zaruma y Portovelo.

Province: Azuay, in the mining site of Camilo Ponce Enr?quez.

Province: Loja, in the mining site of Celica.

As part of JA pilots, co-benefits of the FSP planetGOLD+ Child for Ecuador are expected under GEF Core Indicator 4 ?Landscape area under improved practices?, measured in hectares. This global environmental indicator captures the landscape area that is in production (i.e. mining, agriculture, and other productive sectors) and whose soil, air and water are managed in a sustainable manner.

The area of landscapes that would benefit from improved practices (excluding protected areas) at the end of the project by carrying out the following main actions under Activity 5.1.ii of the Project Document:

- Undertake an alternative livelihoods audit to support economic diversification and avoid loss of access to natural resources leading to economic displacement for rural small-holders.
- Train surrounding communities in selected mining territories to diversify income-generating activities.
- Train artisanal and small-scale gold miners and communities in sustainable land management practices and encourage integrated mine closure practices to avoid, reduce and/or reverse adverse impacts
- Raise community awareness of integrated mine closure throughout the mine life cycle, cost effective strategies for mine rehabilitation/reclamation (i.e., applied nucleation) and social welfare improvement.

Jurisdictional Approach (JA) pilots will be tested in three (3) of the above Tier 1 mining intervention sites to encourage pollution prevention measures and promote improved management practices to avoid and reduce losses of productive land and biodiversity. Sustainable Land Management (SLM) practices. A preliminary assessment has identified three territories as priority intervention areas, although Tier 1 (priority) sites will be confirmed during the project?s inception phase through verification with environmental and social criteria. Therefore, environmental co-benefits calculated at the CEO endorsement stage include **222,693 hectares[135].** The JA approach under this FSP considers total surface area of Cantons (municipalities) where Tier 1 and 2 pilot sites belong. This is a condition of the to make operational the Jurisdictional Approach under this FSP.

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

Also, this monitoring and reporting will include the Project Results Framework with outcome indicators, GEF Core Indicators, baseline and annual target indicators and ProDoc annexes. The monitoring will capture and track progress regarding attainment of the program?s results, adherence to the results framework, program functioning as an integrated effort, and how well this Child Project is working together with the other child projects and their complementing of each other.

iii. Participation in internal planetGOLD Programme coordination events.

Under this activity, this FSP will contribute to the planetGOLD knowledge sharing platform and website which will continue to be maintained by the UNEP Global Mercury Partnership, by the following:

- Participate in a virtual inception/ implementation orientation with global program staff,
- Send two representatives to each Annual Programme Meeting, one from the Project Management Unit and one from the project partners,
- Have project managers attend bimonthly programme coordination calls,
- Have project managers participate in regular (~quarterly) Programme Advisory Group (PAG) calls, and attend or delegate attendance of relevant staff to ad hoc PAG subcommittee meetings,
- Adopt stakeholder engagement strategy consistent with program guidelines.

iv. Carrying out the ?Mid-term Review? (MTR).

The MTR will be carried out after the second submission of the Project Implementation Report (PIR); it will assess the progress of each project activity and attainment of the project?s indicators presented in the Project Results Framework (Section V) and the Multiyear Workplan (Annex 4). This review will also consider one Gender Assessment of project impact completed as part of MTR and the disbursement of financial resources and co-financing provided by project partners, and it will monitor and assess administrative aspects for the execution of the project. The MTR will also inform the adaptive management of the project and improve its implementation for the remainder of the project?s duration.

v. Carrying out the Terminal Evaluation (TE).

This Report aims to evaluate whether all planned project activities have been developed, resources granted by the GEF have been disbursed and spent in line with GEF and UNDP policies and rules, and in accordance with the activities as set out in this Project Document. The Terminal Evaluation will also

extract and identify lessons-learned, how to disseminate them most efficiently, and make recommendations to ensure that project results become sustainable.

170. By project closure, it is expected that from an investment standpoint, innovation embraces a multilevel governance approach to reduce releases of mercury in the ASGM sector in Ecuador of at least 10 tons. It is also estimated that this FSP project will enable the conditions to integrate national policies on the full compliance of the Minamata Convention.

This approach -endorsed politically at the highest level- will result in a set of actions that are likely to create positive local impacts and large environmental benefits over the long run and have a full transformative impact on ASGM activities in the country in conjunction with the overall objective of the GEF planetGOLD Global Programme, as well as for other similar initiatives implemented by UNDP, such as the National Program for the Environmentally Sound and Life-Cycle Management of Chemical Substances (GEF-ID 9203).

4) Alignment with GEF focal area and/or Impact Program strategies;

171. This Full-size Project (FSP) is directly aligned with the Chemicals and Waste Focal area, Industrial Chemicals Program which seeks to eliminate or significantly reduce chemicals subject to better management, in this case of mercury in the framework of the Minamata Convention. The relevant focal area element is CW-1-1: *?Strengthen the sound management of industrial chemicals and their waste through better control, and reduction and/or elimination?*. A specific objective within the Chemicals and Waste Focal Area, Program 1, is the reduction and elimination of mercury from the ASGM sector, which requires high levels of innovation and integration, with holistic interventions capable of sustaining impact beyond the lifetime of a GEF project. It responds to GEF 7 program principles of building on or using existing networks, regional, national, and sub-national institutions.

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

172. As follows, these are the expected contributions from the Baseline, the GEFTF and Co-financing for each component.

Component 1: Formalization optimization of ASGM.

5.1 Contributions from the baseline:

? However, Ecuador needs to overcome a sectorial context that encompasses a series of institutional, legal, social, financial, and environmental gaps that delay the national capacity to comply

with the obligations under the Minamata Convention, in an environmentally sound management approach.

5.2 Contributions from GEFTF:

? Support capacity building of environmental authorities through the establishment of a programme will provide public environmental authorities with the tools to enhance the reduction/elimination of the use of mercury for ASGM operations over the long term.

? Notwithstanding commitment and political will to reducing, and where feasible, eliminating mercury use, achieving goals of this project will be major challenge without inclusive finance and investing in human capital (skills, knowledge, abilities) of miners and their representative organizations to achieve legalization and facilitate the process of formalization. Of which, financial inclusion, business innovation and technology-assisted mineral supply chain due diligence are critical elements.

? Support, through the Ministry of Environment, Water and Ecological Transition, to the enforcement of new regulations in order to enhance a higher degree of formalization in the sector that are in the process of being issued and/or already released/adopted.

5.3 Contributions from co-financing:

? In Component 1, capacity-building activities, including training and better information management through the promotion of inter-institutional coordination, will allow for the incorporation of innovative approaches along the project continuum not only taking into account the decision making process of the high-level authorities at the national level with policy and regulatory instruments but also including specific actions for the proactive participation of the miners (mining entities), participating municipalities and local communities, in order to level off the ground for putting in place an overall approach for Ecuador to comply with the Minamata Convention, Article 7/Annex C.

? The project?s approach will require commitment and collaboration (technically and financially) from the private sector, th academia, and Civil Society Organizations to achieve the projected outputs, outcomes and project targets.

Component 2: Financial Inclusion and Responsible Supply Chains.

5.4 Contributions from the baseline:

? As described in the Theory of Change, for miners, one of the most significant and pernicious barriers to the development of responsible ASGM practices, is access to finance. The deployment of ?mercury-free? investments ?over the long-term- will require innovative means of accessing inclusive capital markets and capacity building for capital mining investments -under a holistic approach- to enhance global environmental reasons for those clusters of populations that depend heavily upon this commercial activity.

5.5 Contributions from GEFTF:

? The GEF funding will assure Global Environmental Benefits in terms of mercury reduction that are additional to the baseline by creating meaningful financial opportunities suitable to the ASGM miners.

? Addressing issues related to small-scale gold mining has required, and will continue to require, mobilization of resources, from government budgets as well as assistance from the GEF. Furthermore, financial mechanisms need to be instituted in order to ensure that miners can purchase mercury-free technologies and maintain financial sustainability. GEFTF resources will be applied to support the advancement of ASGM formalization efforts by piloting a Landscape Approach on responsible gold production and promoting peaceful and symbiotic ASM-LSM coexistence.

5.6 Contributions from co-financing:

? The GoE and project partners, mainly the private sector, will provide substantial and significant co-financing for the execution of pilot projects related to the proposed mercury-free interventions including funding in capacity building for reducing mercury contamination related to the ASGM sector.

Component 3: Enhancing uptake of Mercury-free technologies.

5.7 Contributions from the baseline:

? Notwithstanding commitment and political will to reducing, and where feasible, eliminating mercury use, achieving this will be a major challenge without inclusive finance and investing in human capital (skills, innovative knowledge) of miners and their representative organizations to facilitate the process of formalization, of which financial inclusion, business innovation and technology-assisted mineral supply chain due diligence are critical elements.

? In Ecuador, mostly, the traditional intensive use of mercury for gold amalgamation is known, with inefficient artisanal plants. Therefore, in the current context, economically viable options under the principle of Best Available Techniques/Best Environmental Practices (BET/BEP) for reduction and elimination of mercury and contaminated tailings need to be found, provided and validated.

5.8 Contributions from GEFTF:

? The alternative pathway supported by the GEF should facilitate the lack of access to finance to the deployment of BEP/BAT options. A substantial part of the project resources is budgeted under Component 3, accounting for 26% of the GEF funding (excluding project management) which is dedicated to this Component. This action is justified by the need to level off throughout the different complexities of the ASGM mining territories, requiring the involvement of a variety of technical services, territorial approaches and governance issues in the different sites of intervention.

? Being ASGM the largest intentional use sector and source of mercury-emissions in Ecuador releases contributing to about 30 tons of Hg/year, reduction and elimination costs will be allocated with GEF funding to support the disposal of ten (10) tons of mercury used by the miners who do not have sufficient capital neither access to alternative means to cover mercury-free alternatives. As such project resources will be used in the most cost-efficient way, while optimum effectiveness of the project is achieved by bundling project and private sector resources and efforts.

5.9 Contributions from co-financing:

? In partnership with key stakeholders, the project will establish a support programme to implement pilot projects for individual financially retrained mining entities. The project will subsidize the upgrade of at least three pilot projects identified in the proposal (Annex 3 of ProDoc, TIER 1), but it is important to note that the main share of the costs will be borne with key stakeholders, committed to enhance mercury-free alternatives in Ecuador.

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

5.10 Contribution from the baseline:

? In the diverse context of Ecuador, with insufficient institutional coordination between the ASGM and public sectors, complex cultural and territorial environments and uneven development within the country, the flow of communication will help the Ministry of Environment, Water and Ecological Transition (MAATE) to identify complementarity at the beneficiary level, in order to make the execution of this project very cost-effective.

5.11 Contribution from GEFTF:

? A knowledge management system will contribute to a cost-effective expansion and reproduction of project results, by unifying and coordinating efforts between this project and all the GEF planetGOLD child projects in Latin America; and disseminate knowledge generated to a wider audience to help Parties achieve the Minamata Convention obligations to reduce and where feasible, eliminate mercury use in the ASGM sector.

? The FSP will build on the GEF planetGOLD program that is currently being implemented, through the use of an existing knowledge platform, lessoned learned, capacity building materials, data bases, proven technologies and market opportunities. It will also build on existing efforts of the UNEP Global Mercury Partnership.

5.12 Contribution from co-financing:

? The proactive participation of stakeholders at all levels will contribute to the cost/effectiveness of the project. A communication and dialogue platform will ensure adequate planning and execution of activities in line with the project's objectives, environmentally sound management and the deployment of mercury-free technologies, as well as the complementarity with national environmental policies.

6) Global Environmental Benefits (GEFTF)

173. The GEF funding will assure global environmental benefits in terms of mercury reduction that are additional to the baseline in each country. The following Global Environmental Benefit (GEB) of the project at the CEO Endorsement stage is the same as presented at the PIF stage, i.e.: ten (10) tons of mercury avoided by the project.

174. The methodology to monitor the Global Environmental Benefits of this project related to this GEB will be implemented as follows. Under Component 3 ?*Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners*?, it is estimated that this amount of mercury will be eliminated during the lifetime of the project (5 years). Article 7/Annex C of the Minamata Convention states that each Party should report the measures for the elimination of mercury; on behalf of the GoE, is the Ministry of Environment, Water and Ecological Transition (MAATE) and at the same time the Implementing Partner of this FSP. Under this capacity, quantities of mercury eliminated by the mining entities in charge of the pilot projects will be directly reported to the MAATE through the monitoring plan carried out by the Project Management Unit, in accordance with Section VI ?Monitoring and Evaluation Plan? of the ProDoc.

175. Furthermore, improved mining techniques will reduce negative impacts from unsustainable mining methods on freshwater, globally significant biodiversity (like fresh fish variety) and natural habitats, due to better management of mining processes can reduce erosion and sedimentation.

176. The area of landscapes that would benefit from improved practices (excluding protected areas) at the end of the project by carrying out the following main actions under Activity 5.1.ii of the Project Document:

- Undertake an alternative livelihoods audit to support economic diversification and avoid loss of access to natural resources leading to economic displacement for rural small-holders.
- Train surrounding communities in selected mining territories to diversify income-generating activities.
- Train artisanal and small-scale gold miners and communities in sustainable land management practices and encourage integrated mine closure practices to avoid, reduce and/or reverse adverse impacts.
- Raise community awareness of integrated mine closure throughout the mine life cycle, cost effective strategies for mine rehabilitation/reclamation (i.e., applied nucleation) and social welfare improvement.

Jurisdictional Approach (JA) pilots will be tested in three (3) of the above Tier 1 mining intervention sites to encourage pollution prevention measures and promote improved management practices to avoid and reduce losses of productive land and biodiversity. Sustainable Land Management (SLM) practices. A preliminary assessment has identified three territories as priority intervention areas, although Tier 1 (priority) sites will be confirmed during the project?s inception phase through verification with environmental and social criteria. Therefore, environmental co-benefits calculated at the CEO endorsement stage include 222,693 hectares.

177. This child project will achieve tangible and desired transformation including multiple global environmental benefits, highlighting co-benefits of environmental management and compliance of the gold mining sector toward accelerating progress on the Minamata Convention, REDD+, the United Nations Convention on Biological Diversity (UNCBD), the United Nations Framework Convention on Climate Change (UNFCCC), the Treaty for Amazonian Cooperation (ACTO), and the RAMSAR Convention in Ecuador. As mentioned above, gender mainstreaming will be critical to all project activities, and a Gender Action Plan has been developed to support this.

178. The number of beneficiaries is estimated based on the number of miners that will be targeted and the average family size. It is assumed that all family members of a household with a miner will benefit from the project. The total number of beneficiaries is 26,896 (of which 2,690 women and 24,206 men). This number will be further revised during the implementation phase and duly reported in the annual PIRs.

7) Innovativeness, sustainability and potential for scaling up. ?

179. For the global environment, the strategy of this FSP for greater results is intended to seize opportunities for higher impact in three ways:

180. Innovation: This is based on a market driven approach based on a holistic approach adapted to the Ecuador context, which means taking into account all facets of gold production and the supply chain and how they work together optimally for viable ASGM operations.

181. Sustainability: through integration, this project will harness synergies to trigger local capacity for sustainable change in order to institutionalize efforts based on the need to develop long term relationships with ASGM miners, to improve financial access and availability of funds for miners within the framework of national and international guidelines, in order to sustain the foreseen change for mercury reduction.

182. Scale up: this innovative approach will also reflect the fact that this FSP will generate significant lessons and best practices for knowledge sharing and communications that can be intensified in the planetGOLD Global Program, in a way to increase the potential to deliver significant global environmental benefits (mercury-free in the ASGM sector worldwide).

Innovativeness

183. Component 1 with respect to formalization optimization, the innovative project aspects are related to the fact that the project is based on the assumption that most of the necessary public institutional capacity and regulatory structures need to be enhanced to eliminate the use of mercury in the ASGM sector over the long run; additional support will be predominantly required for the end-users, i.e.: the artisanal miners that do not have the educational, technical and financial capacities to trigger a sustainable change for their current practices.

184. The proposed FSP is enhancing formalization/regularization in its approach. The approach proposed here is based on the notion that holistic multisectoral integrated formalization innovations can deepen mercury reduction in ASGM operations, considering the following factors:

- ? Appropriate legal framework, which promotes management of territorial spaces, not people.
- ? A holistic integrated approach, which means taking into account all facets of the gold production and supply chain and how they work together optimally for viable ASGM operations.
- ? Multisectoral, which means considering all sectors (e.g. forestry, water, health, environment that are important for enabling an optimally functioning ASGM sector with capacity to reduce mercury-free use and support sustainability).
- ? Inclusivity in policy formulation processes that include all stakeholders, including gender mainstreaming.
- ? Inclusion of local context in the institutional arrangements (i.e. miners? organizations, national and sub-national authorities).
- ? Local capacity at the project site and territorial levels for sustainable change.

185. Under Component 2, the project will put in place a programme that will provide financial and technical support to financially deprived individual business-as-usual technology holders (the artisanal miners), to enable and allow them to operate mercury-free in an environmentally sound manner. An additional innovative aspect of Component 2 is the enhancement of financial schemes targeting the diverse variety of ASGM operations in Ecuador.

186. Much of the effort with regards to financial inclusion will be to educate local financial institutions on the opportunity that ASGM presents, de-risking strategies for the sector and how to provide it with suitable financial products. This is important for the long-term sustainability of the project as it institutionalizes access to finance for ASGM miners at the local level and recognizes that GEF donor funds can only go so far.

187. Under Component 3, the innovation related resides predominantly in the aspect that with this FSP?s support, Ecuador would be able build the necessary capacity to launch ?for the first time in a holistic manner- very innovative aspects in terms of capacity building and by the implementation of mercury-free pilot projects in different hard-rock and alluvial territories, following a cost-benefit analysis based on the selection criteria of the Minamata Convention, recommended feasible alternatives and technological requirements that should be put in place.

4.6.2 Sustainability

188. The project has been designed to create an enabling framework for strengthening the national capacity for ASGM industry formalization in Ecuador to minimize risk to mercury exposure of human beings, in an environmentally sustainable market approach within the framework of the Minamata Convention, Article 7. Local stakeholder engagement ?for both, alluvial and hard-rock artisanal mining- should demonstrate that the priority for action is alignment of the artisan gold mining activity with government support under the appropriate regulated context. This step is critical for advancement of community-level issues, advocacy, and long-term sustainability.

189. In this sense, the sustainability of interventions proposed as part of Component 1 lie in the fact that after this project has been fully executed, Ecuador has made substantive efforts to ensure that ASGM mining operations in several community-based, officially formalized areas, can be managed in a cost-effective, sustainable way. The approaches provide strategies that will integrate ASGM formalization into community land use planning, biodiversity preservation and livelihood security as well as drawing stronger political and stakeholder commitments. The use of these approaches will provide an additional pathway to ensure the sustainability of this child project over the long-term. The establishment of a support programme for individual gold miners who are technically and financially restrained, will be fully engaged; ensuring also a significant reduction of the use of mercury for these stakeholders over the long run. Additionally, a sustainable artisanal mining sector serves as a source of jobs and income for communities in remote locations, contributing to regional development and mitigating the rural exodus.

190. For Component 2, this FSP has considered the fact that current technologies (most the so called ?*chanchas*?) will be modified and updated thanks to the availability of fresh and innovative financial schemes with the proactive role of impact financiers, guaranteeing the sustainability of the project, which aims to phase out the use of these technologies and replace them with feasible, safe and cost-effective alternatives. In accordance with these actions, the project will build the necessary incremental capacity for the validation over time of the alternative technologies, and after the project ends, these financiers will continue to finance ASGM operations in a sustainable way, as stipulated by the mining regulation (Mining Law, Article 6)[136] and other environmental regulations, ensuring sustainability.

191. Through the financial schemes enhanced and promoted under Component 2, it is foreseen that legally-established community groups (MEs) will increase investments in alternative technologies by fostering their business activities in terms of gold recovery, environmental management and by enhancing the collaboration between these groups and interested stakeholders downstream. The ultimate objective of this component will be to balance benefits for each of the stakeholders to ensure its sustainability.

192. Under Component 3, the Program should be an opportunity to test new solutions to address the objective of reducing mercury emissions from ASGM, the results of these holistic approaches will be documented in a systematic manner similar to the planetGOLD Global Program where lessons learned from the interventions of the child projects are made available through the planetGOLD Knowledge Management Platform. Documentation and systematization of lessons learned will also apply to Components 1 and 2. This allows other ASGM participating countries to identify the management and technical options that best fit their local conditions.

193. In short, the sustainability after completion of this FSP depends on four main effects aligned with the Development Challenge:

i. Improve the institutional and regulatory frameworks. This is in tune with its commitments under the Minamata Convention and in accordance with the National Action Plan of Ecuador;

ii. increase the flow of local and international investment capital and impact-oriented lenders to launch alternatives to the deployment of mercury-free technologies to sustain the change over time once this FSP is completed;

iii. Formalization and mercury-free models linking ASGM with private sector and responsible mining CSOs have greater prospects for sustainability and upscaling, decoupling the intervention from long term donor dependence; and

iv. Mercury-free gold processing units will bring three main benefits to the miners and their communities: a) It will increase miner?s income by increasing gold recovery rates compared to the current practices and tools used (so more gold from the same amount of ore), b) it will decrease health risks by reducing miners' exposure to chemical and physical hazards, and c) it will eliminate the negative environmental impacts of using mercury for gold processing.

Potential for scaling up

194. The capacity building approach mainstreamed in all components is to ensure knowledge and experiences stay in country within relevant institutions. Under Component 1, to increase the capacity of national and sub-national authorities to assess, plan, and implement sustainable and mercury-free interventions in the ASGM sector and by creating an enabling environment for mercury-free ASGM through improving the national ASGM policy and regulatory framework. When the project comes to an end the increased capacity of national entities and local authorities and the improved policy and regulatory enabling environment for mercury-free ASGM will continue to serve the ASGM sector and encourage continued phase-out of the illegal use of mercury.

195. For Component 2, the project will partner with banks, MFIs and other impact financiers to make loans/investments for the purchase of mercury-free processing equipment/investments available, more affordable and more easily accessible to formalized ASGM miners. The project will do this by supporting lending institutions/entities to develop or improve financial products for the ASGM sector, such as the *?Green Recovery?* financial mechanism and build their capacity to undertake financial risk assessments, with the purpose of eventually increasing the amount of financing made available through these new or improved financial mechanisms to the ASGM sector, as it is the context to project financing for the *?jancheras?*. These financial products/mechanisms will continue to exist after the project comes to an end; banking miners is a private sector sustainability proposition that goes beyond donor funds. The project, through the PMU, will gear this process in a way that financial returns and repayment rates are well documented and broadly disseminated to help de-risk the ASGM sector in Ecuador. Where gold deposits exist and miners are well banked, financiers will be available to provide credit and hence continuity and scaling up of program results.

196. As part of the project, selected ASGM miners will also be trained in how to develop loan/investment applications for their entities/communities and how to apply for loans. Results of this support will be captured in simple lessons-learned flyers so that information can be easily disseminated and replicated by other mining communities.

197. Scaling up of project results is being ensured by improving the capacity of the GoE, the rural authorities in the mining territories, private sector and miners (among others) in more efficient and lucrative ASGM practices (that also happen to be more environmentally friendly and use less or no mercury) and by facilitating the access of miners to financing/loans that allow them replicate these practices that make sense from a financial point of view (social impact investors) throughout the ASGM Mercury Lifecycle in Ecuador.

198. The project will demonstrate, by supporting three (3) pilot projects in Component 3, that it will be possible to eliminate/avoid the use of mercury to extract gold while increasing the income of artisanal miners and their communities. The project will achieve this by supporting three (3) community-based groups in introducing more efficient and environmentally friendly mining and processing practices and supporting miners in their regularization and formalization processes leading to more sustainable income opportunities and safer working conditions.

199. Throughout this process, not only miners and their communities will be trained, but the project will also support the *Training-of-Trainers*. These trainers will be selected from the mining territories supported by the project but also from project partners at the local level as well as relevant stakeholders, like the academic partners, who liaise with or provide services to the ASGM sector frequently. These events will take place at the pilot plants built early in the project that will serve as hands-on training facilities, field gravity recovery analysis and testing laboratories, and will directly eliminate mercury use. This will allow these partners to observe and practice firsthand improved practices and apply gained knowledge and expertise to support other mining communities in the future. Furthermore, the project will help establish a route to market for mercury-free gold which will allow miners to obtain better prices for their mercury-free gold.

200. Even though capacity building support will come to an end when the project is closed, the project will have demonstrated that more efficient mercury-free processing and mining practices can increase income in selected ASGM territories. An increase in income is by itself the most convincing argument for replication by other mining territories. Furthermore, trainers will have been trained who can pass on hands-on knowledge about more efficient mercury-free processing and mining practices. Results of the support to the sub-national authorities will also be captured in simple lessons-learned flyers so that information can be easily disseminated and replicated by other mining territories.

201. Throughout the project?s implementation, project results, experiences, lessons-learned and best practices will be captured, published, and taken up by the GEF GOLD Global Dissemination Platform,

considering the activities planned under Component 4, Output 4.1. The objective of the (UNEP led) GEF planetGOLD Global Dissemination Platform is to unify and coordinate efforts among all the GEF planetGOLD child projects and disseminate knowledge generated (e.g. experiences in formalization, access to finance and market and technology transfer) to a wider ASGM audience to help Parties to the Minamata Convention meet their obligations to reduce and where feasible eliminate mercury use in ASGM. When the project comes to an end these materials and resources will continue to remain available and to serve the wider ASGM community in Ecuador.

202. Ultimately, the GEF contribution will serve to continue and strengthen the actions started by the National Chemicals Management Program (GEF-ID 9203) and the planetGOLD overall objective. Yet, it will be additional to efforts already in place, because it will target other mining areas such as alluvial mining, which have not been targeted yet. The implementation of this child project will help increase the impact of the work already undertaken in ASGM and will be fully aligned to all the initiatives and policies of the mining sector. It will also help give additionality to implemented actions and strengthen the sector towards a more sustainable path.

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[1] Megadiverse countries are a group of nations containing more than 70% of global biodiversity, identified in 1998 by Conservation International (CI). Convention on Biological Diversity. (2021). Retrieved online: https://www.cbd.int/countries/profile/?country=ec

[2] Ecuador possesses twenty-six unique habitat types, each with characteristic flora adapted to altitude and precipitation levels.

[3] Convention on Biological Diversity. (2021). Retrieved online: https://www.cbd.int/countries/profile/?country=ec

[4] Mestanza-Ram?n, C.; Paz-Mena, S.; L?pez-Paredes, C.; Jimenez-Gutierrez, M.; Herrera-Morales, G.; D?Orio, G.; Straface, S. ?History, Current Situation and Challenges of Gold Mining in Ecuador?s Litoral Region?. Land 2021, 10, 1220.

[5] NAP. Page 13.

[6] ?Covid-19 and Youth Labor Market Inequalities in Ecuador? (2021). Washington, D.C. : World Bank Group.

[7] NAP. Page 38.

[8] 2020 Findings on the Worst Forms of Child Labor: Ecuador. United States Department of Labour (USDOL). Retrieved online here.

[9] Impact Toolkit: *?Gender Impact Assessments for Projects and Policies Related to Artisanal and Small-Scale Mining?*. Page 4.

[10] UNDP/GEF.?*Producto No. 1. Documento de diagn?stico de la actividad de selecci?n de minerales (Jancheo) desarrollada por grupos de mujeres ubicadas en el cant?n Camilo Ponce Enr?quez, provincia de Azuay?,* Junio 2021.

[11] NAP. Page 46.

[12] In response to economic and political uncertainty, the price of gold hit a record high of $2,070.80 per ounce in August 2020.

