GEF GOLD+ Bolivia: Enhancing the formalization and mercury reduction in artisanal and small-scale gold mining in the Plurinational State of Bolivia

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
10602

Project Type
FSP

Type of Trust Fund
GET

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

Project Title
GEF GOLD+ Bolivia: Enhancing the formalization and mercury reduction in artisanal and small-scale gold mining in the Plurinational State of Bolivia

Countries
Bolivia

Agency(ies)
UNIDO

Other Executing Partner(s)
Projekt Consult

Executing Partner Type
Private Sector

GEF Focal Area
Chemicals and Waste

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

Sector

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 0

Climate Change Adaptation
Climate Change Adaptation 0

Submission Date
12/2/2021

Expected Implementation Start
7/1/2022

Expected Completion Date
6/30/2027

Duration
60In Months

Agency Fee($)
592,515.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CW-1-1	Reduction of anthropogenic releases/emissions of mercury from Artisanal and Small-Scale Gold Mining (ASGM) into the environment	GET	6,583,500.00	21,774,981.00
		Total Project Cost($)	**6,583,500.00**	**21,774,981.00**

B. Project description summary

Project Objective

To reduce the use of mercury and increase incomes in the ASGM sector in Bolivia through a holistic, multisectoral integrated formalization approach, and increasing access to finance leading to the adoption of sustainable mercury-free technologies and access to traceable gold supply chains

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Enhancing formalization in the ASGM sector	Technical Assistance	Increased formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization	1.1. State actors from central, departmental, and municipal governments linked to the ASGM sector have improved capacities to promote policies, programmes, regulations, and actions aimed at a greater formalization of the sector 1.2. Productive actors in the ASGM sector as well as the parent organizations and federations strengthened to promote formalization processes in the sector and its productive activities 1.3. Jurisdictional Approach (JA) and multi-stakeholder approach piloted at selected ASGM area 1.4. Women?s capacities to exert their rights are strengthened and a public policy agenda is generated towards formalization, gender equality and women empowerment	GET	1,805,000.00	5,970,053.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2. Access to finance enhanced by financial inclusion and responsible supply chains	Investment	Increase in finance options through the attainment of better gold prices facilitated by transparent and responsible supply chains	2.1. Public and private funding bodies strengthened to increase support to ASGM and complementary financial mechanism implemented 2.2. Individual and institutional capacities of ASGM actors improved in areas of overall management, entrepreneurship, and financial education 2.3. Efficiency, control and monitoring of gold commercialization processes increased to build transparent, traceable, and responsible gold supply chains	GET	1,845,000.00	6,102,353.00

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	Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners	3.1. Productive actors in ASGM are strengthened to implement technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery 3.2. ASGM productive actors? awareness on supply of mercury-free equipment increased and linkages with technology providers created 3.3. Academic centers, universities and institutes strengthened to include responsible gold production as part of the training curricula	GET	1,750,000.00	5,788,140.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
4. Knowledge sharing, communication, and local capacity building support	Technical Assistance	Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts	4.1. Inter-institutional mechanism where different stakeholders exchange, disseminate and share information related to ASGM in Bolivia established 4.2. Information, knowledge, and lessons learned on key ASGM topics generated and disseminated at the national and international levels 4.3. Women?s capacities in leadership are strengthened and regional exchanges among Andean women miners are promoted to increase visibility of gender in ASGM	GET	600,000.00	1,984,505.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
5. Monitoring and Evaluation	Technical Assistance	Effective and efficient implementation of the project based on GEF and UNIDO requirements	5.1. The Project and its activities are monitored on a periodic basis in line with GEF, UNIDO and Government requirements 5.2. Mid-term review conducted 5.3. Terminal project evaluation conducted	GET	270,000.00	893,027.00
				Sub Total ($)	**6,270,000.00**	**20,738,078.00**

Project Management Cost (PMC)		
GET	313,500.00	1,036,903.00
Sub Total($)	**313,500.00**	**1,036,903.00**
Total Project Cost($)	**6,583,500.00**	**21,774,981.00**