[13] **Immediate causes** are the most evident manifestation of the development challenge and determine the current status of the problem to be analyzed.

[14] **Underlying causes** are the consequence of a lack of policies and laws, institutional factors and unavailability of resources.

[15] **Root causes** are pervasive and long-standing development performance issues, often related to historical and cultural legacies, which affect development outcomes through attitudes and behavior at different levels, often regardless of policy and legislative changes.

[16] It is important to note that ?*formalization*? refers to the overall governance of the ASGM sector; miners themselves are not licensed but rather the site in which they are operating.

[17] NAP. Page 21.

[18] NAP. Page 44.

[19] Under this FSP, Legitimate Mining Entities (MEs) refers to mining organizations or group of miners that are consistent with applicable laws. MEs must be identified, evaluated and verified early on during project implementation to receive access to finance. While in some countries, ASM activities are covered by national laws and regulations, in others, ASM's legality can be unclear. When the applicable legal framework is not enforced, or in their absence, 'legitimacy' of ASM may consider in good faith efforts put forth.

[20] These include, mainly licensing, monitoring, and compliance with other existing laws and regulations.

[21] UNDP/PAGE. Page 17.

[22] Gender represents an intersection of identity factors, including sex, age, ethnicity, race, nationality, or indigenous status.

[23] UNDP/GEF/MAAE/MERNNR: *?Desarrollo de un producto financiero para ser utilizado en el sector de la MAPE*?, Producto 4. Reporte de Caso desde un Enfoque de G?nero, Quito, Julio 2019.

[24] NAP. Page 39.

[25] NAP. Page 39.

[26] NAP. Page 48.

[27] These include a wide range of stakeholders, including national and sub-national authorities, miners, intermediaries, gold buyers and merchants.

[28] NAP. Page 48.

[29] UNEP. 2018. ?Global Mercury Assessment 2018?. Available at:

https://wedocs.unep.org/bitstream/handle/20.500.11822/27579/GMA2018.pdf?sequence=1&isAllowed=y

[30] Metal Focus. 2019. Gold Focus 2019. Available at: https://www.europeangoldforum.org/wp-content/uploads/sites/8/2019/04/Gold-Focus-2019-compressed.pdf

[31] UNEP Global Mercury Assessment, 2018.

[32] As of January 2021, Ecuador had 8.3 billion barrels of proved crude oil reserves. Ecuador' oil reserves are the third largest in Latin America, after Venezuela and Brazil. Most oil reserves are located in the Amazon Orient Basin.

[33] World Bank, ??Country Partnership Framework for The Republic of Ecuador for The Period Fy19-Fy23?, Report No. 135374-EC, June 11, 2019.

[34] MAATE: ?National Action Plan on the use of Mercury in Artisanal and Small Scale Gold Mining in Ecuador ?NAP-?, page 3, May 2020.

[35] PDNA Covid-19: ?*Evaluacion socioecon?mica*?, March-Dec. 2020. Page 7.

[36] The major exposure route of elemental mercury is inhalation of vapors during amalgam roasting. Symptoms of acute toxicity following high levels of exposure to Hg vapor can occur within hours of exposure. Mercury vapor can cross the blood-brain barrier and placental barrier in women, resulting in birth defects. It is also excreted in breast milk, placing young children at risk of pulmonary toxicity and respiratory failure.

[37] Mercury can be mobilized from soils through interaction with organic acids, or naturally settle onto soils/water via atmospheric deposition.

[38] In 2020, the Organization of American States (OAS) admitted a petition filed by the Federation of Farmers of Tumbes (Peru) against the Government of Ecuador for the alleged contamination of the Tumbes River from mining activity in the Portovelo-Zaruma District. In January 2021, farmers and environmentalists from the neighboring country carried out a peaceful protest demanding recognition from the Inter-American Court of Human Rights, as despite existing lawsuits environmental pollution and dispersal of heavy metals in the river continues unabated.

[39] NAP. Page 33.

[40] NAP. Page 32.

[41] According to the Mining Law, classification of illegal mining is applicable to: (a) Illicit activity with mineral resources; b) Proprietors who allow illegal mining activities in their areas; c) Authorization for free exploitation used for other ends; d) Non-observance of the prohibition of child labor in all mining activities; e) Non-observance of ASGM prohibitions in certain protected areas; f) Financing or provision of machinery for the illicit extraction of mining resources; g) Non-observance of the prohibition of mercury use; and h) Crimes against water. See NAP. Page 38.

[42] PNUD/PAGE(2021), ?*An?lisis TSA en el sector de la Miner?a Artesanal y de Peque?a Escala de oro en Ecuador*?. Page 15.

[43] NAP. Page 27.

[44] In Ecuador, the gold content is calculated in gigagrams per ton (g/t) for hard rock and in gigagrams per cubic ton (g/m3) for alluvial deposits.

[45] UNDP/PAGE. Page 32.

[46] UNDP/PAGE. Page 33.

[47] UNDP/PAGE. Page 20.

[48] UNDP/PAGE. Page 33.

[49] UNDP/GEF ID-9203: *?Producto I. Matriz De Caracter?sticas T?cnicas De Laboratorios De An?lisis Mineral*?, page 2.

[50] D. Stapper, K. Dales, P. Velasquez, and S. Keane. 2021. Best Management Practices for Cyanide Use in the Small-Scale Gold Mining Sector. Published by the PlanetGOLD Programme (Global Environment Facility and United Nations Environment Programme). October, 2021.

[51] UNDP/PAGE. Page 20.

[52] UNDP/PAGE. Page 20

[53] NAP. Page 29.

[54] Constitutes a worst environmental practice as per Article 7, Annex C of the Minamata Convention on Mercury.

[55] D. Stapper, K. Dales, P. Velasquez, and S. Keane. (2021). Best Management Practices for Cyanide Use in the Small-Scale Gold Mining Sector. Published by the PlanetGOLD Programme (Global Environment Facility and United Nations Environment Programme). October, 2021.

[56] Mining Law, Art. 45, page 21.

[57] D. Stapper, K. Dales, P. Velasquez, and S. Keane. (2021). Best Management Practices for Cyanide Use in the Small-Scale Gold Mining Sector. Published by the PlanetGOLD Programme (Global Environment Facility and United Nations Environment Programme). October, 2021.

[58] PPG National expert personal communication January 2021.

[59] For the Jancheras case, they do not use mercury directly for gold extraction, since their material is delivered directly to the ?chanchas? processing facilities, that receive the amalgam as a final product. Therefore, the ratios of mercury use do not apply for this group of women.I.

[60] In 2021, Ecuadorian Ministries of Energy and Environment signed an inter-institutional commitment for the legal recognition of women mineral selectors advancing gender equality efforts for Janchera?s in the ASGM sector.

[61] World Gold Council. (2021). Central Bank domestic ASGM purchase programmes.

[62] MAAE/GEF/ONUDI/AGC: ?*L?nea de Base Nacional para la Miner?a Artesanal y en Peque?a Escala de Oro en Ecuador, Conforme la Convenci?n de Minamata sobre Mercurio*?, page 88.

[63] The Central Bank purchase programmes have the best chance of success if purchase counters are easily accessible to ASGM entities; if it proves necessary to work through traders or aggregators then it is important for them to be subject to licensing and close supervision.

[64] *Open market* access refers to unrestricted sale to domestic and foreign markets.

[65] NAP. Page 24.

[66] NAP. Page 27.

[67] MAAE/GEF/ONUDI/AGC: ?*L?nea de Base Nacional para la Miner?a Artesanal y en Peque?a Escala de Oro en Ecuador, Conforme la Convenci?n de Minamata sobre Mercurio*?, page 10, 2018.
Figure of 1.5 tons of gold is estimated according to what was known as legal operation at the time the NAP survey was carrid out, however, total production could be much higher. Also, this 1.5 tons are produced with much higher ratios of Hg use that rock/primary mining.

[68] Women who specialize in collecting and accumulating the ore that the operations dispose of in dumps. The gold is later sold to nearby processing plants normally at prices lower than those obtained by other miners.

[69] Mestanza-Ram?n, C.; Paz-Mena, S.; L?pez-Paredes, C.; Jimenez-Gutierrez, M.; Herrera-Morales, G.; D?Orio, G.; Straface, S. History, Current Situation and Challenges of Gold Mining in Ecuador?s Litoral Region. Land 2021, 10, 1220.

[70] NAP. Page 33.

[71] NAP. Page 46.

[72] NAP. Page 13.

[73] NAP. Page 43

[74] Tributer systems refer to fee-for-service concession sharing arrangements between local concessionaries or larger scale mining companies that may be formal in informal. Tributer schemes may involve registration of all ASM operators encroaching on a property and result in demarcation of ASM zones for miners to rightfully work on an LSM concession, thus improving security of land and mineral tenure. In other circumstances this may include payments to landowners.

[75] NAP. Page 43.

[76] National Institute of Statistics and Census INEC, August 2020.

[77] The Indigenous World 2021. Retrieved online: https://www.iwgia.org/en/resources/indigenous-world.html

[78] Ecuador voted in favor of the UN Declaration on the Rights of Indigenous Peoples in 2007 and has ratified ILO Convention 169. However, the Indigenous population does not have full guarantees of civil, political, cultural, and territorial rights, and are still facing a number of serious challenges, and there aren't any specific public policies in place to prevent and neutralize the risk of disappearance of Ecuador?s Indigenous Peoples.

[79] NAP. Page 19.

[80] NAP. Page 38.

[81] Cuenca P, Robalino J, Arriagada R, and Echeverr?a C (2018) Are government incentives effective for avoided deforestation in the tropical Andean forest?. PLOS ONE 13(9): e0203545. https://doi.org/10.1371/journal.pone.0203545

[82] Mining Law Review. (2020). Ecuador legal framework for the mining sector. Quito.

[83] Worst Forms of child labour (2020) in Ecuador. US Department of Labour.

[84] Gold purchasing data can be found at: www.bce.fin.ec

[85] https://eiti.org/es/articles/ecuador-se-une-al-eiti

[86] Jurisdictional approaches (JA) - a type of landscape approach ? have emerged as government-led, holistic approach to land use management across one or more legally defined territories. JAs seek to align interests and coordinate actions among sub-national government, local communities, NGOs and businesses toward shared goals to enhance supply chain sustainability of certain commodities.

[87] Financial inclusion is proffered as the solution for the unbanked; ?unbanked? refers to people/entities who do not have access to affordable financial products and services that meet their needs, delivered in a sustainable and responsible way. Retrieved from: https://www.worldbank.org/en/topic/financialinclusion/overview

[88] Ecuador?s National Biodiversity Strategy and Action Plan (2015-2030) defines major priorities for conservation efforts of relevance for environmental co-benefits under the planetGOLD+ child project.

[89] Ecuador currently has 19 sites designated as Wetlands of International Importance (Ramsar Sites), with a surface area of 1,064,483 hectares.

[90] Component 3 of the GEF-ID 9203. ?Reducing the use and releases of mercury from Artisanal and Small-Scale Gold Mining (ASGM) at a non-industrial level (by a total of 2 tons), and products containing mercury (by 35 kg/yr)?.

[91] Please, refer to Annex 3 of ProDoc for further reference.

[92] Please, note that for the Ecuador GOLD+ Child Project, this refers to the engagement and alignment of several stakeholders including governments, businesses, communities, and NGOs around

shared goals, including but not limited to: conservation, supply chain sustainability, green economic development and land use.

[93] UNDP/GEF/MAAE/MERNNR: ?*Desarrollo de un producto financiero para ser utilizado en el sector de la MAPE?, Producto 4. Reporte de Caso desde un Enfoque de G?nero*, Quito, July 2019.

[94] For instance, *Cooperativa Jardin Azuayo* and *Cooperativa JEP*, both are interested in operatizing the financial product together with BCE.

[95] In 2020, the sum of mercury use reductions to be achieved by the planetGOLD+ (phase 2) program in participating countries during the 5-year program implementation phase was confirmed at 70 metric tons. While countries have a very specific ASGM-related context, they also have in common a widespread distribution of ASGM sites over their territories. In line with the program?s theory of change which is designed to remove barriers to access to finance and adoption of mercury-free technologies, to enhance formalization, and to share knowledge and lessons learned at the national and global level, mercury use reduction will be replicated after the program is finalized. A replication by a factor 3 is expected over the 10 years following completion of the program. Consequently, mercury abatement targets for Child projects are multiplied by three. This represents an additional 210 metric tons of mercury use reductions. The total reduction of mercury use in ASGM achieved through the program is, therefore, 280 tons of mercury is anticipated. Addition of Child project countries should follow the same logic for consistency.

[96] Formalization actors include the different stakeholders who have an active role in enhancing ASGM formalization from local to national level, such as Mining Entities, CSOs, national and sub-national public agencies, policy makers and other support institutions.

[97] UNDP/PAGE: Page 22.

[98] NAP, page 56.

[99] NAP, page 65.

[100] NAP, page 56.

[101] NAP, page 57.

[102] This guidance sets out specific criteria to govern the operations of artisanal and small-scale gold mining beneficiaries engaged with the planetGOLD programme. By adhering to these criteria, beneficiaries of the programme will meet the environmental and social safeguards required of Global Environment Facility-funded projects.

[103] The Code of Risk mitigation for ASM engaging in Formal Trade (CRAFT) aims to facilitate the relationship between the gold industry and the ASM sector, as an enabling tool to advance OECD Due

Diligence Guidance (DDDG) while laying out a progressive path toward the mitigation of risks and promoting of responsible mining.

[104] https://www.responsiblemines.org/en/project/model-of-responsible-artisanal-and-small-scale-mining/

[105] NAP, page 58.

[106] Mining Entities (MEs) may also refer to verified cooperatives, small-scale businesses or representative legitimate organizations that complaint with planetGOLD+ criteria for socially and environmentally responsible mining operations as a branched version of the CRAFT Code. Additional requirements may be added to these criteria to enhance compliance with existing laws, regulations and mining policies of Ecuador.

[107] NAP, page 58.

[108] NAP, page 59.

[109] NAP, page 60.

[110] UNDP/PAGE: Page 27.

[111] Please, note that is biomonitoring in ASGM contexts is going to take place by any means as action of this activity, the following reference should be taken into consideration: *?Human biomonitoring in artisanal and small-scale gold mining: ethical and scientific principles. Geneva: World Health Organization; 2021?.*

[112] NAP. Page 38.

[113] NAP, page 56.

[114] Ecuador is divided administratively into provinces, cantons (municipalities), and parishes. Provinces are governed by a governor, cantons by a political chief (*jefe pol?tico*), and parishes by a political lieutenant.

[115] Climate change risk assessments (sub-national level) associated with Output 1.2., Activity ii are part of the SESA.

[116] For further information, please refer to the following Report: *Review of Jurisdictional Approaches and Considerations for ASGM Programming for the GOLD+GEF Global Program to Reduce/Eliminate Mercury from ASGM. January 2020. NMutemeri Consulting.*

[117] NAP, page 63.

[118] Please note: Total number of beneficiaries includes 26,896 miners (x average household size).

The assumption is that every mine-headed household will benefit from the project directly through improved miner incomes achieved via fair market price, reduced risks to human health, safety, security, etc. According to the UNPF, Ecuador has an average household family size of 3.8, or 4 (6,724 miners for both of each Tier 1 and 2 sites), which equals 26,896 total beneficiaries for this FSP, of which about 10% corresponds to females, as per the NAP.

[119] As part of the SESA, Output 1.2, Activity ii climate change risk assessments will be conducted for Tier 1 sites to inform and strengthen social and environmental safeguards implemented under the project as part of broader integrated land-use planning, prior to JA pilots for selected districts. The SESA will be conducted at the Canton (sub-national level) with a strategic focus on natural hazards and extreme weather events, as a de-risking mechanism to compliment Outcome 2.

[120] Climate Risk Profile: Ecuador (2021): The World Bank Group. Available online.

[121] CIP is a sequential leach followed by absorption. During the CIP stage, pulp flows through several agitated tanks where NaCN and O_2 have been added to dissolve Au into solution. In the absorption stage, solution flows through several agitated tanks containing activated carbon. Au absorbs on to activated carbon, which flows counter-current to the pulp, while screens separate the barren pulp from Au-loaded carbon.

[122] CIL is a simultaneous leach and absorption process. CIL process were developed for gold ores that contain pre-robbing materials (i.e., carbonaceous, natural absorptive carbon. These reduce the gold yield by attracting gold meant for the activated carbon. Simultaneous leaching and absorption help to minimize the problem and reduces the cost of construction and operation.

[123] During the PPG, a process comparison was carried out for the best available technologies to achieve GEB targets. Flow sheets of the process will be refined under Component 3 through comprehensive analysis and feasibility studies to optimize mercury-free production systems for alluvial and to a lesser extent hardrock deposits.

[124] NAP. Page 60.

[125] UNDP/PAGE: Page 27.

[126] PDNA Covid-19: ?*Evaluaci?n socioecon?mica*?, March-Dec. 2020. Page 56.

[127] Project Implementation Review (PIR), 2019.

[128] UNDP/PAGE: Page 27.

[129] NAP. Page 61.

[130] Vulnerability encompasses a variety of concepts and elements including sensitivity or susceptibility to harm and lack of capacity to cope and adapt, from *?GEF AGENCY RETREAT: guidance on climate risk screening of GEF projects?*.

[131] ?Techniques? means technologies used, operational practices and the ways in which installations are designed, built, maintained, operated, and decommissioned; as defined by Art. 2, of the Minamata Convention.

[132] NAP. Page 62.

[133] Please, refer to *?planetGOLD Communications Strategy 2020?* Report.

[134] Please, refer to Strategy 2.6.3 of the NAP, page 74 for the specific objectives when addressing this approach.

[135] Environmental co-benefit calculations are based on spatial and contextual analysis of Tier 1 (priority) and Tier 2 (secondary) sites, combined with data collected during field visits by the PPG National Team (2022). The project?s sphere of influence includes existing Artisanal and Small-scale Mining (ASM) concessions with graduated buffer zones surrounding Tier 1/2 sites based on total site area. Buffer zones were demarcated to minimize impacts on adjacent land use and guided by preliminary assessments. Final buffer zone distances should be validated during site verification during project inception. Jurisdictional Approach (JA) pilots in Tier 1 and 2 sites adopt a Canton-level approach, except for the Nambija - San Carlos District site. In this area, parish-level interventions were selected due to a politically relevant watershed agreement for mining areas at the municipal level.

[136] Article 6 of the Mining Law states: ?*The State will establish mechanisms for promotion, technical assistance, training and financing for sustainable development for artisanal mining and small mining. Likewise, it will establish incentive systems for environmental protection and generation of productive units more efficient.?*

1b. Project Map and Coordinates

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

203.

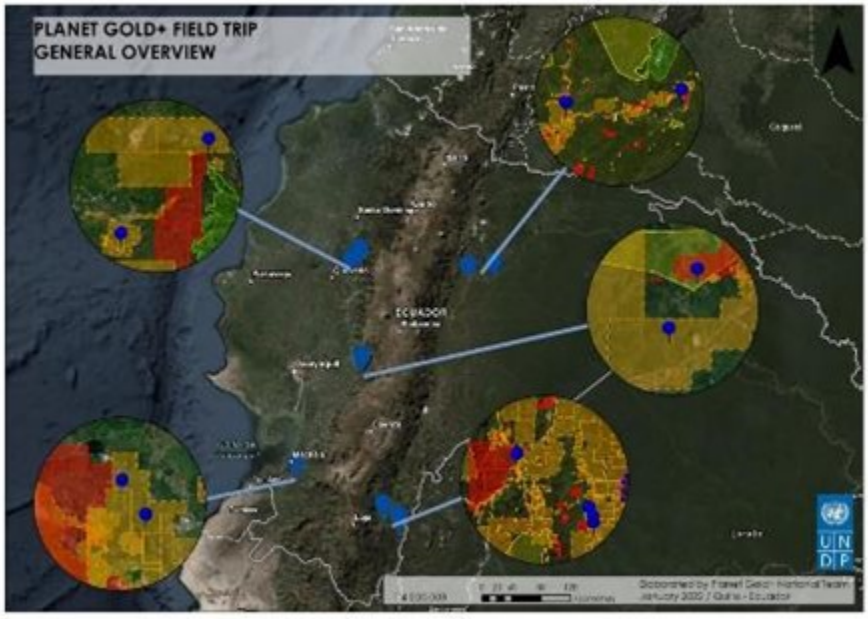


Figure 3.1: Overview of Ecuador planetGOLD+ intervention sites are based on the East, Sierra (Central) and Coast Regions of Ecuador. Tier 1 and Tier 2 sites are shown within the map of Ecuador.

These sites were selected, analyzed and proposed by the National Team, based on the results of the National Action Plan on Minamata Convention; and presented to the National Authorities who as partners of the Project, who approved them.

The process to select the sites was carried out by analyzing the previous information and the data collected during the field trip by the National Team. Once the criteria were stablished, all de data was analyzed through the following table:

Table 1. Selections sites criteria based on NAP and field trip done by National Team.

Criteria	**Description**	**Proposed GOLD+ Intervention Site**					
		Tier 1 Sites				**Tier 2 Sites**	
		Cotopaxi	El Oro	Zamora Chinchipe		Napo	Loja
		La Man?	Santa Rosa	Nambija	San Carlos	Arosemena Tola	Hualtaco
Gold	Access to economically viable gold deposit	Yes	Yes	Yes	Yes	Yes	Yes
Production	Type of deposit	Alluvial	Alluvial	Alluvial	Alluvial; Primary	Alluvial	Primary
	Established gold extraction and processing units	Yes	Yes	Yes	Yes	Yes	Yes
	Est. annual Au production2	250.91 Kg	Unknown	791.25 Kg	78.11 Kg	165.18 Kg	Unknown
Workplace Dynamics	Primary ASGM workforce (miners, processors)	84	Unknown	1500	56	168	Unknown
	Women miners, processors, traders (% workforce)	8	Unknown	150	6	17	Unknown
	Secondary ASGM workforce (services, equipment)	Yes	Yes	Yes	Yes	Yes	Yes

	Women secondary livelihoods (% workforce)	8	Unknown	150	6	17	Unknown
	Preventative measures: Child labour	Yes	Unknown	Unknown	Unknown	Unknown	Unknown
Hazardous Chemicals	Mercury use (Hg:Au Ratios)[3]	7.2	0.44 (Province rate)	2.02	11.08	11.08	4.17 (Primary MAPE national rate)
	Worst environmental practice[4]	Chancha (Amalgamation cylinder)	Zeta	Chancha (Amalgamation cylinder)	Chanchilla (Amalgamation cylinder)	Chancha (Amalgamation cylinder)	Chancha (Amalgamation cylinder)
Formalization	Presence of informal extraction units	Yes	Yes	Yes	Yes	Yes	Yes
	Presence of legally registered Mining Entities (MEs)	Yes	Yes	Yes	Yes	Yes	Yes
	Legal right to exploit gold deposit	Yes	Yes	Yes	Yes	Yes	Yes
	Willing to sell to Central Bank of Ecuador or formal markets	Yes	Yes	Yes	Yes	Yes	Yes
	Success of ore buying strategy[1]	No	No	No	No	No	No
	Coexistence with LSM actor(s)	No existence of LSM in the zone	No	No	No	No existence of LSM in the zone	No
Multi-Stakeholder Collaboration	Favorable attitude of local mining community	Somewhat favourable	Somewhat favorable	Somewhat favorable	Somewhat favorable	Somewhat favorable	Somewhat favorable

	Favorable attitude of local concession owner(s)	Favourable	Somewhat favorable	Somewhat favorable	Somewhat favorable	Favourable	Somewhat favorable
	Political will of Provincial Gov.	Yes	Yes	Yes	Yes	Yes	Yes
	Political will of Canton Mayor	Yes	Yes	Yes	Yes	Yes	Yes
	Existing multi-stakeholder platform or mining committee	No	No	No	No	No	No
Biodiversity	Avoidance[2]/mitigation of impacts on critical habitats	Avoidance	Avoidance	Avoidance	Avoidance	Avoidance	Avoidance
	Transboundary watershed or drainage basin	No	Yes	Yes	Yes	No	Yes
Indigenous Communities	Distance from indigenous territories[3] (Kilometers)	26.6 km	59.2 km	59.6 km	59.6 km	22.6 km	83.2 km
	Cultural heritage sites impacted	No	No	No	No	No	No
Logistics	Presence of non-state insurgents/terrorist groups	No	No	No	No	No	No
	Reasonable distance/travel time from urban center	Yes	Yes	Yes	Yes	Yes	Yes
	Access to road infrastructure/ basic services	Yes	Yes	Yes	Yes	Yes	Yes
	Reliable access to electricity/ network	Yes	Yes	Yes	Yes	Yes	Yes

	Natural hazards (flooding, landslides or earthquake)	Yes, landslides	No	Yes, landslides	No	No	No

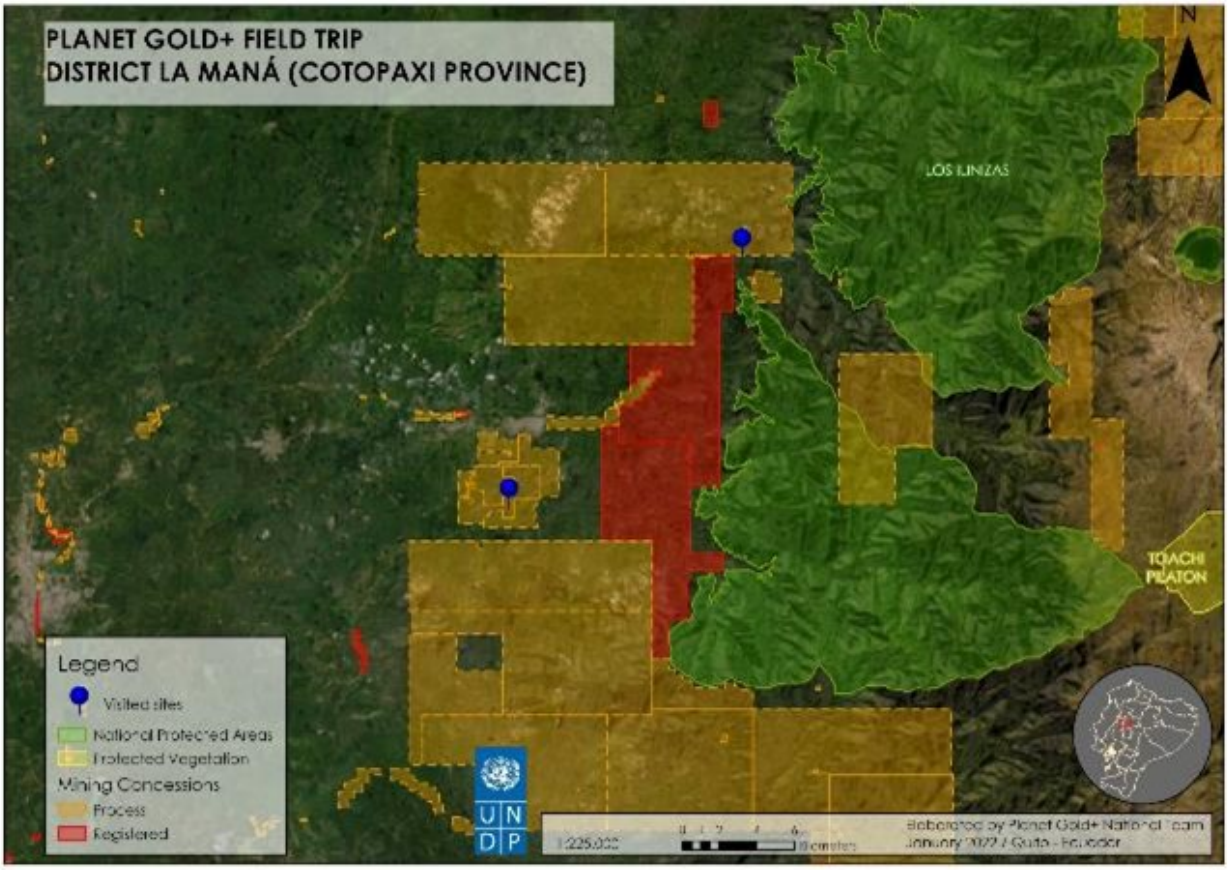


Figure 3.2.: La Man? site, considered as Tier 1, is located in the Province of Cotopaxi (Central Sierra). This location has alluvial ASGM activity with some small scale miners, as well as artisanal activities. The site is surrounded by agricultural activity, mainly oil palm and banana crops.

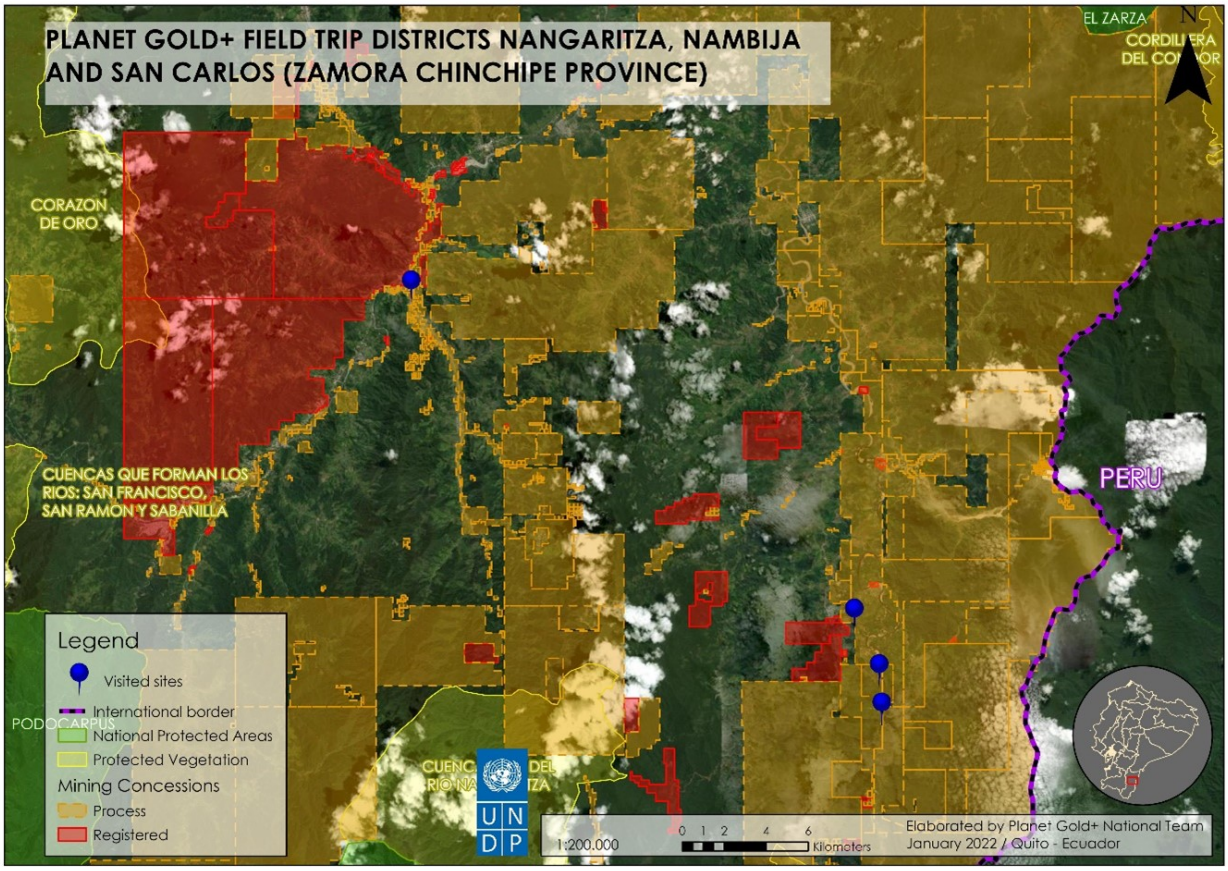


Figure 3.3.: Nambija ? San Carlos site approved as Tier 1 by the National Authorities is located in the Southeast of Ecuador. This site was optimized in one district due to the closeness between them and because they both have similarities in terms of mining population. Nevertheless, Nambija location is 100% primary mining, and San Carlos as alluvial ASGM activity.

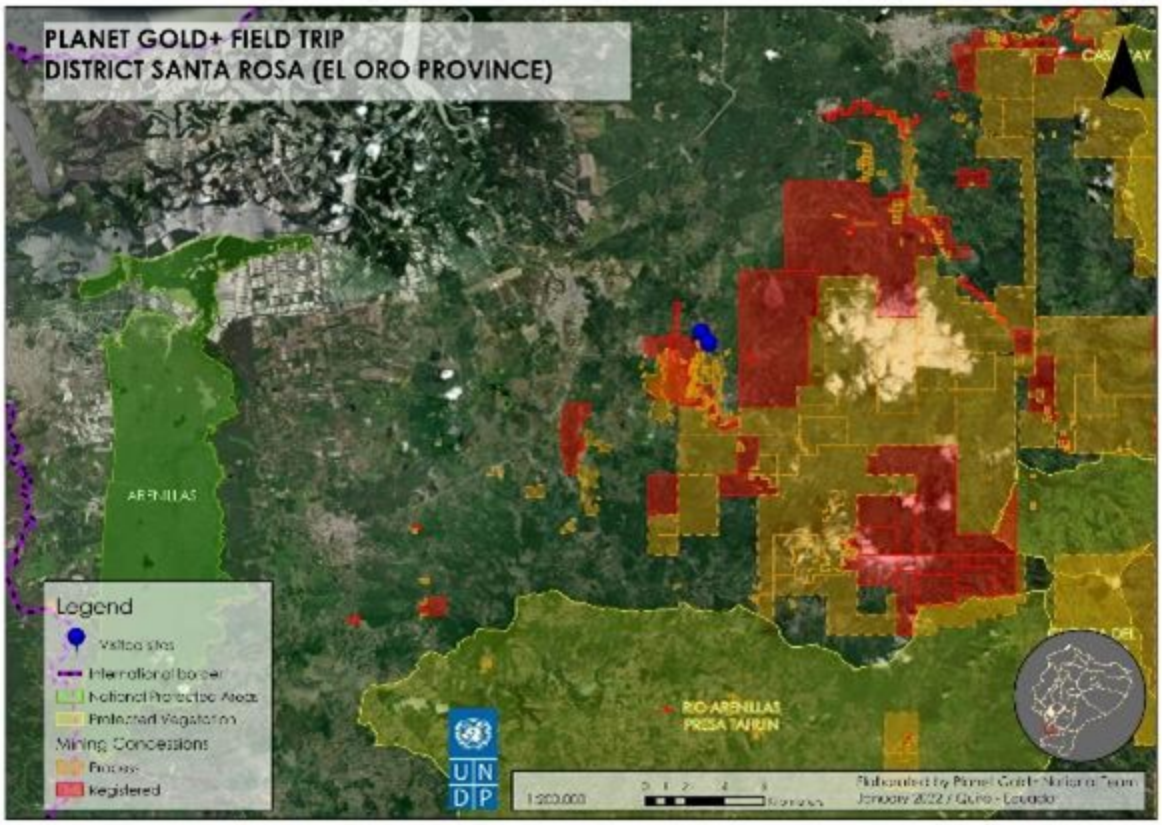


Figure 3.4.: Santa Rosa site is considered Tier 1 in terms of priorities within the Project. This location placed in the Southwest of the Coast Region has a relevant importance based on the artisanal activities which have been carried out for several years.

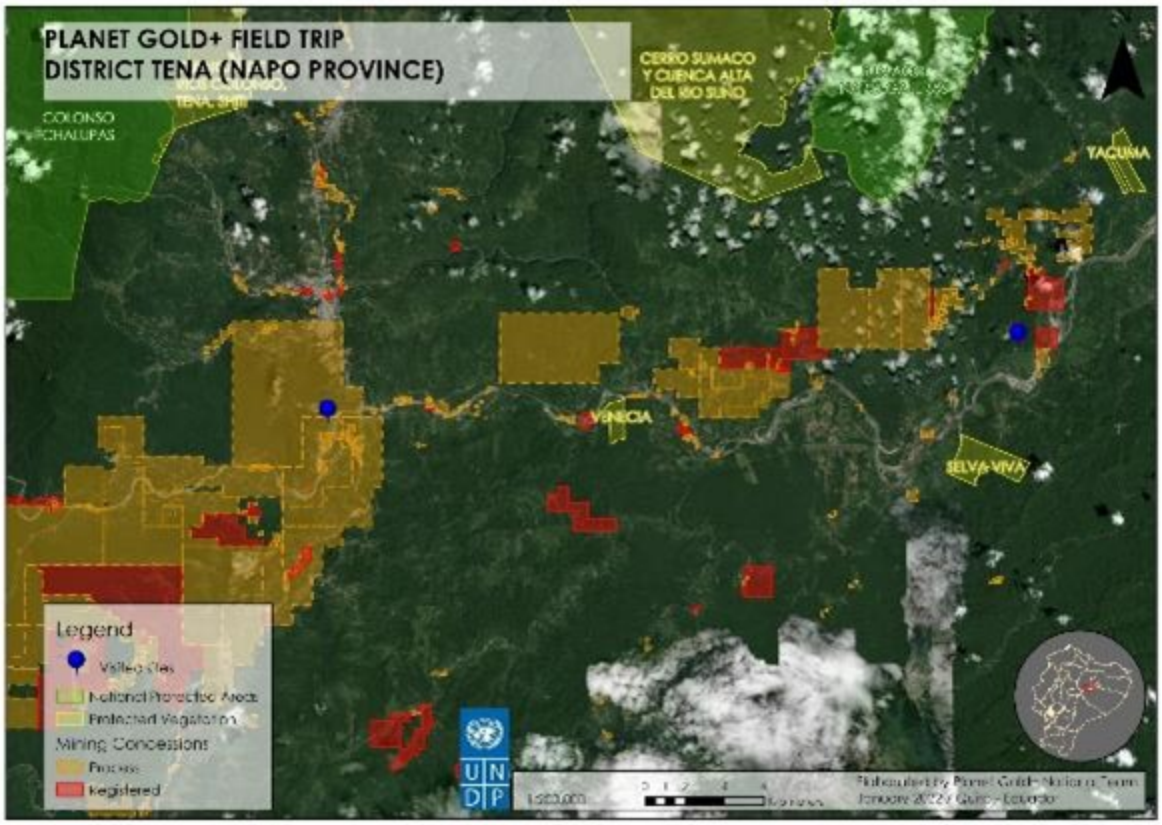


Figure 3.5.: Arosemena Tola is a Tier 2 site located in the Province of Napo with tropical climate and low climbs. The mining activity in the zone is alluvial and there are some important local stakeholders who develop their activities in the zone and there is an important need to interevent and provide mercury free technologies.

Figure 3.6.: Hualtaco site is placed in Loja province, in the far south of Ecuador, sharing borders with Per?. The ASGM activity is relevant for the local economy and improvements in the mining processes are needed in order to prevent negative impacts in water resources that can affect international relationships with Per?.

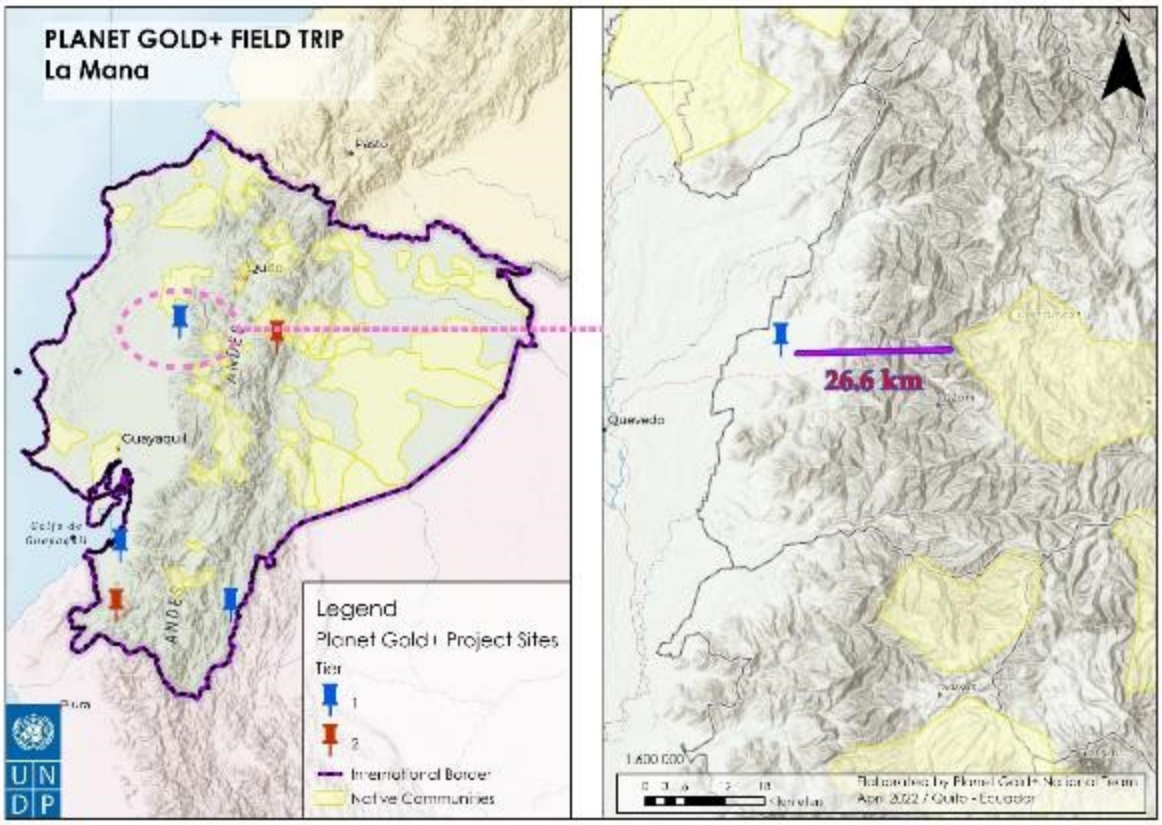


Figure 3.7.: La Man? site (Tier 1) is placed in the Central Sierra. This figure also indicates a distance of 26,6 km from registered ancestral territories.

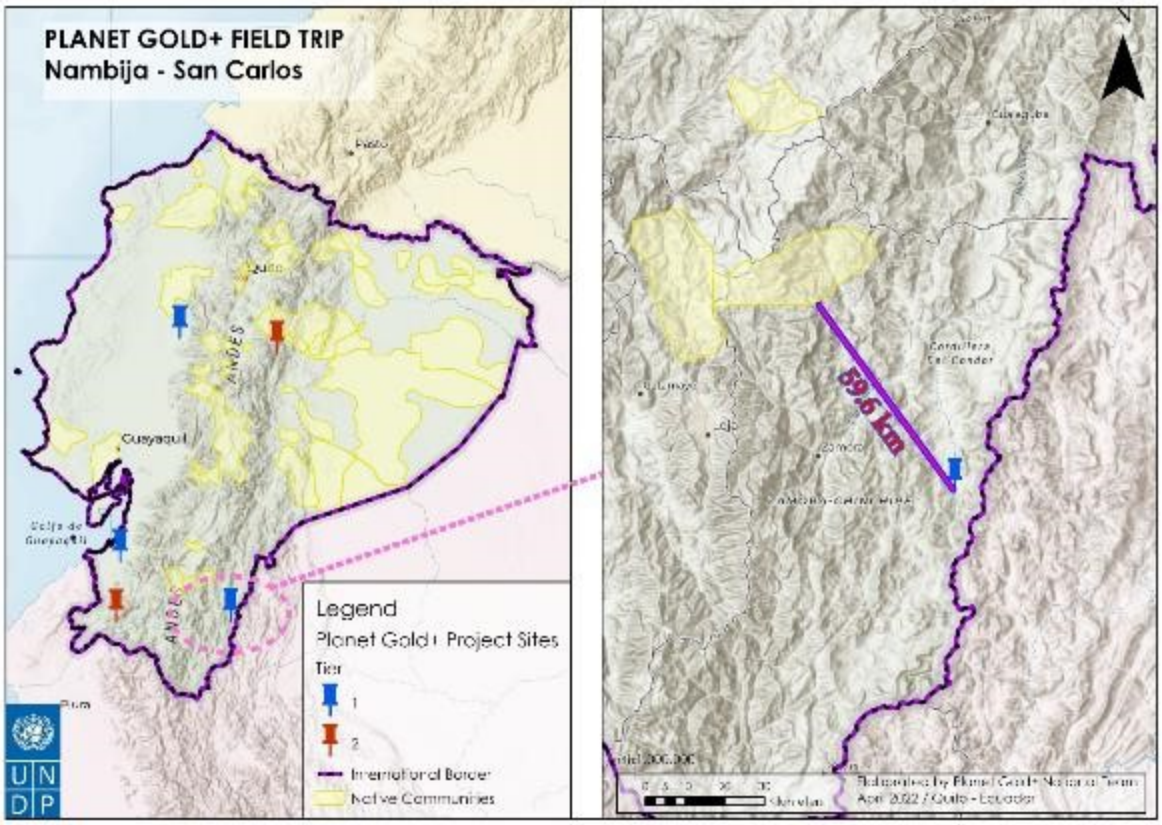


Figure 3.8.: District Nambija ? San Carlos is placed in the province of Zamora Chinchipe, a traditional mining province. Nevertheless, the accepted district is 59,6 km from the closest indigenous territory registered by the Government of Ecuador.

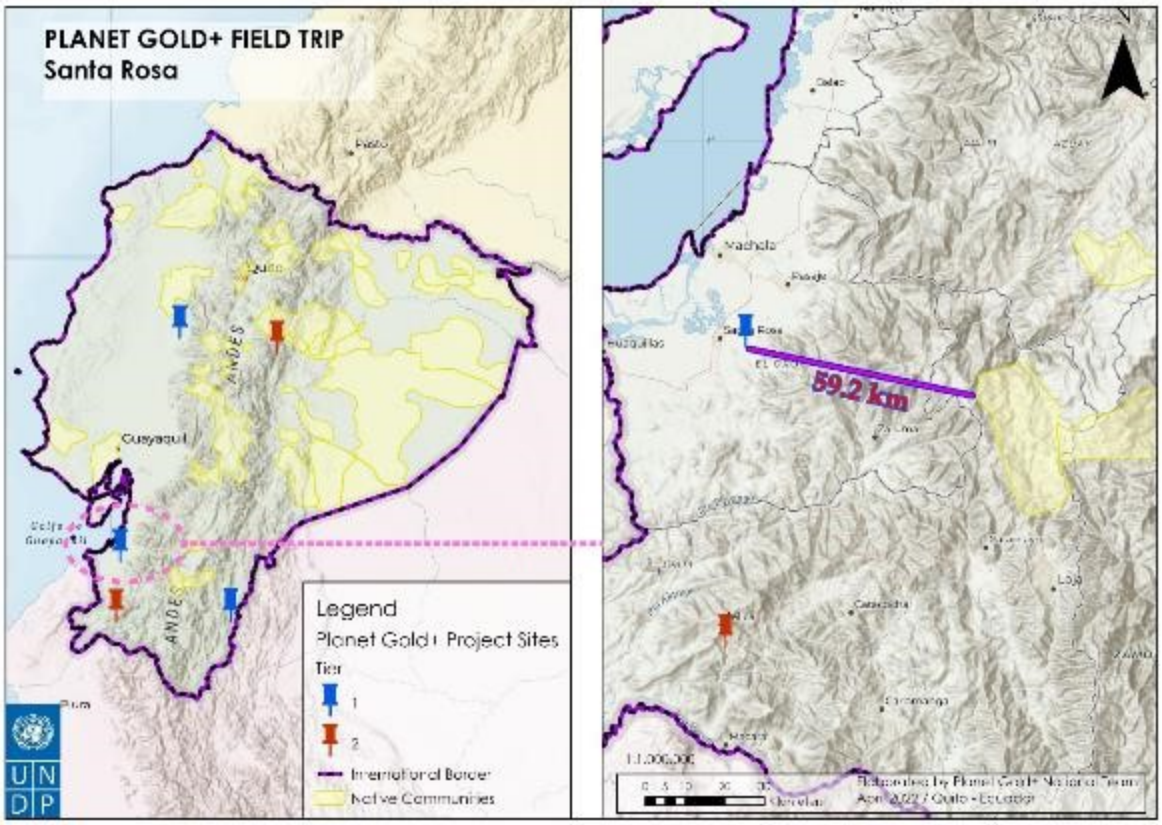


Figure 3.9.: Tier 1 site Santa Rosa, by its location has no direct influence over ancestral territories nor indigenous buffer areas are close to it. The figure shows a distance of 59,2 km from the registered ancestral territory.

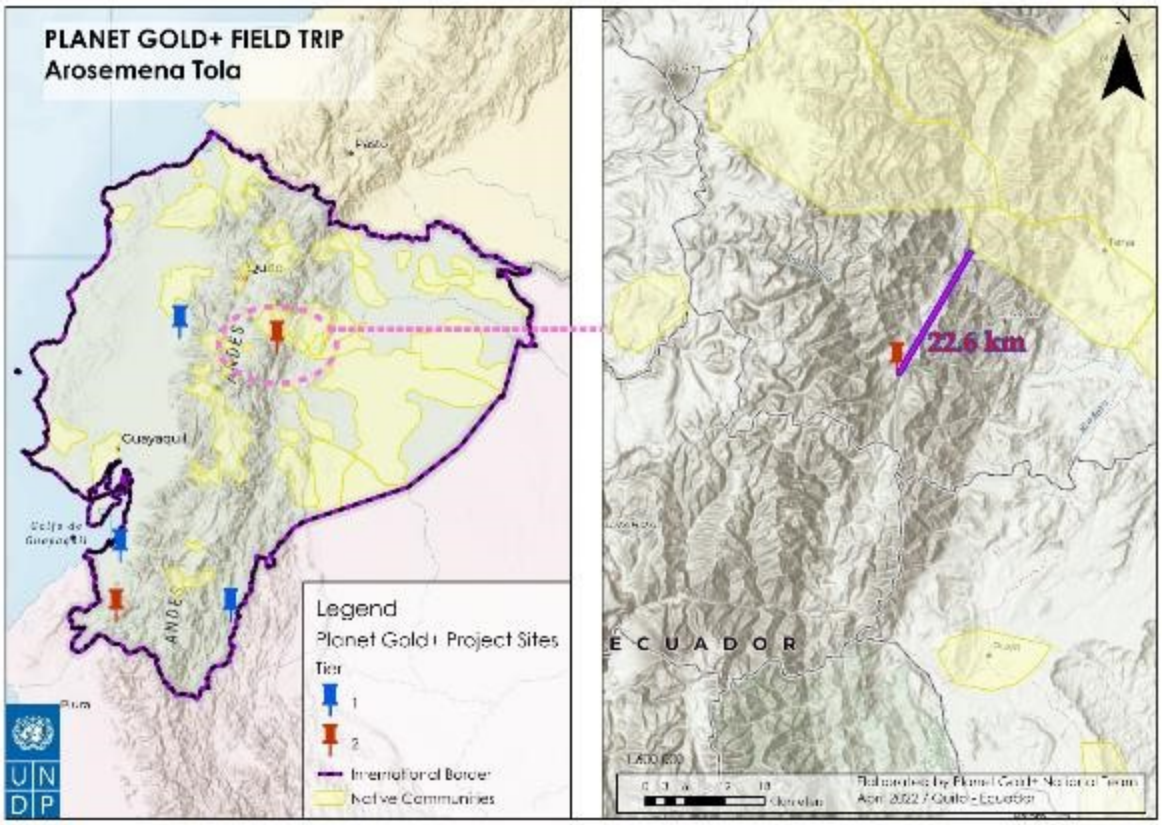


Figure 3.10.: Arosemena Tola is located in Napo province in the East of Ecuador and has no official references of close indigenous territories to be influenced or intervened by this FSP.

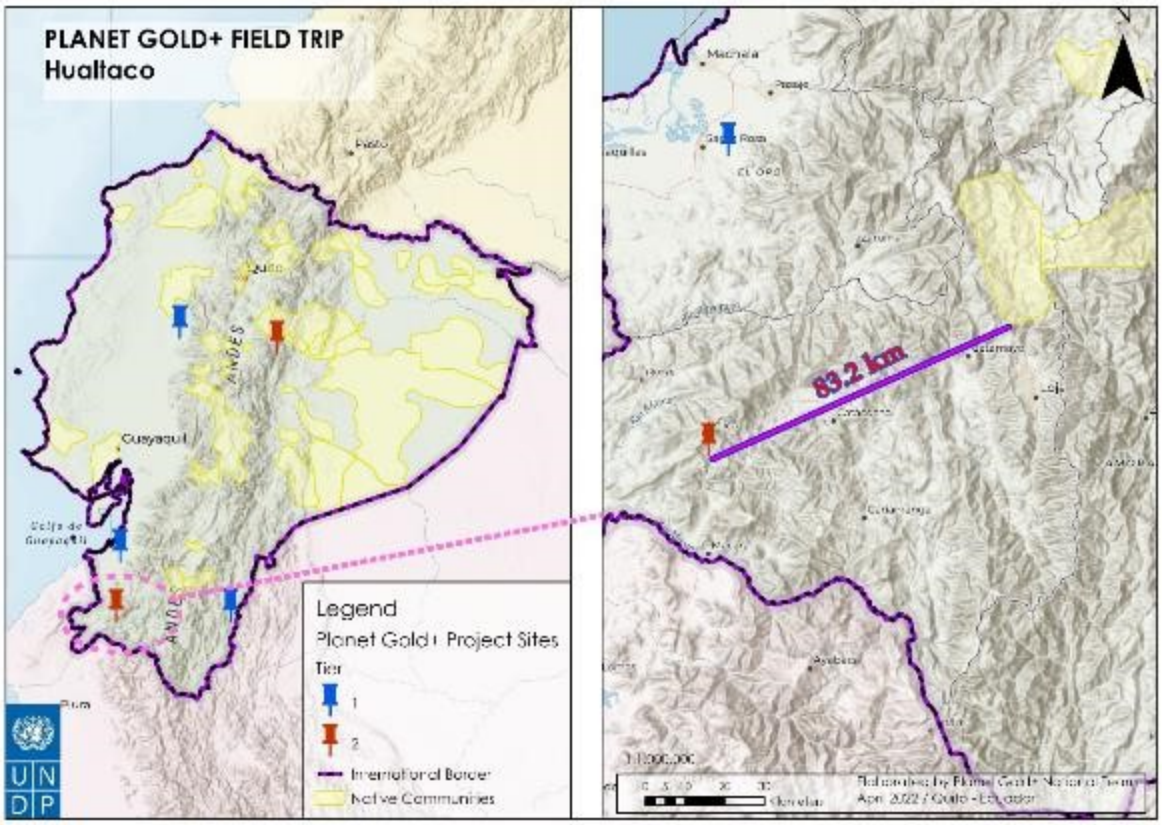


Figure 3.11.: Hualtaco is considered as Tier 2 site and is the farthest site of intervention from ancestral territories (83,2 km) from any proposed intervention of the Planet Gold+ Project.

1c. Child Project?

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

204. The integrated approach proposed for the Ecuador Child Project fully responds to and reflects the planetGOLD+ Programme?s ToC as can be deducted from the child project?s results framework, around the following components:

- Optimizing formalization strategies through integrated, holistic, and multi-sector approaches at the landscape scale through commodity-specific Jurisdictional Approach;
- Accelerating financial inclusion and creation of responsible supply chains;
- Enhancing uptake of mercury-free technologies through sustainable business models;
- Foster knowledge sharing, learning, and synthesis of experiences.

205. All Ecuador?s project components fully align with the programme components, and the child project outputs directly contribute to the PFD and child project outcomes as described in the project?s results framework (Section V of the ProDoc). As such the proposed child project proposes suitable and

appropriate options to tackle systematic challenges for Ecuador where the ASGM sector is a more than significant source of mercury and environmental harm.

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:

206. UNDP has formed mutually beneficial long-standing relationships with senior policy makers at the national level and has assisted the strengthening of the Ministry of Environment, Water and Ecological Transition (MAATE) during the formulation of the PIF and in the implementation of the PPG. It has also created a synergy with key stakeholders in the private sector, academic and CSO sectors during the formulation of the ProDoc and will continue in the upcoming execution phase.

207. A Stakeholder Engagement Plan, described in Annex 8, was undertaken during the PPG in order to identify key stakeholder public institutions, CSOs, financiers, private companies ?in particular those who will benefit from and be directly involved in the implementation of the project (direct project beneficiaries, i.e. the artisanal miners) and those who may be impacted (positively or negatively) by the project, such as surrounding communities. Annex 8 also describes the process of assessing the interest of the project's key stakeholders and the ways in which these stakeholders may influence or may affect the project?s outcomes. This process is important because it enhances national ownership, strengthens project design and integrity, and helps to create foundational relationships that may contribute to constructive problem solving if difficulties or challenging issues arise. Output 1.1 includes specific activities for which Free, Prior and Informed Consent (FPIC) will be required.

208. The ?Stakeholder Engagement Plan? seeks to strengthen UNDP institutional partner capacities for managing social and environmental risks and ensuring full and effective stakeholder engagement, including appropriate mechanisms to respond to complaints from project-affected people; this Plan follows the Guidance Note UNDP Social and Environmental Standards (SES). For regulations and requirements in Ecuador, public consultation and disclosure requirements related to the social and environmental assessment process is a key element of public policies overall, as a guiding process to execute the compliance with the official banning for the use of mercury for artisanal mining operations. Thus, given the regulatory framework in which the project will be implemented, it is fully recognized that there are inherent risks for the beneficiaries that FSP interventions will deal with decisions by other stakeholders that may affect them.

209. A diverse group of stakeholders was engaged during the project preparation stage and their roles clearly stated during its execution, as described in Annex 8. Stakeholders are the miners and public

institutions with an interest in the project or the ability to influence project outcomes, positively or negatively and which are directly or indirectly affected by the project. This Annex also provides an overview of stakeholder interests, importance and influence on project outcomes. Transversally, from the gender perspective, the ?Stakeholder Engagement Plan? provides an overview of stakeholder interests, importance and influence on project outcomes or operations that were validated at the PPG stage through a participatory exercise with stakeholders.

210. The grievances will be geared directly to the Ministry of Environment, Water and Ecological Transition through the institutional mechanisms by which people concerned with or potentially affected by the project can express their grievances to: Undersecretary of Environmental Quality. Ultimately, grievances and complaints can be lodged to the following address:

Address: Madrid, 1159 and Andaluc?a, Ministry of Environment, Water and Ecological Transition, First Floor. Quito - Ecuador
Phone numbers: +5932-3987600
Postal Code: 170525

211. To achieve the planned outputs and outcomes of this FSP, it will be necessary to engage various stakeholders, i.e.: national and sub-national authorities (mainly the MAATE and MEM) with support from other ministries and public agencies. Their main interest is the achievement of the project?s overarching objective of development by carrying out the necessary implementation of national policies, under the mandate of the Minamata Convention, already ratified by Ecuador and timely reporting of the Global Environmental Benefits (GEBs) to the GEF, private sector players (mining companies, investors, financiers and participants in the ASGM mercury-related market) committed to becoming greener partners as well as integrating gender equality, socio-economic issues and considering relevant risks, including those amid the coronavirus (COVID-19) pandemic.

212. In short, the implementation of this FSP requires the active participation of numerous and diverse partners. The responsibility of these partners in project implementation and their support for the FSP?s development challenge, are presented in the Table below.

Partnerships of the FSP

Type	**Group**	**Stakeholder**	**Interest**
Public Sector	National Government	Ministry of Environment, Water and Ecological Transition	The Environmental Authority is the technical focal point of the Minamata Convention.
		Ministry of Energy and Non Renewable Natural Resources	This Ministry regulates mining activities, including ASGM.

Type	Group	Stakeholder	Interest
		Geological and Energy Research Institute	This Institute develops research studies focused on mining, including ASGM.
	State Public Agencies	Energy and Non Renewable Natural Resources Control Agency	This Institution is in charge of the control of activities related to ASGM in terms of production, security standards, and others.
International Cooperation	Development Agencies	UNDP (GEF Implementing Agency)	UNDP will oversee all activities of the project, in collaboration with the project board, project management unit and other partners. UNDP will be a member of the Project Board as Senior Supplier. UNDP will undertake supervision and oversight, monitoring and evaluation in support of all project outcomes, technical backstopping, and provide targeted services to support the National Implementation Modality.
	Mining Alliances	Jard?n Azuayo Association	This association of local miners can support FSP project activities with knowledge, logistic and communication channels between the Project Management Unit and the local miners in the locations of Southern Ecuador.
	Large and medium scale mining	National Mining Chamber	This is a private organization in charge to coordinate activities among different actors in the ASGM mining sector.
		Toachi Mining Company	This company showed interest in participate and coordinate actions within their influence area, close to La Mana Tier 1 site, in the Province of Cotopaxi.
	Banks and credit cooperatives	Central Bank of Ecuador	The Bank is intended to be engaged due to its legal competencies in buying gold from artisanal miners.
Academy	Universities	Coast Polytechnic University	The University is developing projects and actions oriented to improve the comprehension of ASGM mining dynamics.
		Duke University	Through international cooperation programs, this University is enrolled in ASGM in Ecuador.
Private Sector	Private Banks	Argor Heraeus	It?s an organization specialized in buying free-mercury gold.

Please provide the Stakeholder Engagement Plan or equivalent assessment.

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

213. As indicated above, Outcome 4 of this FSP is fully dedicated to raise awareness of project stakeholders on the elimination of mercury in the ASGM sector. Planned outputs 4.1 and 4.2 to achieve this outcome include the design of an awareness raising campaign and information strategy and a programmatic monitoring of FSP global indicators (specifically, GEF Core Indicators 9 and 11), together with a review of on-going, activities to ensure successful project implementation in accordance with UNDP and GEF procedures, integrating awareness raising and gender sensitive training materials. As well noted above, these actions will be implemented considering a interactive communication with the GEF planetGOLD program, the UNEP Global Mercury Partnership, and other knowledge management platforms worldwide through the support of the UNDP Regional Coordination Unit/Chemicals for LAC.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor;

Co-financier; Yes

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

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

214. Approximately 30% of 40.26 million people working in artisanal and small-scale mining worldwide are women . Gender equality is intrinsically linked to sustainable development and fundamental in transforming the ASGM sector into a vehicle for inclusive growth. Gender is an overarching variable, in the sense that it is often an intersection of identity factors, including sex, race, class, age, ethnic group, education level, etc. Gender norms are established in different socio-cultural contexts, which ultimately determine what is expected, allowed and valued in a woman/man and girl/boy in specific settings. In ASGM systems, gender roles are learned through socialization processes that can change over time. Gendered perspectives will be captured, including data collection through baseline surveys documenting risks and opportunities for men, women, elders, boys and girls, or tribal and indigenous peoples affected by the project.

215. This FSP presents an opportunity to educate the project beneficiaries, mostly women on gender-related risks and maximize the potential benefits from participation in the ASGM sector in Ecuador. 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.

216. To ensure that gender is mainstreamed effectively throughout the project, the PPG stage and the Social and Environmental Screening Procedure have identified all potential risks. In the PPG, this aspect was examined through extensive engagement and a Gender Action Plan (Annex 10) developed to mainstream gender throughout the project?s activities, to upscale the opportunities for women to benefit from training and employment opportunities and develop gender-disaggregated data, accounting for multiple factors (i.e., race, ethnicity, nationality, education level, indigenous status). To ensure equality of results, the project will actively engage women and other vulnerable groups, as change agents and participants, not only as victims of inequalities or forms of discrimination.

217. The gender analysis (centered on sex and gender variables) is presented in Annex 10, allowed for the identification of the different roles and tasks that men and women perform in daily life and in the ASGM sector that put them at risk of exposure to mercury. The gender assessment also identified irregularities and power relations, inequities and inequalities and helped to recognize the causes of these inequalities.

218. Based on the outcomes of the Gender Analysis, a Gender Action Plan was formulated to help design project interventions (component/outcomes and activities) that would contribute towards women empowerment and to overcoming gender inequality. The findings from the gender analysis and the project interventions proposed as part of the Gender Action Plan, have been integrated into the overall project?s approach and the Project Results Framework. The main elements of the gender action plan, as related to the project?s four components, are summarized below:

Component 1: Formalization Optimization of ASGM
? Outcome 1: The trainings and workshops provided to the FSP stakeholders as part of their capacity building efforts, will include gender sensitization training.

Component 2: Financial Inclusion and Responsible Supply Chains
? Outcome 2: Existing financial products of project partners will be assessed in terms of accesibility and suitability for women involved in ASGM mining activities; staff of the financial entities will be trained in the (re)design of these financial products so they suit women and men mining entities? needs; new financial products will be launched that meet the need of women mining entities, while the awareness of women miners will be increased on the availability of various incentives and loan facilities that meet their needs (through awareness raising events).

Component 3: Enhancing Uptake of Mercury-free Technologies
? Outcome 3: The socioeconomic baseline surveys and mercury/gold mass balance inventories conducted for each of the three (3) priority project sites, will also collect sex-disaggregated data; of the

mining entities selected for project participation at least 20% will contain women miners that will be supported in formalization efforts and in improving ASGM practices; the comprehensive ASGM training curriculum that will be developed with project support and will be used to train miners (men and women), will contain a module on gender awareness and gender responsive assessments in ASGM to encourage a culture change in how women are being viewed in the mining sector; women miners will also receive separate leadership training.
Of the project mining entities supported in their formalization efforts (e.g. gaining access to legal subsurface rights, obtaining a permit to establish/operate a processing plant; designing processing and waste management plan) at least 20% will contain women miners or be women mining entities; the project will also support women?s groups interested in mining and the establishment of ASGM associations/cooperatives.
Component 4: Knowledge Sharing and Communication Outreach
? Outcome 4: The awareness raising plan that will be developed and implemented as part of the project will contain important elements related to gender. The project?s gender expert will ensure that the developed awareness raising plan and its activities meet the needs of female and male miners.
The project will conduct a Gender Assessment of project impact as part of the Mid-Term Review. Based on the results of the Gender Assessment and other recommendations coming out of the MTR, the project might further improve its gender related interventions.
On a quarterly basis, project results and information on project progress will be communicated to the GEF planetGOLD Global component. The project?s gender expert will support the project in identifying gender specific results and how to present these in reports and publications that summarize results, lessons-learned, best practices and experiences.

Component 5: Monitoring and Evaluation
? Outcome 5: The project will conduct a Gender Assessment of project impact as part of the Mid-Term Review. Based on the results of the Gender Assessment and other recommendations coming out of the MTR, the project might further improve its gender related interventions.

219. For this purpose, and in accordance with the proposed Gender Action Plan:

? Each activity was analyzed to include the necessary elements to guarantee the reduction of identified gaps and establish more pro-active actions when appropriate.
? Specific activities that focus on the empowerment of women have been included (capacities, and access to planning and decision-making processes).
? Three indicators have been included to help measure progress in this field and will be monitored as part of the M&E process .
? A budget has been included to guarantee the measures and actions to be taken. The strengthening of the project team's capacities is planned to ensure the adequate mainstreaming of the gender perspective into all project activities.

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.

220. The project has a significant number of private sector partners (please, refer also to Section 2 ?Stakeholders?). A good sign of private sector engagement in the project?s implementation is that USD6 million is being provided by the private sector; as such it can be concluded that Private Sector Engagement for this project is substantial.

221. The involvement of the private sector in the project will be two-fold. Firstly, regulatory, enforcement and awareness raising activities supported by the project will have as the main target the private sector through various avenues including financiers, technology suppliers, among others. The private sector partners who are engaged in the project?s implementation along the ASGM supply chain can be grouped as follows:

Private sector and sectors to intervene such as gold refineries like ARGOR-Heraeus.

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):

222. A group of risks has been identified and must be taken into account during project execution. As per standard UNDP requirements, the National Project Coordinator will monitor risks quarterly and report on the status of risks to the UNDP Country Office (CO) in Ecuador. The UNDP CO will record progress in the UNDP ATLAS risk log (Annex 6: UNDP Risk Register). Risks will be reported as critical when impact and probability are HIGH (i.e. when impact is rated as 5, and when impact is rated as 4 and probability is rated at 3 or higher). Management responses to critical risks will also be reported to the GEF in the annual Project Implementation Report (PIR).

223. The key risks that could threaten the achievement of project results have been summarized in Table 16 below, considering both internal and external contexts. For further details of this analysis, please refer to

the UNDP Risk Register in Annex 6, and an assessment of the social and environmental risks identified in the SESP in Annex 5. Specifically, this social and environmental screening resulted in the identification of 13 risks of which one (1) risk was considered ?low?, five (5) were considered ?moderate? and seven (7) were considered ?substantial?; resulting in an overall social and environmental risk categorization of ?Substantial? for this planetGOLD+ Project.

Risk Class	**Risk and Description**	**Risk Management Response (Summary)**
Social and Environmental (SES)	Risk 1: The project could inadvertently exacerbate or reinforce existing inequalities or discrimination on affected populations, particularly people living in poverty or marginalized individuals (including Indigenous Peoples). Risk Category: Substantial	A comprehensive Stakeholder Engagement Plan (Annex 8) and Gender Strategy and Action Plan (Annex 10) have also been prepared during the PPG.
	Risk 2: Exclusion of certain groups of miners including indigenous peoples from participating in project demonstrations exacerbating human rights issues and leading to conflict. Risk Category: Substantial	It is worthy to note, planetGOLD+ site selection criteria were developed based upon these requirements for legitimate MEs. For this reason, Tier 1 sites require verification as a safeguard requiring additional due diligence, recognizing that the specific means of implementation, including obtaining FPIC, may vary based on national laws and project-site circumstances.
	Risk 3: Potential loss of income for miners who decide not to take part in the Project or otherwise transition to sustainable mining practices. Risk Category: Low	Even though this is a ?Low? risk, the ESIA that will be conducted for the pilot activities will help to bring to light any unexpected risks while the comprehensive Stakeholder Engagement Plan and Gender Strategy and Action Plan, which were prepared during the PPG, provide any interested miners and workers with the opportunity to participate in the project without discrimination.
	Risk 4: Project inadvertently perpetuates or increases risk of sexual violence and harassment against women. Risk Category: Substantial	This issue will be investigated in the SESA for downstream activities and ESIA for the pilot demonstrations (TIER 1 sites) and if applicable, measures incorporated into the site-specific ESMPs to mitigate these conditions.

	Risk 5: Project inadvertently exacerbates or reinforces existing discrimination against women. Risk Category: Moderate	The SESA that will be undertaken during Output 1.1 will take this risk into consideration. In addition, during the PPG phase, a Gender Action Plan was prepared based on a Gender Analysis, to be implemented during FSP execution.
	Risk 6: Natural disasters could eventually affect the locations and operations where the planned demonstration projects are carried out. Risk Category: Moderate	Within the framework of the project, it is planned to build capacity with the involved stakeholders, especially for underground mining works, as well as with the project staff, for the immediate response to manage this climate change-related risk, primarily in the surroundings of the facilities of the pilot projects, including vulnerability factors to natural events and climate change.
	Risk 7: Negative impact of construction and operation of new processing plants and other facilities supported through the project on natural areas. Risk Category: Moderate	Even though there are no significant civil works planned for the project, in accordance with the ESMF, selection of the location of the proposed processing plants and other facilities will ensure that the project does not infringe on the critical habitats and sites of biodiversity importance.
	Risk 8: Construction of new processing plants and other facilities supported through the project negatively affect community health and safety. Risk Category: Moderate	There are no significant civil works planned for the project, however, in accordance with the ESMF, selection of the location of the proposed processing plants and other facilities will be undertaken taking into account proximity to populations. The ESIA will assess this risk and the pursuant site-specific ESMPs will include measures to safeguard community health and safety during construction of the small-scale pilot plants.
	Risk 9: Damage to cultural heritage sites from construction and operation of new processing plants and other facilities supported through the project. Risk Category: Moderate	Site selection for the proposed processing plants and other facilities will take into consideration the location of cultural heritage sites and avoid any potential damage. The ESIA that will be prepared will assess the potential risks to cultural heritage sites and based on the findings, the pursuant site-specific ESMPs may elaborate on cultural heritage preservation procedures.
	Risk 10: Pollution and emission risks from mining operations or processing. Risk Category: Substantial	The ESIA for each pilot project (Output 3.2) will address the issue of wastewater discharge from project activities including mining operations and processing plants. Treatment before discharge into any water bodies will be undertaken to ensure the reduction of suspended solids, mercury and other chemicals and fuel residues to acceptable limits in line with local or international standards.

	Risk 11: Health and safety risk for the workers in mines and processing plants whose construction and operation is supported by the project. Risk Category: Substantial	As an ESIA will be conducted prior to commencement of the pilot activities (Output 3.2) to assess occupational health and safety risks. Based on this assessment, the site-specific ESMPs will be developed to include an Occupational Health and Safety Plan to ensure that miners and workers are safe during mining activities and during construction and operation of the processing plant or any facility developed by the project.
	Risk 12: Participation of miners in hazardous activities and other working conditions in contravention with national standards and ILO conventions at pilot sites. Risk Category: Substantial	The ESIA will assess the likelihood of this risk and prevalence of child labour within the ASGM sector in the target area and propose measures to reduce it and find working persons under the age of eighteen perform tasks appropriate to their age.
	Risk 13: Potential community spread of COVID-19 during project implementation. Risk Category: Substantial	While this FSP will be implementing in a very dynamic and evolving situation due to this pandemic, regular monitoring of this risk by the PMU and carry out period assessment of changing the market context, both at the national and international levels, to ensure the project remains a relevant and trusted partner of the participating stakeholders and also able to adapt in response accordingly.
Financial *(Non-SESP)*	Risk 14: Uncertainties due to cost recovery. Risk Category: Moderate	The project, under Output 2.2, will prepare agreements between financiers and Mining Entities so that beneficiary groups will validate the proposed mercury-free alternatives.
	Risk 15: Stressful national economic context. Risk Category: Moderate	For FSP expenses, UNDP monitors expenditure on a regular basis. Further UNDP HQ provides global oversight of project delivery minimizing the risk due to economic unrest. For cofinanciers along the mercury elimination chain, the FSP will coordinate among the owners to obtain the lowest possible disposal cost through economies of scale and strengthening of supply chains.
	Risk 16: Corruption as collateral practice in the ASGM value change. Risk Category: Substantial	This FSP will implement a landscape approach to ensure strong operational credibility by building strong partnerships with all interest groups and *legitimate actors*, with a focus on formal governance institutions.
Operational *(Non-SESP)*	Risk 17: Limited capacity for communicating. Risk Category: Moderate	As part of the implementation of the Stakeholder Engagement Plan (Annex 8), briefings with stakeholders were organized during the PPG phase and will continue during the implementation of the FSP.

	Risk 18. Limited capacity development of national partners. Risk Category: Moderate	During the implementation of the FSP, awareness-raising, training and technical training programs will be developed and implemented, as well as capacity building in national and rural authorities and other public parties who are working on issues related to the use of mercury in the ASGM sector, to ensure the knowledge and experience needed to carry out their tasks properly (Output 4.1).
Organizational *(Non-SESP)*	Risk 19: Limited capacity in project monitoring. Risk Category: Low	The project foresees in its Component 4 a series of activities aimed at a periodic monitoring and follow-up on the development of the project and a comprehensive reporting during the MTR, where possible deviations from the programmed actions can be identified early, as well as compliance with the proposed objectives (Output 4.2).
Strategic *(Non-SESP)*	Risk 20: Poor information outreach throughout the project implementation. Risk Category: Low	As part of the implementation of the Stakeholder Engagement Plan, briefings with stakeholders were organized during the PPG phase and will continue during the implementation of the FSP.

224. It is important to note that, if required, the risk analysis should be adjusted when more information becomes available during project implementation.

225. This FSP has also considered, as part of its risk management assessment carried out during the PPG, several coronavirus (COVID-19) pandemic threats. Incremental project activities will require, by the PMU, regularly scanning for emerging risks across the FSP?s activities to ensure to continue delivering the expected outputs, prevent unintended harm because of the planned activities, and proceed quickly with adaptive management response under this rapidly changing context.

226. For this project, the following three risks have been identified due to this pandemic:

Social (COVID-19) risk: Potential harm to people and the environment.
Description: Potential health and safety, including contagious exposure for stakeholders the FSP has planned to engage with, including the staff of the PMU and institutional partners, plus third party workers where the field project demonstrations will take place.
Management strategy: This strategy will be implemented in twofold: i. develop innovative virtual and remote methods for working and implementation, as much as possible, and ii. since the World has not yet found a vaccine for this virus, for the implementation of those activities that require social gathering, the FSP?s PMU, with assistance from the UNDP CO, will look at COVID-19 as a public health crisis, implementing the solutions for which are social distancing, careful sanitization, widespread testing, access to safety equipment, and immediate competent medical care, if needed.

Financial (COVID-19) risk: Reduce the committed cofinancing by the project partners.

Description: Potential delays of anticipated cofinancing, both in kind and cash sources, due to COVID-19 corporate response, especially from the private sector stakeholders that need to react immediately to adjust their cash flows to cover unexpected labor costs and significant drop of business revenues.
Management strategy: Regular monitoring of this risk by the PMU and carry out period assessment of changing the market context, both at the national and international levels, to ensure the project remains a relevant and trusted partner of the private sector stakeholders.

Organizational (COVID-19) risk: Limited domestic travel.
Description: Immediate impacts from domestic travel restrictions per United Nations and the Government of Ecuador requirements and unavailability of land and air transport means.
Management strategy: Develop innovative virtual and remote methods for working and implementation, as much as possible.

227. During the project implementation, these three COVID-19 related risks should be regularly screened, managed and reported to ensure the Project Coordinator has relevant data from across all activities for timely and effective decision-making and to determine when escalation is required. As part of its track-monitoring role of GEF projects, UNDP, through the Country Office, will track and monitor this global outbreak and its immediate implications for this FSP; if necessary, the UNDP Atlas Risk Register (Annex 6) will be updated consequently. Likewise, indicators convened under the Project Results Framework (Section V) will be adjusted. These two actions will be also tracked, monitored and reported in the Mid Term Review.

228. Environmental and social risks have been discussed with the executing partners and with a variety of stakeholders through the metings held during the PPG . These risks were discussed and were analysed in the ?Social and Environmental Screening Procedure? (SESP, Annex 5) and the ones rated as MODERATE have been reviewed in more detail within the ?Environmental and Social Management Framework? (ESMF, Annex 9). An assessment and ESMP (and site-specific plans if necessary) must be prepared and mitigation measures in place, prior to the initiation of any project activity that may cause adverse impacts, in particular any actions that may lead to or cause environmental and health impacts and impacts on indigenous peoples.

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.

229. Implementing Partner: The Implementing Partner for this project is the Ministry of Environment, Water and Ecological Transition (MAATE)

230. The Implementing Partner is the entity to which the UNDP Administrator has entrusted the implementation of UNDP assistance specified in this signed project document along with the assumption

of full responsibility and accountability for the effective use of UNDP resources and the delivery of outputs, as set forth in this document.

231. The Implementing Partner is responsible for executing this project. Specific tasks include:
? Project planning, coordination, management, monitoring, evaluation and reporting. This includes providing all required information and data necessary for timely, comprehensive and evidence-based project reporting, including results and financial data, as necessary. The Implementing Partner will strive to ensure project-level M&E is undertaken by national institutes and is aligned with national systems so that the data used and generated by the project supports national systems.
? Risk management as outlined in this Project Document;
? Procurement of goods and services, including human resources;
? Financial management, including overseeing financial expenditures against project budgets;
? Approving and signing the multiyear workplan;
? Approving and signing the combined delivery report at the end of the year; and,
? Signing the financial report or the funding authorization and certificate of expenditures.

232. Responsible Parties: Ministry of Energy and Mines (MEM). Specific tasks include:

? Support the reduction/avoidance of mercury use/releases from ASGM during the project?s life.
? Support the development, validation and dissemination of ASGM training and awareness raising materials.
? Support the training of miners.

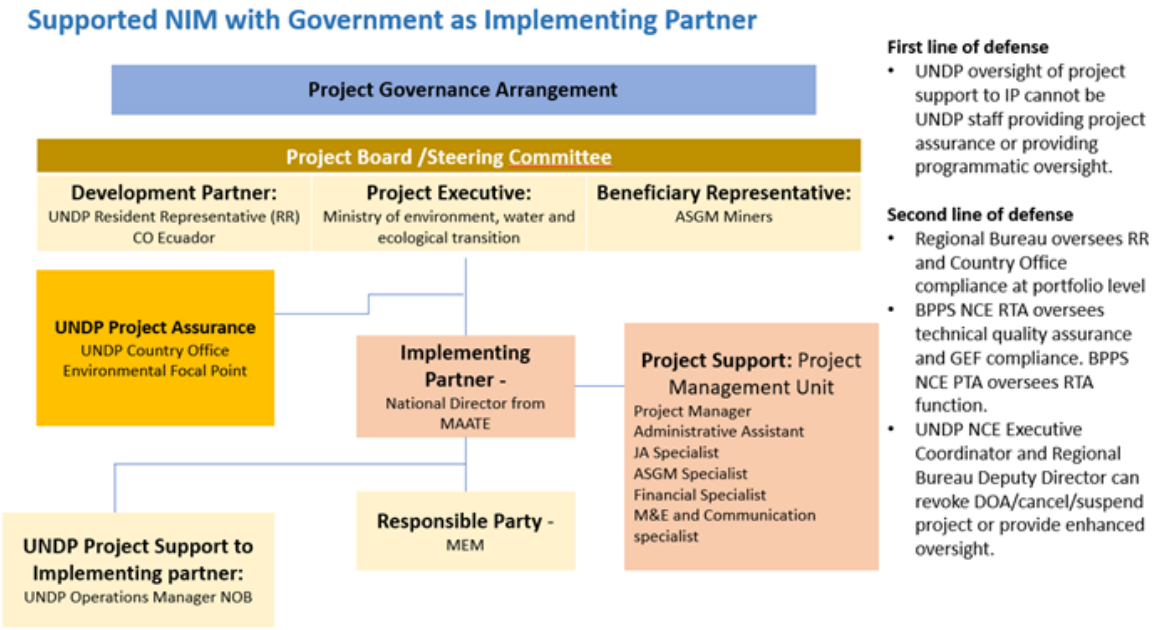
233. Project Stakeholders and Target Groups: The stakeholders of the project correspond to a diversity of public entities, as indicated in Table 14. Partnerships of the FSP, such as:

? The Ministry of Environment, Water and Ecological Transition (MAATE) is responsible for the general implementation of the Minamata Convention and other MEAs, it is the lead public partner responsible for the coordination and implementation of the environmental national policy for the use of mercury in Ecuador. MAATE is a member of the Project Steering Committee.
? UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes overseeing project execution undertaken by the Implementing Partner to ensure that the project is being carried out in accordance with UNDP and GEF policies and procedures and the standards and provisions outlined in the Delegation of Authority (DOA) letter for this project. The UNDP GEF Executive Coordinator, in consultation with UNDP Bureaus and the Implementing Partner, retains the right to revoke the project DOA, suspend or cancel this GEF project. UNDP is responsible for the Project Assurance function in the project governance structure and presents to the Project Board and attends Project Board meetings as a non-voting member.
? OTHERS: Universities, Finance Groups, Local Groups and Research Centers who can engage with the methodologies of the Project, having similar approach and goals for ASGM improvement, community health, sustainability, and financing.

234. Stakeholders of this project are also the private sector such as the ASGM and medium-sized mining organizations, banks and credit cooperatives and other CSOs and academic entities, which will support FSP activities aiming at the compliance of mercury elimination as per the Minamata Convention.

235. UNDP: UNDP is accountable to the GEF for the implementation of this project. This includes oversight of project execution to ensure that the project is being carried out in accordance with agreed standards and provisions. UNDP is responsible for delivering GEF project cycle management services comprising project approval and start-up, project supervision and oversight, and project completion and evaluation. UNDP is also responsible for the Project Assurance role of the Project Board/Steering Committee.

236. Project Organisation Structure: The project organization structure is as follows:



237. The UNDP Resident Representative assumes full responsibility and accountability for oversight and quality assurance of this Project and ensures its timely implementation in compliance with the GEF-specific requirements and UNDP?s Programme and Operations Policies and Procedures (POPP), its Financial Regulations and Rules and Internal Control Framework. A representative of the UNDP Country Office will assume the assurance role and will present assurance findings to the Project Board, and therefore attends Project Board meetings as a non-voting member.
238. UNDP project support The Implementing Partner and GEF OFP have requested UNDP to provide support services in the amount of USD$ 119,315 for the full duration of the project, and the GEF has agreed for UNDP to provide such execution support services and for the cost of these services to be charged to the project budget. The execution support services ? whether financed from the project budget

or other sources - have been set out in detail and agreed between UNDP Country Office and the Implementing Partner in a Letter of Agreement (LOA). This LOA is attached to this Project Document.
239. To ensure the strict independence required by the GEF and in accordance with the UNDP Internal Control Framework, these execution services will be delivered independent from the GEF-specific oversight and quality assurance services.

Segregation of duties and firewalls vis-?-vis UNDP representation on the project board:
240. As noted in the Minimum Fiduciary Standards for GEF Partner Agencies, in cases where a GEF Partner Agency (i.e. UNDP) carries out both implementation oversight and execution of a project, the GEF Partner Agency (i.e. UNDP) must separate its project implementation oversight and execution duties, and describe in the relevant project document a: 1) Satisfactory institutional arrangement for the separation of implementation oversight and executing functions in different departments of the GEF Partner Agency; and 2) Clear lines of responsibility, reporting and accountability within the GEF Partner Agency between the project implementation oversight and execution functions.
241. In this case, UNDP?s implementation oversight role in the project ? as represented in the project board and via the project assurance function ? is performed by:
- Programme Officer, NOB (National Professional Officer-B)
- Programme Associate, G6

242. Although not covered by GEF Fee, the following staff also provide project oversight:
- Deputy Resident Representative, P4
- Resident Representative, D1

243. In case the GEF requires it, UNDP would hire a Project Management Unit in charge of the execution of the project. The staff from the Operations Unit that would be involved with executing support, and it would be:
- Operations Manager NOB
- Other staff in the Operations unit.

Roles and Responsibilities of the Project Organization Structure:

244. Project Board: All UNDP projects must be governed by a multi-stakeholder board or committee established to review performance based on monitoring and evaluation, and implementation issues to ensure quality delivery of results. The Project Board (also called the Project Steering Committee) is the most senior, dedicated oversight body for a project.

245. The two main (mandatory) roles of the Project Board are as follows:
1) High-level oversight of the execution of the project by the Implementing Partner (as explained in the ?Provide Oversight? section of the POPP). This is the primary function of the project board and includes annual (and as-needed) assessments of any major risks to the project, and decisions/agreements on any management actions or remedial measures to address them effectively. The Project Board reviews evidence of project performance based on monitoring, evaluation and reporting, including progress reports,

evaluations, risk logs and the combined delivery report. The Project Board is responsible for taking corrective action as needed to ensure the project achieves the desired results.
2) Approval of strategic project execution decisions of the Implementing Partner with a view to assess and manage risks, monitor and ensure the overall achievement of projected results and impacts and ensure long term sustainability of project execution decisions of the Implementing Partner (as explained in the ?Manage Change? section of the POPP).

246. Requirements to serve on the Project Board:
? Agree to the Terms of Reference of the Board and the rules on protocols, quorum and minuting.
? Meet annually; at least once.
? Disclose any conflict of interest in performing the functions of a Project Board member and take all measures to avoid any real or perceived conflicts of interest. This disclosure must be documented and kept on record by UNDP.
? Discharge the functions of the Project Board in accordance with UNDP policies and procedures.
? Ensure highest levels of transparency and ensure Project Board meeting minutes are recorded and shared with project stakeholders.

247. Responsibilities of the Project Board:
? Consensus decision making:
o The project board provides overall overall guidance and direction to the project, ensuring it remains within any specified constraints, and providing overall oversight of the project implementation.
o Review project performance based on monitoring, evaluation and reporting, including progress reports, risk logs and the combined delivery report;
o The project board is responsible for making management decisions by consensus.
o In order to ensure UNDP?s ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, best value money, fairness, integrity, transparency and effective international competition.
o In case consensus cannot be reached within the Board, the UNDP representative on the board will mediate to find consensus and, if this cannot be found, will take the final decision to ensure project implementation is not unduly delayed.
? Oversee project execution:
o Agree on project manager?s tolerances as required, within the parameters outlined in the project document, and provide direction and advice for exceptional situations when the project manager?s tolerances are exceeded.
o Appraise annual work plans prepared by the Implementing Partner for the Project; review combined delivery reports prior to certification by the implementing partner.
o Address any high-level project issues as raised by the project manager and project assurance;
o Advise on major and minor amendments to the project within the parameters set by UNDP and the donor and refer such proposed major and minor amendments to the UNDP BPPS Nature, Climate and Energy Executive Coordinator (and the GEF, as required by GEF policies);
o Provide high-level direction and recommendations to the project management unit to ensure that the agreed deliverables are produced satisfactorily and according to plans.
o Track and monitor co-financed activities and realisation of co-financing amounts of this project.

o Approve the Inception Report, GEF annual project implementation reports, mid-term review and terminal evaluation reports.
o Ensure commitment of human resources to support project implementation, arbitrating any issues within the project.
? Risk Management:
o Provide guidance on evolving or materialized project risks and agree on possible mitigation and management actions to address specific risks.
o Review and update the project risk register and associated management plans based on the information prepared by the Implementing Partner. This includes risks related that can be directly managed by this project, as well as contextual risks that may affect project delivery or continued UNDP compliance and reputation but are outside of the control of the project. For example, social and environmental risks associated with co-financed activities or activities taking place in the project?s area of influence that have implications for the project.
o Address project-level grievances.
? Coordination:
o Ensure coordination between various donor and government-funded projects and programmes.
o Ensure coordination with various government agencies and their participation in project activities.

248. Composition of the Project Board: The composition of the Project Board must include individuals assigned to the following three roles:
1. Project Executive: This is an individual who represents ownership of the project and chairs (or co-chairs) the Project Board. The Executive usually is the senior national counterpart for nationally implemented projects (typically from the same entity as the Implementing Partner), and it must be UNDP for projects that are direct implementation (DIM). In exceptional cases, two individuals from different entities can co-share this role and/or co-chair the Project Board. If the project executive co-chairs the project board with representatives of another category, it typically does so with a development partner representative. The Project Executive is: Undersecretary of Environmental Quality.
2. Beneficiary Representative(s): Individuals or groups representing the interests of those groups of stakeholders who will ultimately benefit from the project. Their primary function within the board is to ensure the realization of project results from the perspective of project beneficiaries. Often representatives from civil society, industry associations, or other government entities benefiting from the project can fulfil this role. There can be multiple beneficiary representatives in a Project Board. The Beneficiary representative (s) is/are: Viceministery of Mining
3. Development Partner(s): Individuals or groups representing the interests of the parties concerned that provide funding, strategic guidance and/or technical expertise to the project. The Development Partner(s) is/are: UNDP Ecuador Country Office Resident Representative.

a) Project Assurance: Project assurance is the responsibility of each project board member; however, UNDP has a distinct assurance role for all UNDP projects in carrying out objective and independent project oversight and monitoring functions. UNDP performs quality assurance and supports the Project Board (and Project Management Unit) by carrying out objective and independent project oversight and monitoring functions, including compliance with the risk management and social and environmental standards of UNDP. The Project Board cannot delegate any of its quality assurance responsibilities to the Project Manager. Project assurance is totally independent of project execution.

249. A designated representative of UNDP playing the project assurance role is expected to attend all board meetings and support board processes as a non-voting representative. It should be noted that while in certain cases UNDP?s project assurance role across the project may encompass activities happening at several levels (e.g. global, regional), at least one UNDP representative playing that function must, as part of their duties, specifically attend board meeting and provide board members with the required documentation required to perform their duties. The UNDP representative playing the main project assurance function is/are: Programme Officer, NOB (National Professional Officer-B)

b) Project Management ? Execution of the Project: The Project Manager (PM) (also called project coordinator) is the senior most representative of the Project Management Unit (PMU) and is responsible for the overall day-to-day management of the project on behalf of the Implementing Partner, including the mobilization of all project inputs, supervision over project staff, responsible parties, consultants and sub-contractors. The project manager typically presents key deliverables and documents to the board for their review and approval, including progress reports, annual work plans, adjustments to tolerance levels and risk registers.

250. A designated representative of the PMU is expected to attend all board meetings and support board processes as a non-voting representative. The primary PMU representative attending board meetings is: Project Manager/Coordinator

Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

251. There is a group of GEF-financed projects and other initiatives in Ecuador currently under implementation related to the development challenge that this project is also addressing, which could provide some additional support to strengthening this institutional partnership approach. Thanks to the involvement of the institutional partners in some of them, under the leadership of the Ministry of Environment, Water and Ecological Transition, it seems of mutual benefit the achievement of the outcomes for this project Specifically, this FSP will ensure coordination and count on the capacity built and knowledge gathered from the concurrent projects that are already in progress, as shown in the Table below:

Other on-going projects related to this FSP

Project	Agency	Main relevance for this FSP
Minamata Action Plan	UNDP/Minamata Secretariat	This Plan was prepared in 2019-2020, which includes a detailed inventory of gold production in the country and the use of mercury that occurs in the different areas of the country where artisanal mining exists. In addition, it includes national priorities regarding the execution of activities for the reduction of mercury in ASGM, which go hand in hand with what is proposed by the National Chemical Program (GEF-ID 9203) and with the planetGOLD Global overarching criteria.

The planetGOLD Global Program	GEF/CI	This Program aims to support the participating countries in fulfilling their commitments under the Minamata Convention. Cost-effective knowledge management practices related to formalization, technical solutions access to financing and awareness raising developed by the first group of participating countries will be adapted to the Ecuador context through this FSP. One of the key inputs of this Program to this FSP is ?innovation?, i.e.: the market does not see mercury usage in isolation, but rather as one of many factors that need to be tackled if they are to trade gold as ?ethical?. This FSP will build on the GEF planetGOLD Global Program through the use of an existing knowledge platform, lessoned learned, capacity building materials, databases, proven technologies and market opportunities. Through outputs of Component 4, it also enhances the scope of this global platform and contributes to the evidence base housed there.
Global Knowledge Management and Exchange of Child Project Results Through Networking and Outreach Activities for the GEF GOLD Program	GEF/UNEP	This GEF project, implemented by UNEP, together with the National Resources Defense Council (NRDC) and UNIDO, aims to facilitate the sharing of technical information and engage in outreach to relevant stakeholders to reduce and where feasible eliminate mercury use in ASGM. It has been initially designed to ensure that lessons learned from the individual planetGOLD+ country child projects will be captured and shared between the child projects and other ASGM stakeholders globally. This knowledge sharing platform is assisting countries where ASGM is present to increase capacity to formalize ASGM and approach the process in a holistic manner; provide technical advice with respect to access to finance for the ASGM sector; and increase technical capacity to support mercury reduction efforts through a broad range of guidance material to implement practical projects, which will be consulted during the implementation of the pilot projects of this FSP.
The planetGOLD Global Forum and Annual Meeting	GEF/UNEP	This FSP will be engaged in the planetGOLD Global Forum by participating in a two-yearly learning and sharing event that will facilitate face-to-face meetings (in line with COVID-19 safety protocols) between ASGM experts and practitioners, governments, gold buyers and miners in support of ongoing of experience exchanges and development of global expertise and capacity building on ASGM issues in Ecuador, in order to influence the global ASGM dialogue agenda and policy development. The project will also participate in the annual planetGOLD program meeting, meant to enhance knowledge exchange and cooperation among the planetGOLD country projects.

National Program for the Environmentally Sound and Life-Cycle Management of Chemical Substances ?PNGQ- (GEF-ID 9203)	UNDP / GEF / MAAE / MEM)	This project implements activities to adequately manage a wide variety of Persistent Organic Pollutants (POPs), with a specific component in ASGM. It handles the development of activities focused on the management of POPs and mercury within the implementation framework of the Stockholm and Minamata Conventions, respectively. The efforts for reducing mercury in the ASGM sector are focused mainly on the development of capacity building programs for artisanal and small-scale miners for hard-rock mining that would result in a conceptual change towards ore processing, with an emphasis on shifting to mercury-free technologies; including alternative means of life for the *jancheras*. One important output achieved by the MTR is the development of a financial product developed to increase access to financing by the ASGM sector, implemented by BCE and other financial intermediaries, known as the *?Green Recovery?* financial mechanism.
Environmental Governance Program (EGP)	Government of Sweden/UNDP	This project -implemented by the Swedish Environmental Protection Agency and UNDP- aims to strengthen the governance of the ASGM in Ecuador.
The Amazon Geo-Referenced Socio-Environmental Information Network (RAISG) and Info Amazonia	World Bank	This network, implemented in coordination with eight other Latin American institutions, presented recently the map of illegal mining in six Amazon countries, which identified 2,312 sites with illegal mining activities and 245 non-authorized extraction areas in which gold, diamonds and coltan are exploited in Bolivia, Brazil, Colombia, Ecuador, Peru and Venezuela. Due to exist multiple coincidences and coherences between the work to be done by RAISG Project and Planet Gold+ Project, the coordination will be executed through periodical meetings between both teams in order to stablish a working agenda.
Targeted Scenario Analysis (TSA) in the artisanal and small-scale gold mining sector in Ecuador.	UNDP/PAGE	Economic study, carried out during the period 2021, based on evidence that supports decision-making that allows achieving a more sustainable, profitable, traceable model with less impact on ecosystems and the environment in the ASGM sector in Ecuador.
Fairmined Gold	ARM	The Alliance for Responsible Mining (ARM) and Fairtrade International have developed international standards for best ASGM best practices, i.e.: ?Fairmined? and ?Fairtrade Gold?, in a move to raise public awareness on the positive impact of their consumer choices. These standards require communities to be formalized and respect social and environmental minimum requirements. ARM has further developed with Code for Risk Mitigation for ASGM engaging in Formal Trade (CRAFT), which is a code for progressive compliance for ASM producers. The above actions will also serve as guidance to the implementation of the activities foreseen in this FSP.

252. UNDP organizes on a yearly basis face-to-face South-South exchanges among all UNDP GEF Chemicals and Waste projects and programmes in the Latin American and the Caribbean region. These allow government counterparts, project coordinators and experts to exchange experiences and lead to long-term collaboration, exchanges and partnerships between projects and countries. Projects that participate in these exchanges include UNDP/GEF projects like those implemented in Colombia, Suriname, Honduras and Uruguay (among others), which also focus specifically on Mercury issues and other POPs.

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.

253. This project is consistent and aligned with National Priorities taken up in the Minamata Initial Assessment Report of Ecuador (MIA) under the Minamata Convention, which represents an important opportunity to address mercury pollution problems in the country, by putting un place emission and release control measures of mercury containing mercury containing waste, and reduce and where feasible, phase out the use of mercury and mercury compounds in, with particular focus on the Artisanal and Small-Scale Gold Mining (ASGM) sector.

254. For the global development agenda, this FSP is aligned with the recently developed Agreement of the Principle 10 of the Rio Declaration, which states that environmental issues are best handled with the participation of all concerned citizens, at the relevant level, recognizing that information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes.

255. Improving the sound life-cycle management of chemicals and, in particular, the management of PCBs, and other hazardous chemicals will help the Government of Ecuador to work towards achievement of the Sustainable Development Goals (SDGs). The SDGs most relevant to this project are:

SDGs and their relevance to this FSP

SDG	Relevance to this FSP
SDG 1: End poverty in all its forms everywhere.	By introducing alternatives, best practices and techniques to minimize the use and release of mercury, and improve miner incomes thus alleviating poverty and address some of the underlying socio-economic challenges that are at the core of existing practices that use mercury in the ASGM sector.

SDG 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.	By decreasing the use of mercury and its release into the environment from the ASGM sector, indirectly halting and reducing the build-up of mercury in aquatic food chains that indigenous and traditional local communities disproportionately consume as sources of protein.
SDG 3: Ensure healthy lives and promote well-being for all at all ages	By reducing the use of mercury in the ASGM sector, and minimizing its releases, to ultimately protect human and environmental health. Reduction in mercury release will also substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination.
SDG 5: Achieve gender equality and empower all women and girls.	At the policy formulation level, inclusivity and gender mainstreaming have been included to highlight that women and girls as historically vulnerable populations must be a part of the formalization process and have their interests and concerns accounted for in ASGM related policies. This FSP provides an opportunity to ameliorate some of the inequities in political power, voice and address persistent issues of unequal access to and control over resources that women in the ASGM sector encounter. As ASM formalization interventions can be disconnected from changing rural labour dynamics, and may exasperate, rather than reduce forms of social inequality and marginalization, miners in intervention sites will be further stratified by gender, age, ethnicity, indigenous status, and other factors to identify vulnerable sub-groups that may require special assistance.
SDG 6: Clean Water and Sanitation.	By protecting sea and freshwater resources from mercury contamination, especially nearby rivers, freshwater community intake facilities and marine zones through promotion of environmentally responsible practices that reduce siltation and avoid the use of mercury in mining activities.
SDG 8: Decent work and economic growth.	Achieve higher levels of economic productivity through diversification, technological upgrading and innovation by focusing on high-value added and labor-intensive sectors. Supporting the development of workplace safety standards and procedures, introducing personal protective measures, and addressing the underlying socio-economic causes that lead to vulnerability due to livelihood informality and limit transition from mercury in the ASGM economy. More recently, of relevance is to contribute to the mitigation of COVID-19 impacts in ASGM mining communities and including mine-level safeguards, improved sanitation and containment measures.
SDG 9: Increase Access to Financial Services and Markets	Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets.
SDG 12: Ensure sustainable consumption and production patterns.	Through the reduction of mercury pollution and mercury-containing wastes by introducing alternative processes and technologies that are mercury-free, cost-effective and in line with responsible mining practices that are resource efficient and reduce pollution hazards.

SDG 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	Through decreasing the use and release of mercury from ASGM activities, preventing mercury from entering water sources, and reducing the build-up of mercury in the food chain.
SDG 15: Life on land.	By optimizing existing mine sites instead of promoting expansion into new mines and further clearing forests, reducing biodiversity loss and by planning for integrated mine closure throughout. Restorative mine planning and promoting revegetation through cost effective approaches, such as applied nucleation and assisted regeneration can reduce soil erosion, enhance bank stability, and facilitate tropical forest recovery in post-mining landscapes.

Consistency with National Priorities. Describe the consistency of the project with national strategies and plans or reports and assessments under relevant conventions from below:
? Minamata Convention on Mercury
? United Nations Framework Convention on Climate Change (UNFCCC)
? United Nations Convention on Biological Diversity (UNCBD)
? Amazon Cooperation Treaty (ACT)
? International Covenant on Civil and Political Rights (ICCPR)
? International Covenant on Economic, Social and Cultural Rights (ICESCR)
? Convention on the Elimination of All Forms of Discrimination against Women (CEDAW)
? Convention for the Safeguarding of Intangible Cultural Heritage
? Stockholm Convention On Persistent Organic Pollutants
? Rotterdam Convention on the Prior Informed Consent
? Cartagena Protocol on Biosafety

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.

256. The global project of planetGOLD focuses on knowledge management and increased access to information among project partners and the wider ASGM community, particularly on the topics of formalization, market access and technology transfer; this Child Project falls under this guidance. Through the implementation of communication strategies and activities, it will also inform and educate the general public and decision makers in Ecuador on the mayor issues, challenges and solutions related to the ASGM sector.

257. The knowledge management approach will build on the planetGOLD platform, which will continue to be the hub of the knowledge gathered by the planetGOLD and GOLD+ child projects. Learning and exchange amongst different country projects will be enabled by global events supported by the GOLD+ global project, such as the Global Fora (continuing the Global Fora that are organized by planetGOLD). The Knowledge and Communication component of GOLD+ will also include an increased focus on maximizing the impact of communications at the local level within countries through the implementation of Component 4 of this FSP. This component proposes 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.

258. Under the foreseen activities in Output 4.1, the project will implement a ?M&E and adaptive management applied to capture lessons learned, emphasizing prospecting, sustainable mercury-free gold methods, and sound tailings management?, making use of social media, the preparation of publications, scientific papers, articles, lessons learned reports, among else, (detailed in Annex 9 ?Stakeholder Engagement Plan?). In particular, knowledge ?both at the national and international fora- will be gathered, managed and disseminated through the list of incremental activities which will capture lessons-learned and experiences and publish them in publications and lessons-learned reports (Output 4.1, Activities i. and ii.). The timeframe for the implementation of these activities can be found in Annex 4 -Multi-year Work Plan- (attached to the UNDP Project Document).

259. This FSP in Ecuador will provide access to information and opportunities for exchange among Parties and other ASGM Practitioners by informing the GEF planetGOLD projects as well as the wider ASGM community about experiences in formalization, access to finance and market and technology transfer, including but not limited to access and use information, technical materials, guidance, and lessons learned to assist the development and implementation of the Global Program.

260. Component 4, Output 4.1, will also help educate the general public in Ecuador about ASGM as a global issue. This output will use targeted communication to garner support among the public, gold consumers, governments, and the financial sector, for sector reforms, increased access to finance and improved markets for ASGM gold. It will create outreach materials that are highly accessible to both specialized and general audiences, and deploy these assets through a carefully planned media strategy. This Output will also coordinate a specific public relation campaign in conjunction with a downstream user or users of gold, specifically jewelers, to increase awareness and demand for responsible gold trade.

261. The communication strategy should serve as a platform for dissemination, providing lessons learned and technical information material for other countries to implement large-scale, best practices for the elimination of PCBs, with broad dissemination at the state level. All knowledge management activities will be gender mainstreamed; this includes integration of gender dimensions into the FSP?s training activities, for instance, through the presentation of sex-disaggregated data, activities related to reducing gender, and gender mainstreaming in training programs in line with the Gender Action Plan.

262. In addition to that, it should be noted that UNDP annually organizes meetings for Government Officers and Project Coordinators of all the UNDP-GEF funded Chemicals and Waste Projects in Latin America and the Caribbean. In these meetings, lessons learned, and best practices are shared among all the projects in this region.

263. Finally, UNDP will ensure that relevant information and lessons learned will be collected as input for the Mid-term Review and Terminal Evaluation.

9. Monitoring and Evaluation

Describe the budgeted M and E plan

264. The project results, corresponding indicators and mid-term and end-of-project targets in the project results framework will be monitored annually and evaluated periodically during project implementation, supported by Component 4: (Output 4.1, Activities i.). If baseline data for some of the results indicators is not yet available, it will be collected during the first year of project implementation. The Monitoring Plan included in Annex 5 details the roles, responsibilities, and frequency of monitoring project results.

265. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP Evaluation Policy. The UNDP Country Office is responsible for ensuring full compliance with all UNDP project monitoring, quality assurance, risk management, and evaluation requirements.

266.Additional mandatory GEF-specific M&E requirements will be undertaken in accordance with the GEF Monitoring Policy and the GEF Evaluation Policy and other relevant GEF policies[1][1]. The costed M&E plan included below, and the Monitoring plan in Annex 3, will guide the GEF-specific M&E activities to be undertaken by this project.

267. In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

268. The project results as outlined in the Project Results Framework (Annex A) will be monitored annually and evaluated periodically during project implementation to ensure the project effectively achieves these results.

269. In addition to these mandatory UNDP and GEF M&E requirements, other M&E activities deemed necessary to support project-level adaptive management will be agreed during the Project Inception Workshop and will be detailed in the Inception Report.

GEF M&E requirements to be undertaken by Project Management Unit (PMU)	Indicative costs (US$)	Time frame
Inception Workshop and Report	10,000	**Inception Workshop within 2 months of the First Disbursement**
M&E required to report on progress made in reaching GEF core indicators and project results included in the project results framework	5,000	**Annually and at mid-point and closure.**
Preparation of the annual GEF Project Implementation Report (PIR)	5,000	**Annually typically between June-August**

Monitoring of Stakeholder Engagement Plan and Gender Action Plan	37,500	**On-going.**
Monitoring of Environmental and Social Safeguards	72,500	**On-going.**
Supervision missions	10,000	**Annually**
Learning missions	10,000	**As needed**
Independent Mid-term Review (MTR)	*25,000*	*December 19, 2025*
Independent Terminal Evaluation (TE)	*25,000*	*March 18, 2028*
TOTAL indicative COST	*200,000*	

[1] See https://www.thegef.org/gef/policies_guidelines

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)?

270. The project?s goal is to minimize risks to mercury exposure to human beings and the environment due to the use of mercury in the ASGM sector in compliance with the Minamata Convention, recognizing the multi-dimensional impacts of artisanal and small-scale gold mining on the environment, health and poverty.

271. At the local level, the implementation of coordinated demonstration actions with the private sector in the field will show the opportunities of institutional integration and coordination, private-driven investments, will demonstrate that the positive results of these pilot interventions would serve to improve and enforce current regulation for environmentally sound management of mercury in the ASGM sector. Innovative market interventions offer alternative solutions to other LAC parties of the Minamata Convention and will follow and integrate these strategies in their efforts to phase out chemical hazardous substances. For this, a public awareness and communication strategy for the elimination of mercury, related wastes and safer alternatives should result in direct gains for the citizens and the environment.

272. Additional economic and social benefits that will be brought on by the project:

? Reduced health impact from the exposure to hazardous chemicals, particularly the use of mercury for the amalgamation of gold for gold mining as well as for gold extraction. The project estimates to increase awareness of 26.896 people, of which 2.690 are females and 24.206 are males.
? Considered newly identified risks related to the global pandemic amid the COVID-19 virus that may affect the implementation of the project, especially to Indigenous and Tribal Peoples.
? Job creation through opportunities enhanced in the deployment of mercury-free technologies.
? Improved policy, regulatory, monitoring and analysis frameworks, to safeguard human health and the environment.

How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

273. In the BAU national context of the Ecuador economy, limiting the country?s capacity on elimination of mercury in the ASGM sector will put a heavy burden in the compliance of international regulations committed by this country with the Minamata Convention. The Global Environmental Benefits (GEB) of the project at the CEO endorsement stage, are the same as presented at the PIF stage. The positive impacts of the project will include the following reduction:

? Ten (10) tons of mercury avoided.

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
	High or Substantial		

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.

This Environmental and Social Management Framework (ESMF) was developed for the UNDP-supported, GEF-financed project *?GEF GOLD+ in Ecuador?*, under the GEF-7 Focal Area Chemicals and Waste.

This ESMF has been prepared for the submission of the UNDP project proposal to the GEF for the purposes of assisting in the assessment of the project?s potential environmental and social impacts. Preliminary analysis and screening conducted during the project development phase via UNDP?s Social and Environmental Screening Procedure (SESP) identified potential social and environmental risks associated with project activities including in particular, to maximize the potential of the Artisanal and Small-scale Gold Mining (ASGM) sector in Ecuador in a way that the use of mercury for gold production will be reduced and progressively eliminated.

This screening resulted in the identification of 13 risks of which one (1) was considered ?low?, five (5) were considered ?moderate? and seven (7) were considered ?substantial?; resulting in an overall social and environmental risk categorization of ?Substantial? for this planetGOLD+ Project.

This ESMF has been developed based on this project risk categorization to specify the processes that will be undertaken by the Project Management Unit (PMU) for the additional assessment of potential impacts and identification and development of appropriate risk management measures, in line with UNDP?s Social and Environmental Standards (SES).

This ESMF identifies the steps that will be followed during the inception phase of the project implementation:

i) Tier 1/2 sites[1] will be re-evaluated and verified during implementation as ASM sites are dynamic, and conditions may shift between the PPG and implementation, especially for alluvial mining operations. Selection criteria used for verification may be adjusted during inception (first year) but also must be coordinated with high and substantial risks identified during the SESP. At the same time, Tier 1 sites must be able to produce enough gold to reach mercury abatement targets.

ii) Once Tier 1 (priority) sites are verified with social and environmental criteria set up by UNDP and the National Government of Ecuador, the **SESA (Step 1)** serves as a broad tool to identify policy issues and assess regional climate risks for Tier 1 cantons (municipalities)[2][2]. This approach aims to conserve project resources for climate risk assessments at the municipal (Canton) level for Tier 1 sites to support decentralization/domestic national policies to JA pilots (i.e., sub-national level).

iii) Following completion of the SESA, **site-specific ESIAs (Step 2)** aim to evaluate existing small-scale operations, artisanal actors and surrounding communities in Tier 1 project sites and their sphere of influence to avoid unintended social and environmental consequences.

iv) Following site-specific ESIAs, **ESMPs (Step 3)** are to be prepared following the requirements of UNDP Project Standards and national environmental regulations, especially the Environmental Regulation of Mining Activities (RAAM), providing for detailed measures to mitigate adverse environmental and social risks associated with implementation of this UNDP/GEF FSP. Pilots will not commence operations until respective site-specific ESMPs are in place.

v) Ensuring that compliance with the Constitution of Ecuador, *?Environmental Framework Law?* and commitments to ILO Convention 189 on the worst forms of child labour and ILO Convention 169 which specifies that strengthening Free, and Prior Informed Consent (FPIC) is being applied in decision making processes concerning habitats and living areas of marginal and indigenous peoples where extractive or hydrocarbon projects are proposed.

This ESMF also details the roles and responsibilities for its implementation and includes a detailed budget and monitoring and evaluation plan.

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[1] Tier 1 sites refer to priorities for intervention and Tier 2 sites refer to secondary intervention sites to be verified with social and environmental criteria during project inception and coordinated with sequencing of the SESA procedure and site-specific ESIAs/ESMPs.

[2] Climate change risk assessments (Canton level) under Component 1 are described under Act. 1.2 of Output 1.2 are part of the SESA process as a substantial risk project. For sequencing of impact assessments and plans, see Figure 8 in Project Document.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
PIMS_6653_GEFID_10835_PlanetGOLD2_Child_Ecuador_Annex9_ESMF	**CEO Endorsement ESS**	

Title	Module	Submitted
PIMS_6653_GEFID_10835_PlanetGOLD2_Child_Ecuador_Annex5_SESP	**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).

This project will contribute to the following Sustainable Development Goal (s): SDG 1 (End poverty in all its forms everywhere), **SDG 2** (End hunger, achieve food security and improved nutrition and promote sustainable agriculture), **SDG 3** (Ensure healthy lives and promote well-being for all at all ages), **SDG 5** (Achieve gender equality and empower all women and girls), **SDG 6** (Clean Water and Sanitation), **SDG 8** (Decent work and economic growth), **SDG 9** (Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets), **SDG 12** (Ensure sustainable consumption and production patterns), **SDG 14** (Conserve and sustainably use the oceans, seas and marine resources for sustainable development), **SDG 15** (Life on land).
This project will contribute to the following country outcome (UNDAF/CPD, RPD, GPD): UNDAF 2019-2022 Impact 2: By 2022 Ecuador has strengthened its regulatory, policy and institutional frameworks to improve natural resource management in order to make it more sustainable, participatory and gender oriented, promoting more responsible production and consumption patterns in the context of climate change. / CPD Output 2.1: Instruments and mechanisms are applied at national or local level to manage natural resources in a sustainable way to mainstream climate change adaptation and mitigation and their effects, and to transition towards more sustainable productive system; CPD Output 2.2: Conservation and sustainable forest management activities as well as sustainable supply chain good practices carried out.

	Objective and Outcome Indicators **(no more than a total of 20 indicators)**	**Baseline[1]** *Must be determined during PPG phase*	**Mid-term Target[2]** *Expected level of progress before MTR process starts*	**End of Project Target** *Expected level when terminal evaluation undertaken*
Project Objective: Minimize risk to mercury exposure of human beings and environment due to the use of mercury in the ASGM sector in Ecuador, in compliance of Minamata	*Indicator 1* (Mandatory GEF Core Sub-indicator 9.2) Tons of mercury avoided. *(In accordance with Indicators 1.1.1 and 3.2.1 of the planetGOLD Programme Indicators)*	30 tons of Hg used annually.	3 tons of Hg avoided by the project.	10 tons of Hg avoided by the project[3][3].

Convention.	*Indicator 2* (Mandatory GEF Core Indicator 11) Number of direct project beneficiaries disaggregated by gender as co-benefit of GEF investment[4][4].	In the framework of the PPG phase workshops, 350 direct project beneficiaries have participated: Female: 15 Male: 335	350 direct project beneficiaries (miners and local community members) for which the risk of mercury exposure has been reduced. Female: 50 Male: 300	700 direct project beneficiaries (miners and local community members) for which the risk of mercury exposure has been reduced. Female: 70 Male: 630
Project component 1 ***(no indicators required)***	**Enhancing formalization in the ASGM Sector**			
Project Outcome[5][5] 1 Increased formalization through multisectoral, integrated approaches and capacity building of ASGM stakeholders.	*Indicator 3* Number of miners supported in their formalization process (disaggregated by gender). *(In accordance with Indicator 2.1.1 of the planetGOLD Programme Indicators)*	Insufficient institutional capacity at the regional and local levels for the implementation of policies and regulations that support formalization in the ASGM sector.	25 miners (20 men/ 5 women) have strengthened their capacities to assess, plan and implement formal mercury-free interventions in the ASGM sector. This outcome will be reached under the policies to be implemented by the National Authorities.	50 miners (40 men/ 10 women) have strengthened their capacities to assess, plan and implement formal mercury-free interventions in the ASGM sector.

	Indicator 4 Number of policies, policy instruments, or regulatory frameworks influenced (at national or sub-national level) to improve ASGM formalization. *In accordance with Indicator 2.1.2 of the planetGOLD Programme Indicators)*	Mining Act Proposal provides for ASGM but regulations to make it operational are yet to be put in place and fully implemented.	Two (2) instruments revised and/or developed to improve the enabling environment for ASGM and mercury phase-out in the ASGM sector.	Four (4) instruments revised and/or developed to improve the enabling environment for ASGM and mercury phase-out in the ASGM sector.
Outputs to achieve Outcome 1	1.1 National and local stakeholders? capacity strengthened to assess, plan, and implement sustainable mercury-free interventions in ASGM territories. 1.2 Jurisdictional Approach (JA) piloted to optimize land allocation through ASGM zones in Tier 1 sites.			
Project component 2 ***(no indicators required)***	**Access to finance enhanced by financial Inclusion and responsible supply chains**			
Outcome 2 Improved income for ASGM miners through the attainment of better gold prices facilitated by transparent and responsible	*Indicator 5* Loans/investments for the purchase of mercury-free processing equipment/investments are accessible to legitimatized ASGM miners.	2	Two (2) new/improved financial product/mechanism (including women friendly financial products) established for the ASGM sector.	Four (4) new/improved financial products/mechanisms (including women friendly financial products) established for the ASGM sector.

supply chains.	*Indicator 6* Amount of funds (in USD) made available to ASGM through financial mechanisms (disaggregated by gender and indigenous people). *(In accordance with Indicators 3.2.1 and 4.1.1 of the planetGOLD Programme Indicators)*	In the ASGM selected pilot project areas, none of the ASGM miners have been trained on how to access financing. 20 ASGM loan applications developed. 20 ASGM loan applications approved.	USD 100,000 made available to ASGM through financial mechanisms (disaggregated by gender and indigenous people). 10 loan applications developed (with technical support of the project). 50 % loan applications (developed with technical support of the project) approved.	USD 200,000 made available to ASGM through financial mechanisms (disaggregated by gender and indigenous people). 20 loan applications developed (with technical support of the project). 50 % loan applications (developed with technical support of the project) approved. This values will be calculated with accuracy once the Project is implemented.
Outputs to achieve Outcome 2	2.1. Opportunities created for ASGM sector with financial institutions to procure/retrofit equipment and invest in business skills for men and women. 2.2. Proof of concept for technology-assisted mineral supply chain due diligence developed and tested in target regions.			
Project component 3 ***(no indicators required)***	**Enhancing uptake of Mercury-free technologies**			
Outcome 3 Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners**.**	*Indicator 7* Number of miners trained in mercury-free processes (disaggregated by gender). *(In accordance with Indicator 1.1.3 of the planetGOLD Programme Indicators)*	350	20 Female: 15 Male: 5	40 Female: 30 Male: 10

	Indicator 8 Number of pilot projects implemented and operationalized in target jurisdictions.	0	1	3
	Indicator 9 Amount of responsible gold produced without mercury (in kilograms)	300	800 Kilograms of gold produced without mercury.	1,600 Kilograms of gold produced without mercury.
Outputs to achieve Outcome 3	3.1 National and local stakeholders strengthened to support sustainable mercury reductions across the mine-life cycle. 3.2. Assay lab, processing plant and training center(s) established to promote resource efficient mining with clear provisions on ore characterization and tailored mineral processing techniques.			
Project component 4 ***(no indicators required)***	**Knowledge sharing, communication and local capacity building support**			
Outcome 4 Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction.	*Indicator 10* Number of people reached with awareness raising materials, by mode of communication (e.g. online, in-person, via SMS, WhatsApp, etc.) and by gender. *(In accordance with Indicator 5.1.1 of the planetGOLD Programme Indicators)*	2,689 beneficiaries (269 females and 2,420 males) of the miners and inhabitants of the three project priority sites and local communities have been made aware of the dangers of mercury and ways to eliminate/avoid its use in ASGM.	73,940 beneficiaries (36,231 females and 37,709 males) of whom awareness has been raised on the dangers of mercury and ways to eliminate/avoid its use in ASGM.	147,891 beneficiaries, of which 72,200 are women (49%) and 75,691 are men (51%)[6][6].
Outputs to achieve Outcome 4	4.1 Knowledge management system for best practices and communication platform at national level established. 4.2. Miner, investment and CSO focused communication strategies explored, tested, deployed and scaled up.			

Project component 5 ***(no indicators required)***	**Monitoring and Evaluation**			
Outcome 5 Country-level M&E plans inform management, implementation, and adaptive management.	*Indicator 11* Percentage of project expenditure spent on the FSP planned activities.	0%	40%	100%

[1] Baseline, mid-term and end of project target levels must be expressed in the same neutral unit of analysis as the corresponding indicator. Baseline is the current/original status or condition and needs to be quantified. The baseline can be zero when appropriate given the project has not started. The baseline must be established before the project document is submitted to the GEF for final approval. The baseline values will be used to measure the success of the project through implementation monitoring and evaluation.

[2] Target is the change in the baseline value that will be achieved by the Mid-term Review and then again by the Terminal Evaluation.

[3] As agreed during the GOLD+ design phase, a multiplication factor of three is applied to target 9.2 (10 tons) for the ten years following project implementation; delivering a total of 30 tons of mercury avoided in ASGM production systems in Ecuador; through scaling up of results by (i) improved tenure security, (ii) enhanced access to financial products/services and responsible supply chains, (iii) fair gold prices, and (iv) the uptake of Hg-free technologies by miners.

[4] Provide total number of all direct project beneficiaries expected to benefit from all project activities until project closure. Separate the total number by female and male. This indicator captures the number of individual people who receive targeted support from a given GEF project and/or who use the specific resources that the project maintains or enhances. Support is defined as direct assistance from the project. Direct beneficiaries are all individuals receiving targeted support from a given project. Targeted support is the intentional and direct assistance of a project to individuals or groups of individuals who are aware that they are receiving that support and/or who use the specific resources.

[5] Outcomes are medium term results that the project makes a contribution towards, and that are designed to help achieve the longer-term objective. Achievement of outcomes will be influenced both by project outputs and additional factors that may be outside the direct control of the project.

[6] As per the demographic data from the National Institute of Statistics and Census, total number of beneficiaries under the JA approach in the participating TIER 1 and TIER 2 cantons is 147,891 people,

of which 72,200 are women (49%) and 75,691 are men (51%). These figures will be monitored and reported in the PIR during FSP implementation

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).

GEF comment	UNDP response
? Canada Comments ? Given the overall success of these initiatives and the significance of the ASGM sector as a source of global mercury emissions, Canada supports continued funding for ASGM related projects and the GOLD program. The project is in line with the Minamata Convention text and will assist countries with treaty implementation.	No response needed.
Germany Comments Germany approves the following PIF which aims to extend the existing GEF GOLD+ program through seven Child Projects and contributes to implementing the Minamata convention. Suggestions for improvements to be made during the drafting of the final project proposal:	

? The evaluation of the GEF GOLD program has noted that other issues (apart from mercury pollution) caused by ASGM (e.g. deforestation, harmful replacement technologies, child labour, indigenous peoples rights) could have been better addressed. While it is clear that they cannot be accurately assessed before sites have been selected, Germany asks the project to fully consider these risks and to ensure co-benefits once possible.	This comment has been fully considered for the Ecuador Child FSP. Recognizing that mercury pollution from the Ecuadorian ASGM sector is one of several adverse impacts on terrestrial ecosystems, inland waters and biodiversity, this Child project aims to integrate additional environmental co-benefits through a landscape approach to achieve jurisdictional sustainability. The Jurisdictional Approach (JA) refers to a type of integrated landscape management with one prominent distinguishing feature: the ?landscape? is defined by policy-relevant boundaries with the underlying strategy to achieve high levels of governmental and multi-stakeholder involvement within a specific jurisdiction. A jurisdiction may include administrative (i.e. cantons) or ecologically relevant boundaries (i.e., watershed) (Please refer to Annex 18 of ProDoc, *Environmental Co-benefits Calculations for Ecuador GOLD+ Annex*). In tune with this rationale, Environmental co-benefits under the Ecuador Child project will be visible due to the impact that the Project will have in politics strengthening, mainly focused on biodiversity conservation, such as protection of water basins. These actions are related to protect associated environments like bays, creeks, slopes, tropical and subtropical forests, among others. Additionally, from a landscape approach, the project will enhance the protection of aquatic fauna in the areas where will be placed on, through elimination of pollutants associated to mining activities (ProDoc, page 44). Jurisdictional Approach (JA) pilots will be tested in three (3) of the above Tier 1 mining intervention sites to encourage pollution prevention measures and promote improved management practices to avoid and reduce losses of productive land and biodiversity. Sustainable Land Management (SLM) practices. A preliminary assessment has identified three territories as priority intervention areas, although Tier 1 (priority) sites will be confirmed during the project?s inception phase through verification with environmental and social criteria. Therefore, environmental co-benefits calculated at the CEO endorsement stage include **72,313.25 hectares.** The JA approach under this FSP considers total surface area of Cantons (municipalities) where Tier 1 and 2 pilot sites belong. This is a condition to make operational the Jurisdictional Approach under this FSP (ProDoc, page 82).

? According to the evaluation of the GEF GOLD program the reduction of mercury use after project completion varies significantly in different project regions. In light of these results, Germany appreciates further clarification on whether the application of a uniform replication factor for all countries is appropriate. In the current proposal the replication factor after project completion is 3. The final project proposal should state how obstacles for replication identified in the evaluation (e.g. lack of government enforcement of mercury bans, lack of training and lack of availability of replacement parts for non-mercury technology) will be tackled by the project.	This comment has been considered under the Project Approach (please refer to Section 3.3 of ProDoc on page 47) in the design of the Ecuador Child FSP, specifically under Component 1. *?Enhancing Formalization in the ASGM Sector?*, Component 2 *?Access to Finance enhanced by Financial Inclusion and Responsible Supply Chains?*, and Component 3 *?Enhancing Uptake of Mercury-free Technologies?.*
? Germany emphasizes the importance of including the creation of cost-effective monitoring and implementation structures for countries with weak ASGM formalization in the final project proposal.	Likewise, under Component 5 *?Monitoring and Evaluation?*, project results, as outlined in the Project Results Framework (Section V of ProDoc), will be monitored periodically during implementation to ensure the project effectively achieves these results; these will be reported in a public Mid-term Review and the Terminal Evaluation reports. Project-level monitoring and evaluation will be undertaken in compliance with UNDP requirements as outlined in the UNDP POPP and UNDP?s Evaluation Policy.
Norway/Denmark Comments ? We are pleased to see the inclusion of seven additional countries to the project. ASGM is a significant source of releases of mercury into the environment.	No response needed.
? We would like to point to the linkages between ASGM and deforestation made by the GEF Secretariat in the GEF 8 Strategic Positioning and Programming Directions1 where mining is found to have much broader consequences "than the areas cleared for the pit with a cascade of effects responsible for deforestation and forest degradation".	This comment has been fully considered for the Ecuador Child FSP. As pointed out above, a preliminary assessment carried out in the PPG stage has identified three territories as priority intervention areas, which includes environmental co-benefits of **72,313.25 hectares** (Please refer to Annex 18 of ProDoc, *Environmental Co-benefits Calculations for Ecuador GOLD+ Annex*).

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

Project Preparation Activities Implemented	*GETF ($120,000)*		
	Budgeted Amount	***Amount Spent to Date***	***Amount Committed***
Global Opportunities for Long-term Development of ASGM Sector Plus - GEF GOLD + in Ecuador	120,000.00	91,445.00	28,555.00
Total	120,000.00	91,445.00	28,555.00

GEF Outcome/Atlas Activity	**Responsible Party**	**Fund ID**	**Donor Name**	**Atlas Budgetary Account Code**	**ATLAS Budget Description**	**Amount 2021**	**Amount 2022**	**Total**	**Budget Notes**
Project preparation grant to finalize the UNDP-GEF project document for project **Global Opportunities for Long-term Development of ASGM Sector Plus - GEF GOLD + in Ecuador**	**UNDP**	**62000**	**GEF TRUSTEE**	71200	International Consultants	16,764	34,036	50,800	A1-A3
				71300	Local Consultants	13,959	28,341	42,300	B1-B3
				71400	Contractual Services - Individ	1,650	3,350	5,000	C
				71600	Travel	-	5,000	5,000	D
				72100	Contractual Services-Companies	1,650	3,350	5,000	E
				74200	Audio Visual&Print Prod Costs	1,650	3,350	5,000	F
				74500	Miscellaneous Expenses	660	1,340	2,000	G
				75700	Training, Workshops and Confer	1,617	3,283	4,900	H
					PROJECT TOTAL	**37,950**	**82,050**	**120,000**	

Budget Note	Items	Total estimated person weeks	Budget US$	Budget Note
A1	71200 - International Consultants	14	25,200.00	International Expert to provide overall guidance on project preparation to National Consultants engaged by the project and preparation of the UNDP-GEF Project Document, the GEF CEO Endorsement, the SESP, the GEF Tracking Tools). Costs of the International Project Development Specialist (GEF PPG Team Leader) are estimated to USD$ 25,200.00. No travel is foreseen for this consultancy. For details on the responsibilities of the international expert, kindly refer to Annex 2.
A2	71200 - International Consultants	12	21,600.00	International Expert to provide overall guidance on project preparation to National Consultants engaged by the project and preparation of the UNDP-GEF Project Document, the GEF CEO Endorsement, the SESP, the GEF Tracking Tools). Costs of the International ASGM Expert are estimated to USD$ 21,600.00. No travel is foreseen for this consultancy. For details on the responsibilities of the international expert, kindly refer to Annex 2.

A3	71200 - International Consultants	4	4,000.00	International Expert to provide overall guidance on project preparation to National Consultants engaged by the project and preparation of the UNDP-GEF Project Document, the GEF CEO Endorsement, the SESP, the GEF Tracking Tools). Costs of the International Safeguards Specialist for ASGM are estimated to USD$ 4,000.00. No travel is foreseen for this consultancy. For details on the responsibilities of the international expert, kindly refer to Annex 2.
B1	71300 - National Consultants	14	17,500.00	National Consultant for the oversight and coordination of the PPG process throughout its entire duration and be responsible for the overall coordination of processes and consultations needed for project development and the preparation of the UNDP-GEF Project Document and the GEF CEO Endorsement Form, in direct collaboration with the international coordinator and national/international consultants. Costs of the National PPG Coordinator, institutional and policy Expert are estimated to USD$17,500.00. For details on the responsibilities of the national expert, kindly refer to Annex 2.
B2	71300 - National Consultants	14	14,000.00	National Consultant for the oversight and coordination of the PPG process throughout its entire duration and be responsible for the overall coordination of processes and consultations needed for project development and the preparation of the UNDP-GEF Project Document and the GEF CEO Endorsement Form, in direct collaboration with the international coordinator and national/international consultants. Costs of the National ASGM Expert are estimated to USD$14,000.00. For details on the responsibilities of the national expert, kindly refer to Annex 2.
B3	71300 - National Consultants	12	10,800.00	National Consultant for the oversight and coordination of the PPG process throughout its entire duration and be responsible for the overall coordination of processes and consultations needed for project development and the preparation of the UNDP-GEF Project Document and the GEF CEO Endorsement Form, the SESP, the GEF Tracking Tools in direct collaboration with the international coordinator and national/international consultants. Costs of the National Gender and Finance Specialist are estimated to USD$10,800.00 and includes one (5) day mission (travel and DSA). Travel costs related to travel for fieldwork and exchange of experiences. For details on the responsibilities of the national expert, kindly refer to Annex 2.

C	71400 - Contractual Services - Individ	5	5,000.00	Support for the preparation of the PPG phase. Including the organization and use of tools (zoom / teams) for virtual meetings and organization of workshops.
D	71600 - Travel	N/A	5,000.00	Travel costs related to travel for fieldwork and exchange of experiences
E	72100 - Contractual Services- Companies	N/A	5,000.00	HACT Assessment
F	74200 - Translation costs	N/A	5,000.00	Includes the translation relevant documents (PRODOC, SES?) from English to Spanish to facilitate consultation and validation process
G	74500 - Miscellaneous Expenses	N/A	2,000.00	Miscellaneous expenses such as PPE (COVID-19)
H	75700 - Trainings, workshops	N/A	4,900.00	Includes the organization of the two Workshops (PPG Inception Workshop and Project Document Validation Workshop), training of national experts on establishing the project?s baseline as well as four working meetings with national stakeholders.

PPG Activity	**Month 1 JUN**	**Month 2 JUL**	**Month 3 AUG**	**Month 4 SEP**	**Month 5 OCT**	**Month 6 NOV**	**Month 7 DEC**	**Month 8 JAN**	**Month 9 FEB**	**Month 10 MAR**	**Month 11 APR**	**Month 12 MAY**	**Month 13 JUN**	**Month 14 JUL**	**Month 15 AUG**	**Month 16 SEP**
PPG team recruitment																
PPG inception																

Component A: Technical studies															
PPG mission / landscape visits															
Component B: Pro Doc formulation															
Component C: Validation Workshop															
Delivery of outputs to RTA															
UNDP-GEF clearance processes															
GEF Secretariat submission deadline															
GEF Secretariat review															

Position, Type and Cost	Role, Deliverables and Qualifications

Consultant 1: International Project Development Specialist (GEF PPG Team Leader) **Type:** IC **Cost per person week:** 1,800 **Number of person weeks needed:** 14	**Role** This must be a senior consultant with recognised expertise in the management of chemicals (experience in the management of POPs and/or Hg would be preferred). (S)he would oversee and coordinate the PPG process throughout its entire duration and be responsible for the overall coordination of processes and consultations needed for project development and the preparation of the UNDP-GEF Project Document with all mandatory and project specific Annexes and supporting documentation and the GEF CEO Endorsement Form, in direct collaboration with the UNDP-GEF Regional Technical Advisors and national/international consultants. S/he will be responsible for managing all consultants on the GEF PPG Team and coordinating the Team?s work. **Responsibilities and Deliverables** 1) Management of the GEF PPG Team a. Define and submit a detailed methodology and work plan in consultation with the other consultants with clear delegation of responsibilities for the International Consultant (IC) and National Consultants (NCs); b. Ensure that project development is participatory, gender-responsive and based on extensive stakeholder engagements; and c. Verify and ensure that all project components are technically sound and cost effective. 2) Preparatory Technical Studies and Reviews (Component A): With inputs from the national consultants, as detailed in their respective TORs: a. Compile baseline/situational analysis for the full-size project (FSP). This will include a precise definition of baseline projects, activities, budgets, goals and co-financial links to GEF outcomes; definition of GEF incremental value per outcome and output; and presentation of results of the incremental cost-analysis in matrices as appropriate; b. Lead and oversee the stakeholder analysis and consultations, with support from national consultants, and ensure that they are complete and comprehensive including consultations with the private sector and tourism associations and bodies; c. Ensure the preparation of the gender analysis and ensure its findings are meaningfully integrated into the project?s strategy, theory of change and results framework; d. Ensure action points, including risk assessments, from the UNDP Social and Environmental Screening Procedure (SESP) at the PIF stage (?pre-screening?) are fully implemented during the PPG, and update that screening in an iterative process throughout the PPG, and as appropriate; e. Oversee the identification of the project sites, with documentation of selection criteria and making sure that geo-referenced data and maps are clearly presented both for targeted protected areas and broader landscapes, as applicable; f. Ensure the design of appropriate project knowledge management processes and platforms, ensuring appropriate linkages to existing mechanisms and knowledge sharing in project landscapes;

Consultant:	**Role**
International ASGM Specialist - - **Type:** IC **Cost per person-week:** 1,800 **Number of person-weeks needed:** 12 -	Provide key expertise and technical inputs on ASGM issues required to assess the baseline situation, and support the design and preparation of the GEF/UNDP project and other supporting documents (e.g. CEO endorsements; GEF Tracking Tools, Social and Environmental Screening Procedures, among others) required for approval by the GEF and UNDP. **Responsibilities and Deliverables** 1) Preparatory Technical Studies and Reviews (Component A): Prepare inputs and support the required analyses/studies, as agreed with the GEF PPG Team Leader, including: a) Prepare the PPG work plan and accompanying time table laying out all the activities to be undertaken by the International and National ASGM experts for the full duration of the assignment. b) In consultation with the International Project Coordinator prepare annotated outlines for the ASGM sections of the Project Document, which contain clear indications of the type of information required for each of the sections of the project document and assign responsibilities for obtaining this information to the 4 National ASGM Experts and 4 National Project Coordinators. 2) Formulation of the ProDoc, CEO Endorsement Request and Mandatory Annexes as well as project specific annexes (Component B): - a) Review and provide detailed written advice to improve the quality and key information contained in the following products prepared by the national project team: - Studies on the current legislative and policy framework pertaining to ASGM; - Studies to assess the current capacity of governmental institutions and entities pertaining to ASGM; - Assessments to determine current collaboration, information exchange (including communication) and awareness related to ASGM. - Baseline studies (including mercury) of the ASGM situation in general in the country and that of the project intervention sites in specific (including socio-economic and gender aspects). - Analyses of access to regional/global programmes to sell Hg free or ?reduced Hg? gold. - 3) Validation Workshop (Component C): a) Undertake One (1) two-week mission of 10 work days to participate in the PPG Inception Workshop and undertaken field visits (with the National PPG experts: PPG coordinator, ASGM Expert, gender expert and finance expert) to visit priority ASGM

Consultant: International Safeguards Specialist for ASGM - - **Type:** IC **Cost per person-week:** 1,000 - **Number of person-weeks needed:** 4 -	**Role** The International Social and Environmental Safeguards Specialist will develop mandatory project Annexes related to application of social and environmental safeguards and support adherence of project development to UNDP?s SESP and specific requirements, as appropriate. **Deliverables** 1) Preparatory Technical Studies and Reviews (Component A): Prepare inputs and support the required analyses/studies, as agreed with the GEF PPG Team Leader, including: a) Review the SESP pre-screening of the PIF; complete the UNDP Social and Environmental Screening Procedure (SESP), and support the detailed assessment of all project risks including consultations with local stakeholders; b) Assess presence of Indigenous Peoples/ethnic minorities within project landscapes and their interests. If present, assess potential impacts of the project on rights and interests, lands, territories, resources, and traditional livelihoods and determine when FPIC applies in accordance with national contexts and preferences. Carry out consultations with communities at demonstration landscape to assess level of understanding and capacity to give consent, and identify community preferences for FPIC process. Based on these assessments, and if relevant, integrate relevant matters as needed including FPIC into project design and into the comprehensive Stakeholder Engagement Plan; c) Support the completion of any additional studies that are determined to be needed for the preparation of the ProDoc and all other final outputs as guided by the PPG Team Leader. 2) Formulation of the ProDoc, CEO Endorsement Request and Mandatory Annexes as well as project specific annexes (Component B): d) Complete the SESP, based on assessments undertaken during Component A and detailed development of project interventions, and identify management measures to mitigate risks to be incorporated into the ProDoc; e) Using the findings from the gender analysis, provide inputs to the project?s results framework and theory of change; ensure social and environmental considerations are integrated into the project?s theory of change; f) Support the agreements on project management arrangements and ensure that safeguards are adequately incorporated into these arrangements. 3) Final Deliverables: g) Finalized Social and Environmental Screening (SESP) h) Appropriate inputs to the final UNDP?GEF project document based on guidance from the PPG Team Leader.

Consultant: National PPG Coordinator, institutional and policy Expert. **Type:** IC **Cost per person week:** $1,250 **Number of person weeks needed:** 14 -	**Role** The National PPG Coordinator, institutional and Policy Expert will be the lead national consultant. This must be a senior consultant with recognised expertise in the management of chemicals. (S)he would oversee and coordinate the PPG process throughout its entire duration and be responsible for the overall coordination of processes and consultations needed for project development and the preparation of the UNDP-GEF Project Document and the GEF CEO Endorsement Form, in direct collaboration with the international coordinator and national/international consultants. The role of the PPG Coordinator includes the supervision and coordination of the national consultants; the hiring of consultancies and/or consultants; and, ensuring the delivery of necessary information for project preparation. The PPG Coordinator role also includes coordinating the consultation processes with national and international project partners and stakeholders at the different stages of the PPG phase and facilitating the flow of information and communication between the various consultants involved in the project?s preparation, including communication with the international coordinator. **Deliverables** 1) Management of the PPG team: a) Support the GEF PPG Team Leader with management of the PPG Team, ensuring coordination between individual national consultants; - 2) Preparatory Technical Studies and Reviews (Component A): Prepare inputs and support the required analyses/studies, as agreed with the GEF PPG Team Leader, including: a) Compile baseline/situational analysis for the full-size project (FSP). This will include a precise definition of baseline projects, activities, budgets, goals and co-financial links to GEF outcomes; definition of GEF incremental value per outcome and output; and presentation of results of the incremental cost-analysis in matrices as appropriate; b) Oversee the stakeholder analysis and consultations and ensure that they are complete and comprehensive; c) Ensure the preparation of the gender analysis and ensure its findings are meaningfully integrated into the project?s strategy, theory of change and results framework; d) Ensure action points, including risk assessments, from the UNDP Social and Environmental Screening Procedure (SESP) at the PIF stage (?pre-screening?) are fully implemented during the PPG, and update that screening in an iterative fashion throughout the PPG, as appropriate; e) Conduct/oversee the identification of the project sites, with documentation of selection criteria; f) Oversee the consultations with partners regarding financial planning; and g) Ensure completion of any additional studies that are determined to be needed for the preparation of the ProDoc and all other final outputs.

Consultant: National ASGM Expert **Type:** IC **Cost per person week:** $1,000 **Number of person weeks needed:** 14 -	**Role** Under the supervision of the International Coordinator for UNDP GOLD projects, the Senior International ASGM Expert, the National Coordinator of the project, the Program Officer of the local UNDP office and in coordination with national counterparts, the National ASGM Expert will provide data for the development of the baseline as well as support the design and preparation of the project's ASGM component. **Responsibilities and Deliverables** 5) Preparatory Technical Studies and Reviews (Component A): Prepare inputs and support the required analyses/studies, as agreed with the GEF PPG Team Leader, including: a) Studies on national legislation and public policy regarding ASGM mining, the use of mercury and the formalization of the sector. b) Carry out a study of national capacities, among others, government institutions (including education and training centers), the private sector and OSBL (local and national) that are related to the ASGM sector and / or mercury management (in ASGM). c) Together with the Senior International ASGM Expert, carry out a study to determine the status of collaboration, exchange of communication and degree of awareness among stakeholders in the national and regional ASGM sector. d) Together with the Senior International ASGM Expert and in close collaboration with project partners, carry out a baseline of the ASGM and Mercury and carry out a definition of priorities. e) Together with the Senior International ASGM Expert, conduct an analysis on access to regional / global programs for the sale of mercury free or reduced products. f) Prepare a socio-economic study of ASGM workers in prioritized communities engaged in illicit mining activities (including access to education, health, public services, and sanitation, as well as quality and quantity of housing); and on this basis, define an incentive structure to formalize their work (including the possibility of acquiring land) and the establishment of cooperatives for a more structured and secure operation of the sector. g) Carry out missions to the project intervention sites and their communities. h) Support with the logistics of the field visits of the Senior International ASGM Expert for UNDP GOLD projects. i) Together with UNDP and National Counterparts, develop the ASGM components of the logical framework strictly following the guidelines and expected results described in the project components defined in the PIF j) Support the development of the interventions that will be carried out by the project. 6) Formulation of the ProDoc, CEO Endorsement Request and Mandatory Annexes as well as project specific annexes (Component B): -

Consultant: National Gender and Finance Specialist **Type:** IC **Cost per person week:** $900 **Number of person weeks needed:** 12 -	**Role** The National Gender and Finance Specialist will develop mandatory project Annexes related to UNDP?s Gender Analysis and Gender Mainstreaming Plan and specific requirements, as appropriate. In addition, he/she will provide technical assistance for the construction of the baseline and the other phases of the project in aspects related to financial issues. **Deliverables** ? Preparatory Technical Studies and Reviews (Component A): Prepare inputs and support the required analyses/studies, as agreed with the GEF PPG Team Leader, including: ? Preparation of a proposal for a financial incentive structure that contributes to formalizing / legalizing ASGM activities. ? Provide technical assistance to national consultants who support the construction of the baseline and the other phases of the project in aspects related to financial issues. ? Advise on gender responsive stakeholder analysis and consultations and ensure that they are complete and comprehensive; and ? Support the completion of any additional studies that are determined to be needed for the preparation of the ProDoc and all other final outputs as guided by the PPG Team Leader. ? Formulation of the ProDoc, CEO Endorsement Request and Mandatory Annexes as well as project specific annexes (Component B): ? Identify the main obstacles to the financial sector granted loans to mining / as of the ASGM sector. ? Review the current supply chain and identify mechanisms to increase the potential benefit against intermediaries . ? Develop the financial component within the Project Document in accompaniment of the international and national experts in MAPE and the coordinators of the project, whose objective is to support the conversion of production processes for the eradication of Hg into MAPE tasks. ? Prepare the Gender Mainstreaming Plan, with appropriate budget and identification of appropriate project interventions to ensure gender mainstreaming including at project demonstration sites; ? Using the findings from the gender analysis, provide inputs to the project?s results framework and theory of change; ensure gender considerations are integrated into the project?s theory of change; ? Provide inputs for the development of the Stakeholder Engagement Plan to ensure it is Socially Inclusive and Gender Responsive; ? Prepare the Gender Action Plan and Budget; ? Support the agreements on project management arrangements and ensure that gender considerations are adequately incorporated into these arrangements.

ANNEX D: Project Map(s) and Coordinates

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

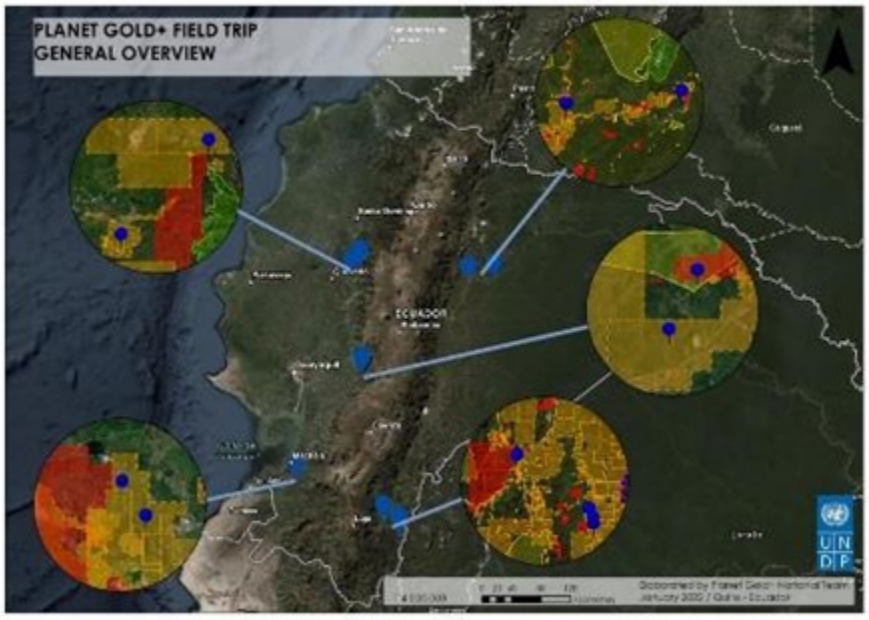

Figure 3.1: Overview of Ecuador planetGOLD+ intervention sites are based on the East, Sierra (Central) and Coast Regions of Ecuador. Tier 1 and Tier 2 sites are shown within the map of Ecuador.

These sites were selected, analyzed and proposed by the National Team, based on the results of the National Action Plan on Minamata Convention; and presented to the National Authorities who as partners of the Project, who approved them.

The process to select the sites was carried out by analyzing the previous information and the data collected during the field trip by the National Team. Once the criteria were stablished, all de data was analyzed through the following table:

Table 1. Selections sites criteria based on NAP and field trip done by National Team.

Criteria	**Description**	**Proposed GOLD+ Intervention Site**	
		Tier 1 Sites	**Tier 2 Sites**

		Cotopaxi	El Oro	Zamora Chinchipe		Napo	Loja
		La Man?	Santa Rosa	Nambija	San Carlos	Arosemena Tola	Hualtaco
Gold	Access to economically viable gold deposit	Yes	Yes	Yes	Yes	Yes	Yes
Production	Type of deposit	Alluvial	Alluvial	Alluvial	Alluvial; Primary	Alluvial	Primary
	Established gold extraction and processing units	Yes	Yes	Yes	Yes	Yes	Yes
	Est. annual Au production2	250.91 Kg	Unknown	791.25 Kg	78.11 Kg	165.18 Kg	Unknown
Workplace Dynamics	Primary ASGM workforce (miners, processors)	84	Unknown	1500	56	168	Unknown
	Women miners, processors, traders (% workforce)	8	Unknown	150	6	17	Unknown
	Secondary ASGM workforce (services, equipment)	Yes	Yes	Yes	Yes	Yes	Yes
	Women secondary livelihoods (% workforce)	8	Unknown	150	6	17	Unknown
	Preventative measures: Child labour	Yes	Unknown	Unknown	Unknown	Unknown	Unknown
Hazardous Chemicals	Mercury use (Hg:Au Ratios)[3]	7.2	0.44 (Province rate)	2.02	11.08	11.08	4.17 (Primary MAPE national rate)
	Worst environmental practice[4]	Chancha (Amalgamation cylinder)	Zeta	Chancha (Amalgamation cylinder)	Chanchilla (Amalgamation cylinder)	Chancha (Amalgamation cylinder)	Chancha (Amalgamation cylinder)

Formalization	Presence of informal extraction units	Yes	Yes	Yes	Yes	Yes	Yes
	Presence of legally registered Mining Entities (MEs)	Yes	Yes	Yes	Yes	Yes	Yes
	Legal right to exploit gold deposit	Yes	Yes	Yes	Yes	Yes	Yes
	Willing to sell to Central Bank of Ecuador or formal markets	Yes	Yes	Yes	Yes	Yes	Yes
	Success of ore buying strategy[1]	No	No	No	No	No	No
	Coexistence with LSM actor(s)	No existence of LSM in the zone	No	No	No	No existence of LSM in the zone	No
Multi-Stakeholder Collaboration	Favorable attitude of local mining community	Somewhat favourable	Somewhat favorable	Somewhat favorable	Somewhat favorable	Somewhat favorable	Somewhat favorable
	Favorable attitude of local concession owner(s)	Favourable	Somewhat favorable	Somewhat favorable	Somewhat favorable	Favourable	Somewhat favorable
	Political will of Provincial Gov.	Yes	Yes	Yes	Yes	Yes	Yes
	Political will of Canton Mayor	Yes	Yes	Yes	Yes	Yes	Yes
	Existing multi-stakeholder platform or mining committee	No	No	No	No	No	No

Biodiversity	Avoidance[2]/mitigation of impacts on critical habitats	Avoidance	Avoidance	Avoidance	Avoidance	Avoidance	Avoidance
	Transboundary watershed or drainage basin	No	Yes	Yes	Yes	No	Yes
Indigenous Communities	Distance from indigenous territories[3] (Kilometers)	26.6 km	59.2 km	59.6 km	59.6 km	22.6 km	83.2 km
	Cultural heritage sites impacted	No	No	No	No	No	No
Logistics	Presence of non-state insurgents/terrorist groups	No	No	No	No	No	No
	Reasonable distance/travel time from urban center	Yes	Yes	Yes	Yes	Yes	Yes
	Access to road infrastructure/ basic services	Yes	Yes	Yes	Yes	Yes	Yes
	Reliable access to electricity/ network	Yes	Yes	Yes	Yes	Yes	Yes
	Natural hazards (flooding, landslides or earthquake)	Yes, landslides	No	Yes, landslides	No	No	No

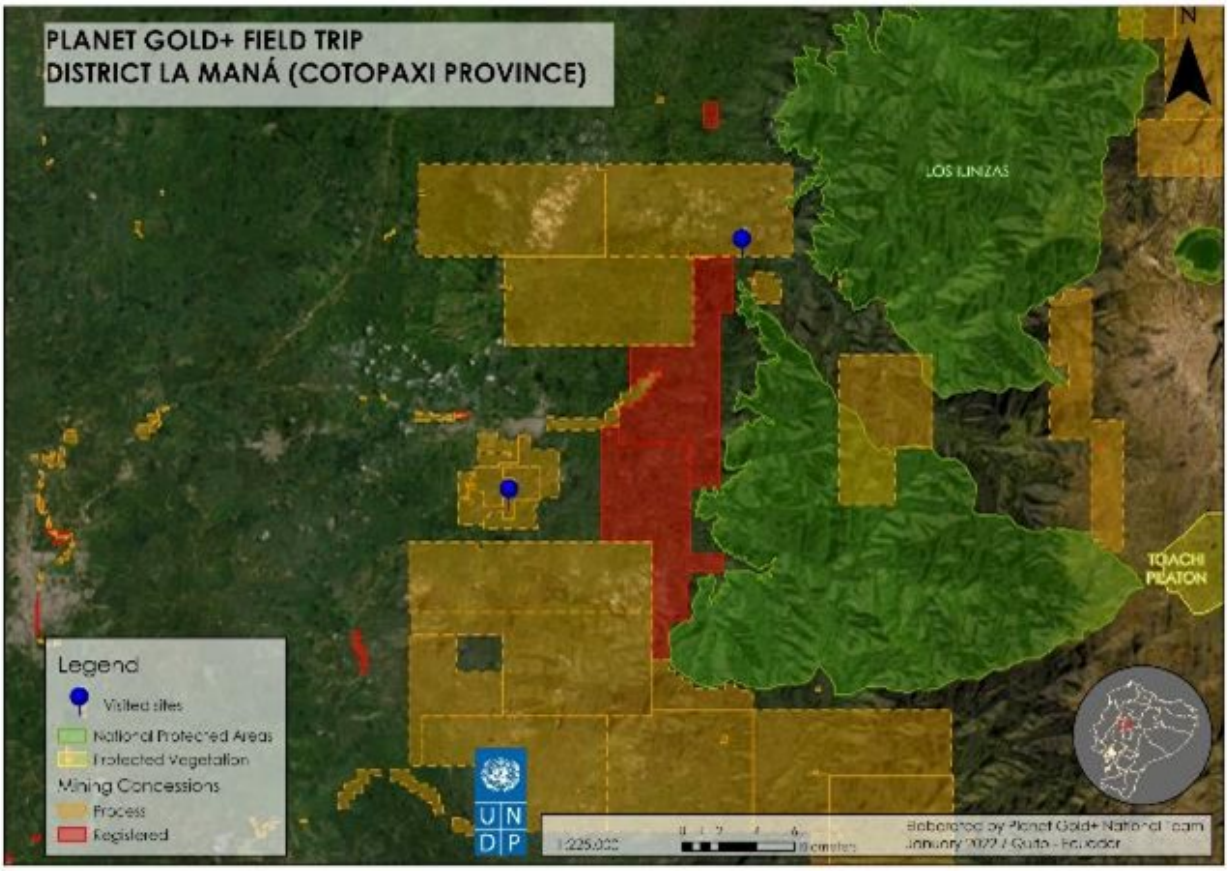

Figure 3.2.: La Man? site, considered as Tier 1, is located in the Province of Cotopaxi (Central Sierra). This location has alluvial ASGM activity with some small scale miners, as well as artisanal activities. The site is surrounded by agricultural activity, mainly oil palm and banana crops.

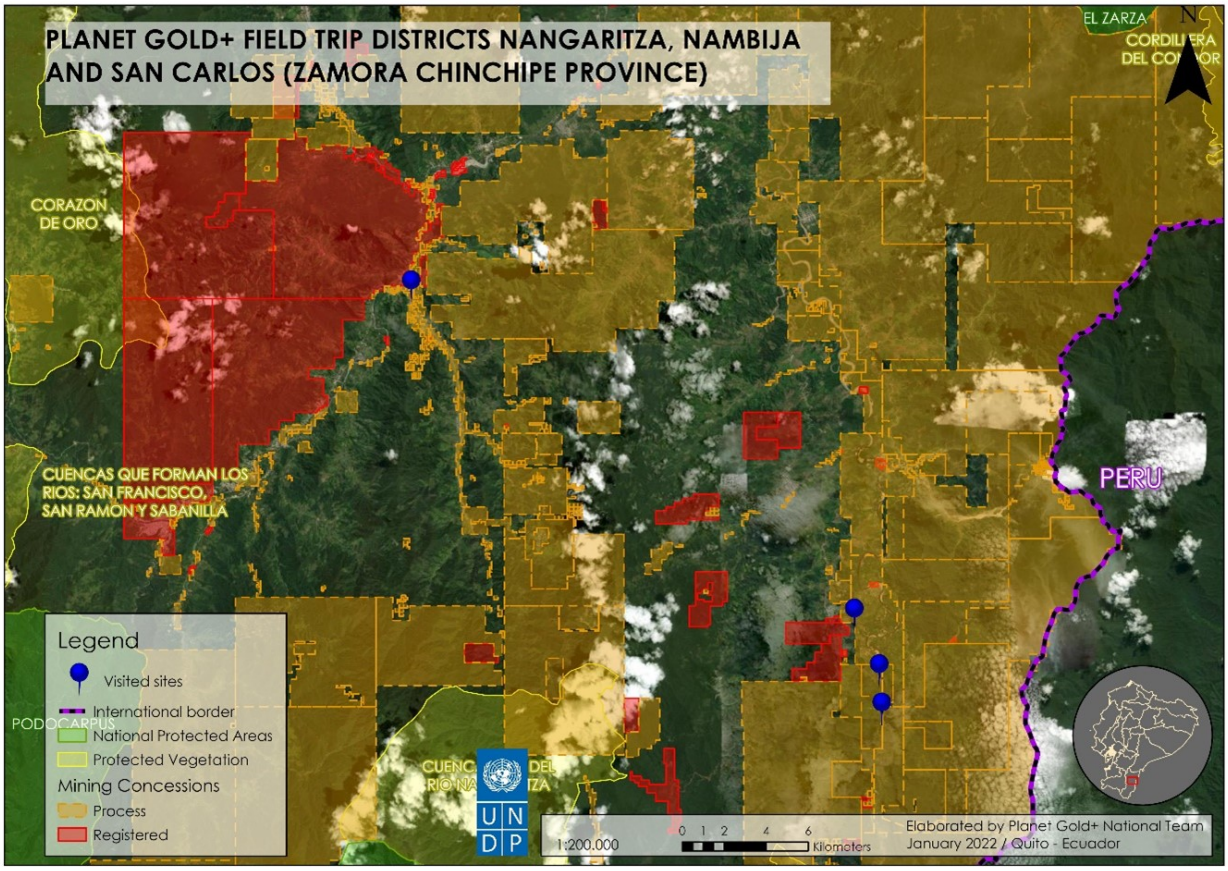

Figure 3.3.: Nambija ? San Carlos site approved as Tier 1 by the National Authorities is located in the Southeast of Ecuador. This site was optimized in one district due to the closeness between them and because they both have similarities in terms of mining population. Nevertheless, Nambija location is 100% primary mining, and San Carlos as alluvial ASGM activity.

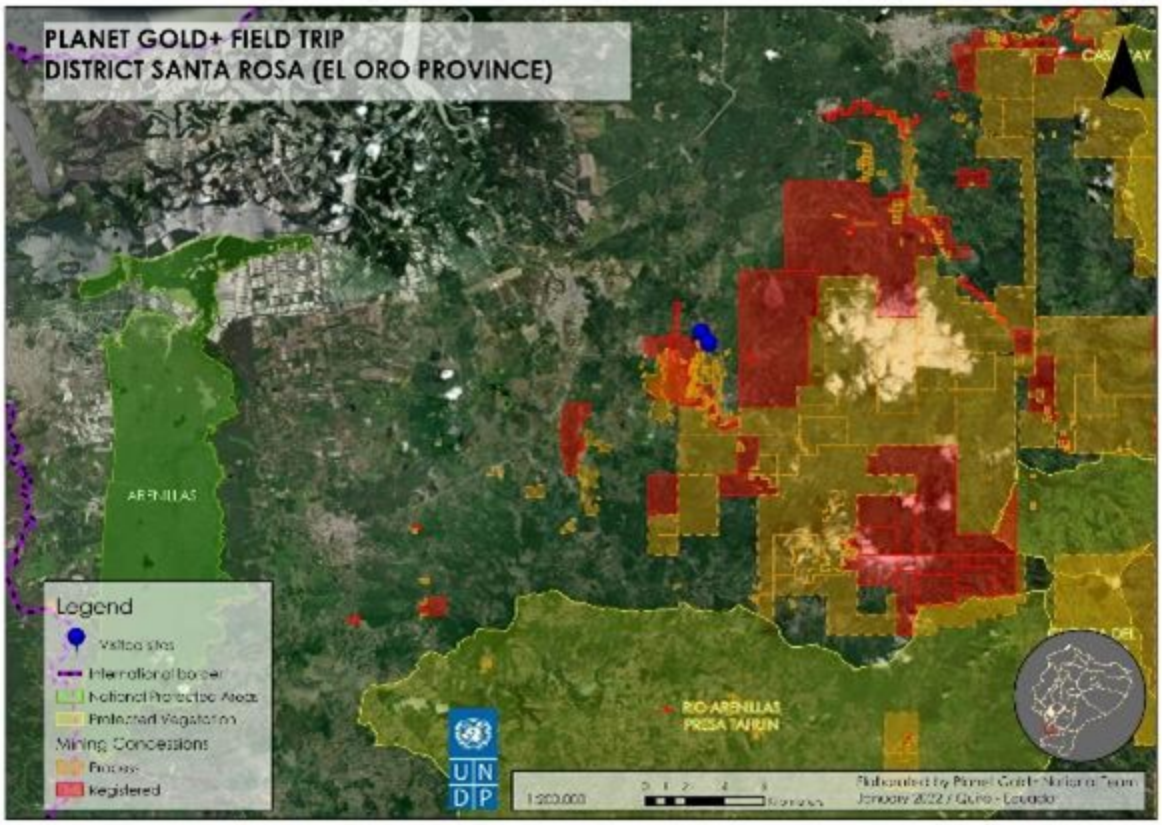

Figure 3.4.: Santa Rosa site is considered Tier 1 in terms of priorities within the Project. This location placed in the Southwest of the Coast Region has a relevant importance based on the artisanal activities which have been carried out for several years.

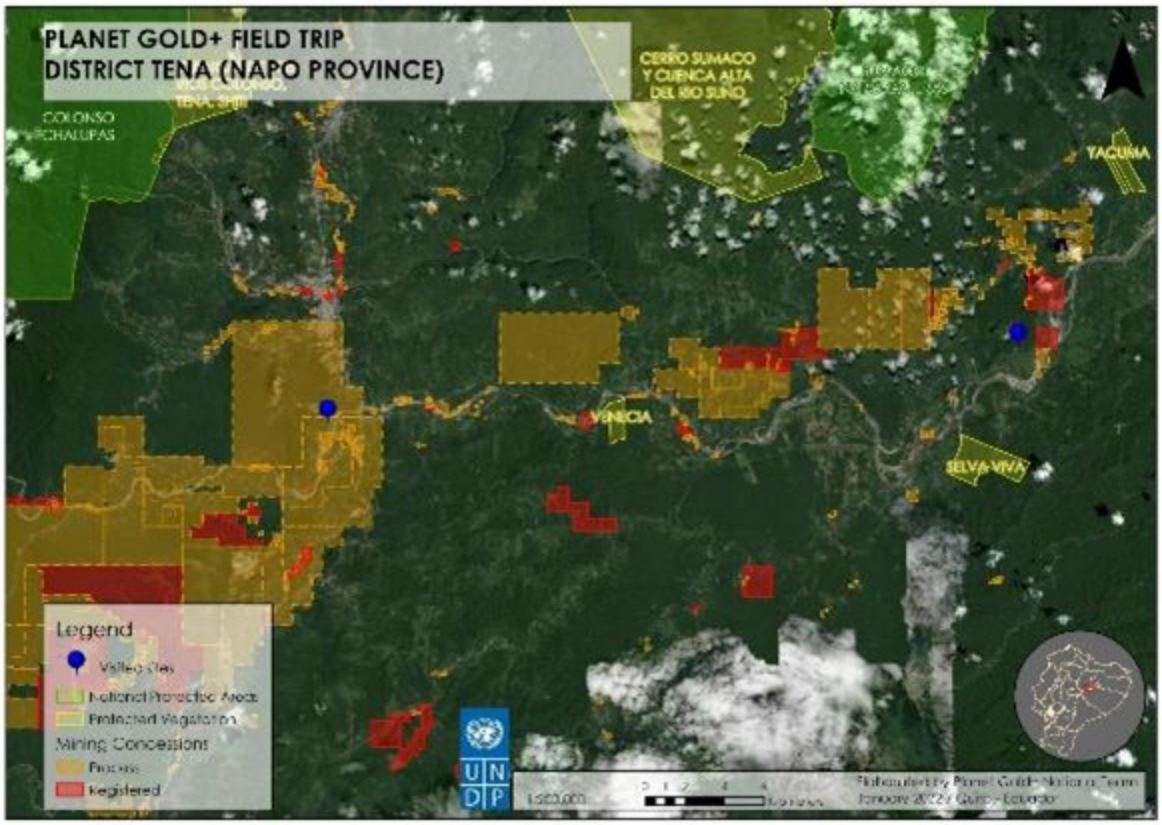

Figure 3.5.: Arosemena Tola is a Tier 2 site located in the Province of Napo with tropical climate and low climbs. The mining activity in the zone is alluvial and there are some important local stakeholders who develop their activities in the zone and there is an important need to interevent and provide mercury free technologies.

Figure 3.6.: Hualtaco site is placed in Loja province, in the far south of Ecuador, sharing borders with Per?. The ASGM activity is relevant for the local economy and improvements in the mining processes are needed in order to prevent negative impacts in water resources that can affect international relationships with Per?.

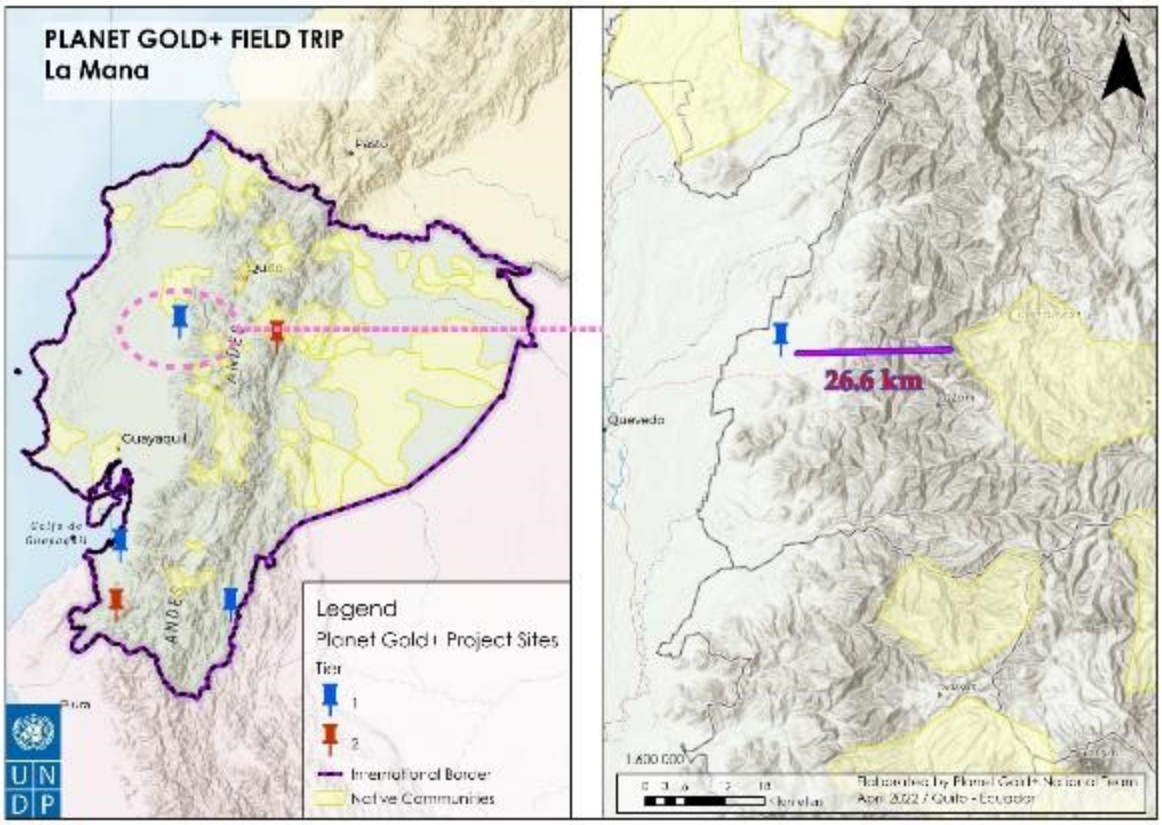

Figure 3.7.: La Man? site (Tier 1) is placed in the Central Sierra. This figure also indicates a distance of 26,6 km from registered ancestral territories.

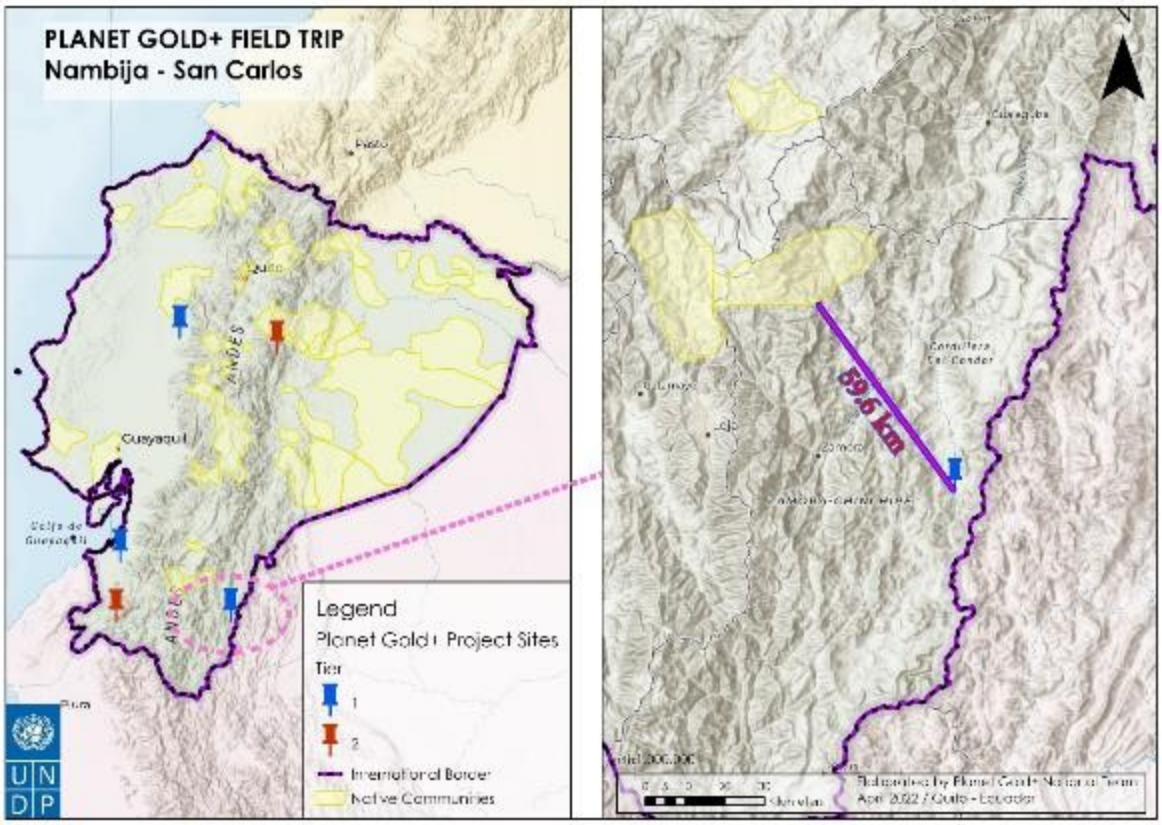

Figure 3.8.: District Nambija ? San Carlos is placed in the province of Zamora Chinchipe, a traditional mining province. Nevertheless, the accepted district is 59,6 km from the closest indigenous territory registered by the Government of Ecuador.

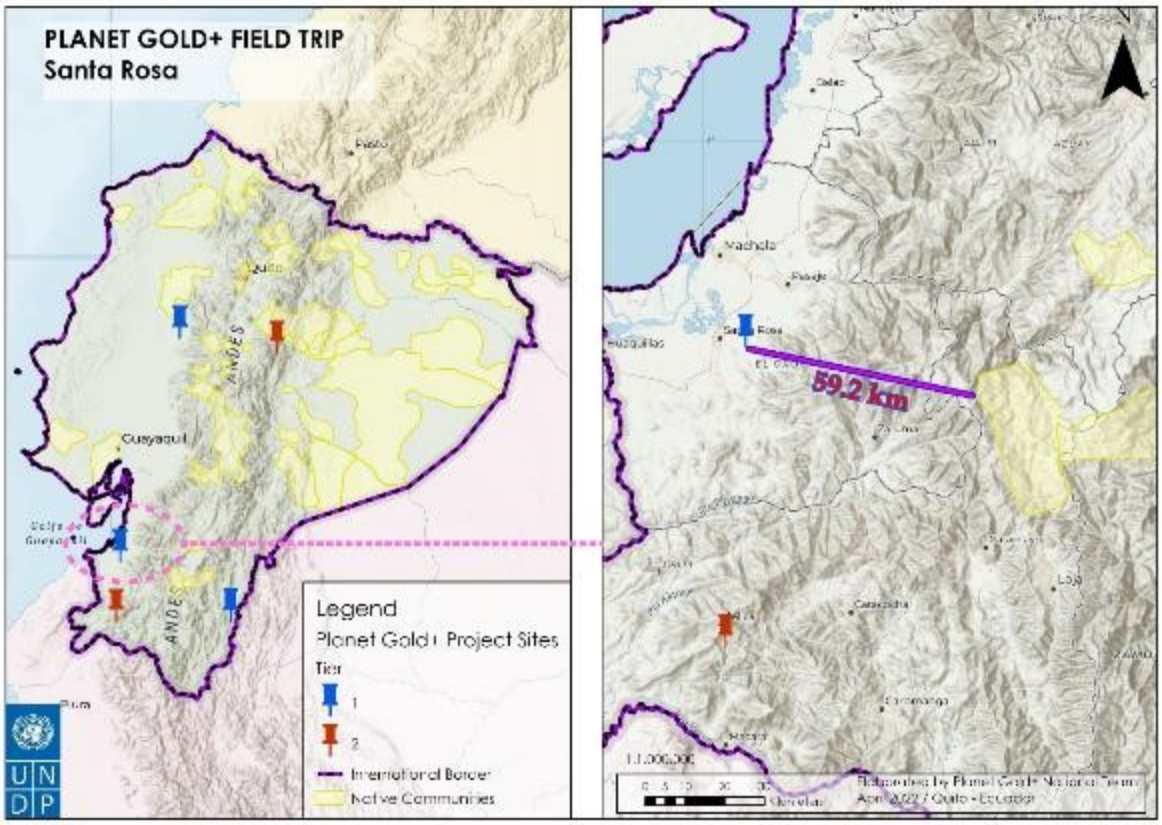

Figure 3.9.: Tier 1 site Santa Rosa, by its location has no direct influence over ancestral territories nor indigenous buffer areas are close to it. The figure shows a distance of 59,2 km from the registered ancestral territory.

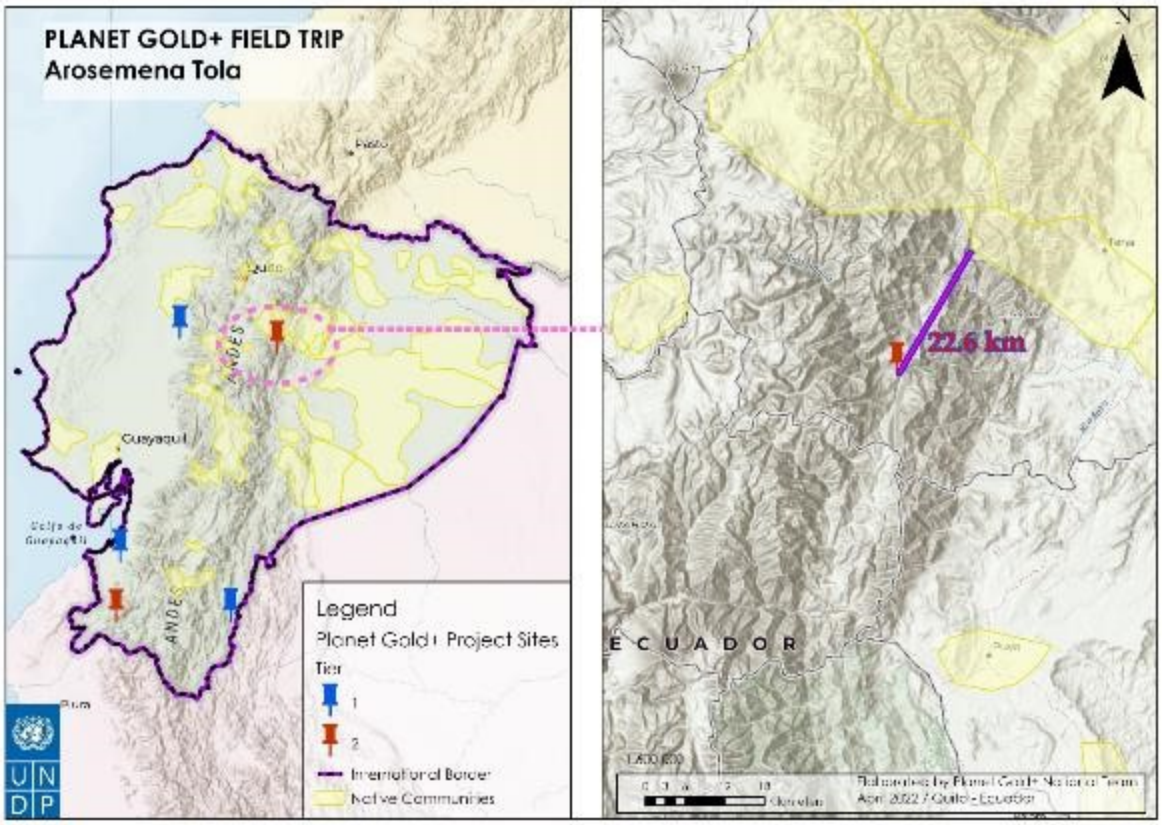

Figure 3.10.: Arosemena Tola is located in Napo province in the East of Ecuador and has no official references of close indigenous territories to be influenced or intervened by this FSP.

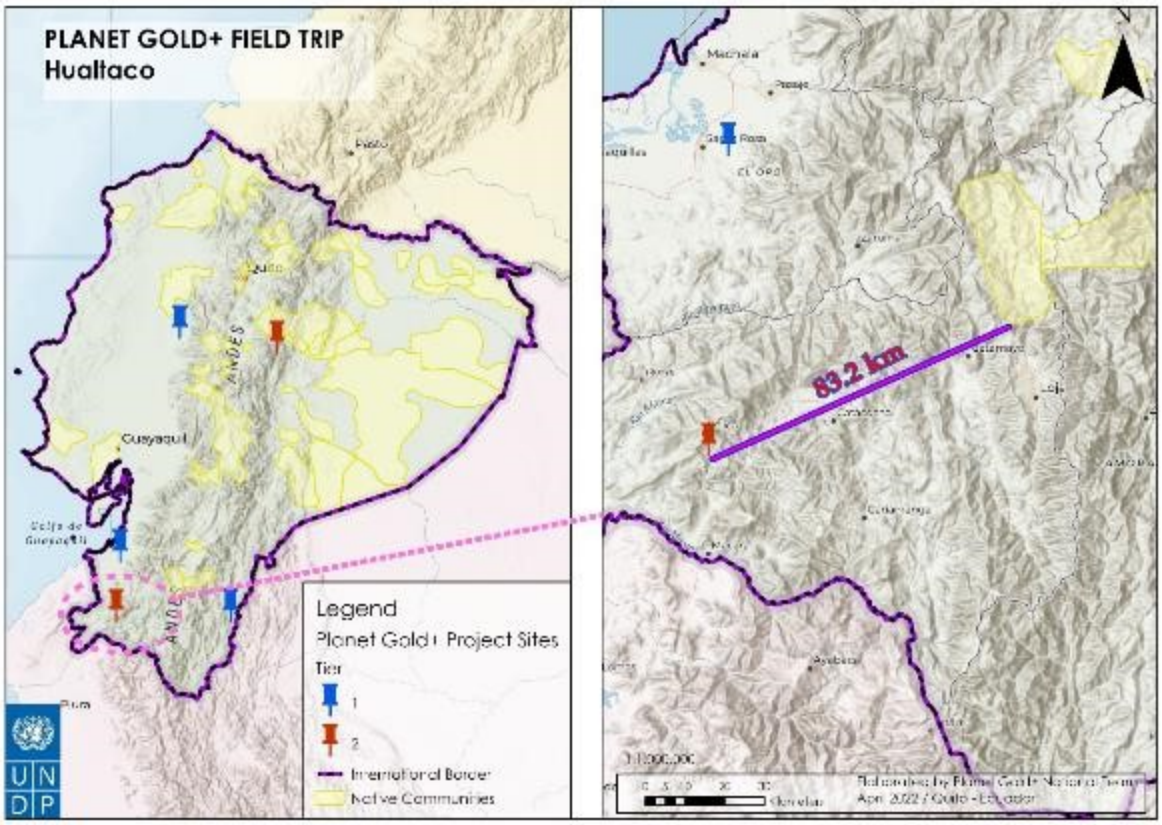

Figure 3.11.: Hualtaco is considered as Tier 2 site and is the farthest site of intervention from ancestral territories (83,2 km) from any proposed intervention of the Planet Gold+ Project.

ANNEX E: Project Budget Table

Please attach a project budget table.

Expenditure Category	Detailed Description	Component (USDeq.)							Total (USD eq.)	(Executing Entity receiving funds from the GEF Agency)[1]
		Component 1	*Component 2*	*Component 3*	*Component 4*	*Sub-Total*	*M&E*	*PMC*		

Equipment	Equipment to support Output 3.2: Assay laboratories and training centers to promote resource-efficient gold mining in ASM zones, with clear provisions for sound tailings and waste management.			622,722		622,722			622,722	UNDP
Equipment	Standard office equipment (Work desk and chair)					-		500	500	UNDP
Equipment	Standard IT equipment					-		5,661	5,661	UNDP
Sub-contract to executing partner	Direct project services from UNDP for a limited set of activities, including personnel hiring, processing of payments and travel, procurement and hiring of consultants.					-		119,315	119,315	UNDP

Contractual services-Individual	One KM Officer to support Outputs 4.1 Knowledge management system for best practices and communication platform at national level established, and 4.2 Miner, investment and CSO focused communication strategies explored, tested, deployed and scaled up. at USD$14,500 / yr				72,500	72,500			72,500	UNDP

Contractual services-Individual	One National Individual to support the Financial Inclusion and Responsible Supply Chains at USD$36,700/year, and 30% of the Project Coordinator's costs: the Project Coordinator will undertake day-to-day project implementation, administration, procurement and management activities at USD$42,200 per year (USD$12,660 per year will be charged to this component). See annex 7 for additional details		246,800			246,800			246,800	UNDP

Contractual services-Individual	One National Individual to support the piloting of the Jurisdictional Approach (JA) to optimize land allocation through ASGM zones in Tier 1 sites at USD$36,700/year, and 40% of the Project Coordinator's costs: the Project Coordinator will undertake day-to-day project implementation, administration, procurement and management activities at USD$42,200 per year (USD$16,880per year will be charged to this component). See annex 7 for additional details	267,900				267,900			267,900	UNDP

Contractual services-Individual	One National Individual to support the reduction of mercury use in ASGM sector by enabling the increased uptake of mercury-free technologies by miners at USD$36,700/year, and 30% of the Project Coordinator's costs: the Project Coordinator will undertake day-to-day project implementation, administration, procurement and management activities at USD$42,200 per year (USD$12,660 per year will be charged to this component). See annex 7 for additional details			246,800		246,800			246,800	UNDP

Contractual services-Individual	One Project Administrative Assistant at USD$8,000/yr for 5 years. See annex 7 for additional details					-		40,000	40,000	UNDP

Contractual services-Individual	One Project Monitoring & Evaluation Officer engaged for the coordination, implementation, oversight and follow-up of the Gender Action Plan, Social and Environmental Risks Management and the Stakeholder Engagement Plan follow-up as well as Mandatory reports production at USD$14,000/year. Activities include M&E of GEF core indicators and project results framework, GEF Project Implementation Report (PIR), and Monitoring of Environmental Social and Management Framework and Plan. See M&E table for additional details					-	70,000		70,000	UNDP

Contractual services-Company	Consulting firms for the development of Output 2.1 Opportunities created for the ASGM sector with financial institutions to procure/retrofit equipment and invest in business skills for men and women.		518,500			518,500			518,500	UNDP

Contractual services-Company	Consulting firms to support: Development of policies, policy instruments, or regulatory frameworks influenced (at national or sub-national level) to improve ASGM formalization, FPIC Protocol instruments aligned with policy and procedures of MAATE for the issuance of mining concessions, Sustainable Landscape Approach (SLA) to advance formalization in key ASGM territories, and Climate change vulnerability assessments and implement climate adaptation strategies, and Consulting firms for the development of Output 2.2 Proof of concept for technology-assisted mineral supply chain due diligence developed and tested in target	202,980				202,980			202,980	UNDP

Contractual services-Company	One Environment and Social Impact Assessment Consulting Firm including SESAs, three scoped ESIAs and site-specific ESMPs, at USD$72,250. See annex 8 and annex 10 for additional details, and a Consulting Firm for the development of Output 3.1 National and local stakeholders strengthened to support sustainable mercury reductions across the mine-life cycle.			314,000		314,000			314,000	UNDP
International Consultants	One International Consultant on Formalization at USD$100,000. See annex 7 for additional details	100,000				100,000			100,000	UNDP

International Consultants	One International Consultant for the MTR $27,500 and One International Consultant for the TE $27,500. See M&E budget table on PRODOC section VI					-	55,000		55,000	UNDP
International Consultants	One International Specialist on Enhancing uptake of Mercury-free technologies at USD$75,000. See annex 7 for additional details			75,000		75,000			75,000	UNDP
International Consultants	One International Specialist on Financial Mechanisms at USD$60,000. See annex 7 for additional details		45,450			45,450			45,450	UNDP

Local Consultants	Local Consultants for the strengthening of National and local stakeholders ? capacity to assess, plan, and implement sustainable mercury-free interventions in ASGM territories at USD$180,000. See annex 7 for additional details	180,000				180,000			180,000	UNDP
Local Consultants	One Local consultant for MTR $17,500 and one Local Consultant for TE $17,500. See M&E budget table on PRODOC section VI					-	35,000		35,000	UNDP
Local Consultants	One Local Consultant for the development of a gender-oriented Capacity-building program to enhance business skills at USD$17,250. See annex 7 for additional details		78,250			78,250			78,250	UNDP

Local Consultants	One Local Consultant for the development of ASGM-specific education programs at USD$15,000. See annex 7 for additional details			15,000		15,000			15,000	UNDP
Local Consultants	One local consultant to assist with the generation of innovative Knowledge Management Resources				10,952	10,952			10,952	UNDP
Training, Workshops, Meetings	Inception workshop (see M&E budget table for additional details)					-	10,000		10,000	UNDP
Training, Workshops, Meetings	Training and Workshops aimed to increase formalization and mercury reduction				25,000	25,000			25,000	UNDP

Training, Workshops, Meetings	Training on mercury-free processes for Gold mining for ASGM miners and Awareness raising for National and district government institutions to support sustainable mercury reductions and invest in mining organizations.			50,000		50,000			50,000	UNDP
Training, Workshops, Meetings	Training to strengthen capacities to assess, plan and implement formal mercury-free interventions in the ASGM sector.	70,000				70,000			70,000	UNDP
Training, Workshops, Meetings	Training workshops, seminars and meetings to strengthen project management capabilities					-		2,000	2,000	UNDP
Training, Workshops, Meetings	Training, workshop and conferences on access to finance for the promotion of Mercury-free Gold		45,170			45,170			45,170	UNDP

Travel	Supervision missions. See M&E budget table on PRODOC section VI					-	20,000		20,000	UNDP
Travel	Travel to support Knowledge sharing, communication and local capacity building support, including participation at planet GOLD Global Forum				25,000	25,000			25,000	UNDP
Travel	Travel to support Outcome 2. Improved income for ASGM miners through the attainment of better gold prices facilitated by transparent and responsible supply chains.		95,000			95,000			95,000	UNDP

Travel	Travel to support Outputs 1.1 National and local stakeholders ? capacity strengthened to assess, plan, and implement sustainable mercury-free interventions in ASGM territories, and 1.2 Jurisdictional Approach (JA) piloted to optimize land allocation through ASGM zones in Tier 1 sites.	86,500				86,500			86,500	UNDP

Travel	Travel to support Outputs 3.1 National and local stakeholders strengthened to support sustainable mercury reductions across the mine-life cycle, and 3.2. Assay lab, processing plant and training center(s) established to promote resource efficient mining with clear provisions on ore characterization and tailored mineral processing techniques..			50,000		50,000			50,000	UNDP
Office Supplies	Basic office supplies for duration of project period					-		500	500	UNDP
Other Operating Costs	Office Space Rent for Project Duration					-		12,500	12,500	UNDP
Other Operating Costs	Audit Services (USD$2,500 per year for 4 years)					-		10,000	10,000	UNDP

Other Operating Costs	Audio Visual and Print Production Costs to raise stakeholders ' awareness on the dangers of mercury and ways to eliminate/avoid its use in ASGM				47,500	47,500			47,500	UNDP
Other Operating Costs	Audio Visual and Print Production Costs for Education Programs in Cooperation with Training Institutions. This includes promotion of in ore processing technologies without the use of mercury, and development of technical capacity for mercury-free processing techniques.			36,000		36,000			36,000	UNDP

Other Operating Costs	Audio Visual and Print Production Costs to support awareness-raising on access to finance for Mercury-free Gold. This includes awareness-raising to enhance education and collaboration with key potential financiers to adopt financial products suited to the ASGM sector, integrating several actors in the investment community, while tailoring services and products suited for the formal ASGM sector and assist miners with capacity building to access funds, including training mining groups on business and operations management with tools to not only access the finance but also successfully execute on their		37,500			37,500			37,500	UNDP

Other Operating Costs	Audio Visual and Print Production Cots to support the development of policies, policy instruments, or regulatory frameworks influenced (at national or sub-national level) to improve ASGM formalization. This includes awareness-raising materials to address the challenge of a ?weak formalization enabling environment ? through supporting frameworks that have a multisectoral, holistic and integrated approach in order to comply with its obligations under the Minamata Convention on mercury use reductions in the ASGM sector. In this regard, enhancement and full integration of gender-supportive policies for women miners is of	**45,000**				45,000			45,000	UNDP	

Other Operating Costs	Translation of MTR and TE					-	10,000		10,000	UNDP
Grand Total		**952,380**	**1,066,670**	**1,409,522**	**180,952**	**3,609,524**	**200,000**	**190,476**	**4,000,000**	

ANNEX F: (For NGI only) Termsheet

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

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.

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).