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($)
Recipient Country Government	Ministry of Environment and Water - Vice-Ministry of the Environment, Biodiversity, Climate Change and Forestry Management and Development	Grant	Investment mobilized	250,000.00
Recipient Country Government	Ministry of Environment and Water - Vice-Ministry of the Environment, Biodiversity, Climate Change and Forestry Management and Development	In-kind	Recurrent expenditures	557,880.00
Recipient Country Government	Ministry of Environment and Water ? Vice-Ministry of Water Resources and Irrigation	Grant	Investment mobilized	1,080,000.00
Recipient Country Government	Ministry of Mining and Metallurgy	In-kind	Recurrent expenditures	96,857.00
Recipient Country Government	Ministry of Mining and Metallurgy - SENARECOM	Public Investment	Investment mobilized	63,978.00
Recipient Country Government	Departmental Secretariat of Mining, Metallurgy and Hydrocarbons of the Departmental Autonomous Government of La Paz	Public Investment	Investment mobilized	2,044,988.00
Beneficiaries	Central de Cooperativas Mineras Illimani	Equity	Investment mobilized	110,000.00
Beneficiaries	Cooperativa Minera 15 de Agosto	Equity	Investment mobilized	110,000.00
Civil Society Organization	Alliance for Responsible Mining	In-kind	Recurrent expenditures	760,000.00

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Civil Society Organization	Fundaci?n Medmin	Grant	Investment mobilized	2,460,000.00
Civil Society Organization	Fundaci?n PLAGBOL	In-kind	Recurrent expenditures	152,953.00
Civil Society Organization	Fundaci?n PROFIN	Grant	Investment mobilized	1,241,600.00
Civil Society Organization	Red Nacional de Mujeres y Miner?a	In-kind	Recurrent expenditures	50,000.00
Civil Society Organization	Red Nacional de Mujeres y Miner?a	In-kind	Recurrent expenditures	30,000.00
Civil Society Organization	Wildlife Conservation Society	In-kind	Recurrent expenditures	537,000.00
Private Sector	Cumbre del Sajama S. A.	In-kind	Recurrent expenditures	500,000.00
Private Sector	Cumbre del Sajama S. A.	In-kind	Recurrent expenditures	100,000.00
Private Sector	Argor Heraus	Grant	Investment mobilized	10,000,000.00
GEF Agency	UNIDO	Grant	Investment mobilized	120,000.00
Other	Universidad Politecnica de Catalunya	In-kind	Recurrent expenditures	29,725.00
Other	Better Gold Initiative	Grant	Investment mobilized	800,000.00
Donor Agency	Conservation International Bolivia	Grant	Investment mobilized	680,000.00
			Total Co-Financing($)	**21,774,981.00**

Describe how any "Investment Mobilized" was identified

During the project preparatory phase, all the stakeholders and initiatives related to ASGM in Bolivia were mapped to identify synergies and avoid duplication of work. There were several meetings and exchanges with stakeholders to communicate the objective and expected results of the project, while co-financing modalities and areas of collaboration were identified and summarized in the above table. Investment has been mobilized under all the project components but most notably under component 2 that focuses on enabling access to finance in the ASGM sector. The public investment and in-kind contributions to support the sector that reach approximately 4,000,000 USD materialized through the Ministry of Environment and Water, the Ministry of Mining and Metallurgy and the Departmental Autonomous Government of La Paz. The co-financing/investment mobilized will contribute specifically to component 1 focusing on providing the framework conditions to increase the formalization of the sector and piloting jurisdictional approaches in the Department of La Paz as well as the overall management of the project. The private sector will be involved through beneficiary mining cooperatives, specialized consulting companies and actors along the supply chain who will engaged under all project components. Gold mining cooperatives will provide internal capital investments in order to transition to cleaner and more efficient processing technologies contributing to the overall objective of the project and particularly to component 3. Argor Heraeus S. A. will be conducting activities that contribute to the project objective and confirmed an investment mobilized of 10,000,000 USD to support the purpose of the project. The Swiss Better Gold Initiative (SBGI) has been involved since early stages of the design phase and the third phase called Swiss Better GOLD (SBG) will overlap in time with the project implementation leading to specific areas of collaboration and synergetic activities corresponding to 800,000 USD investment mobilized. In addition, and critical for sustainable scale up once the project finishes, national CSOs, NGOs and local networks will be involved and will contribute to the project results with their ongoing and planned initiatives according to their specific expertise. For example, Fundaci?n MEDMIN who has expertise, skills, and planned activities in relation to mercury-free technologies will be involved in and contribute to component 3. UNIDO will provide 120,000 USD grant co-financing that will contribute to the monitoring and evaluation component.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Bolivia	Chemicals and Waste	Mercury	6,583,500	592,515	7,176,015.00
			Total Grant Resources($)		**6,583,500.00**	**592,515.00**	**7,176,015.00**

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 ($)

200,000

PPG Agency Fee ($)

18,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNIDO	GET	Bolivia	Chemicals and Waste	Mercury	200,000	18,000	**218,000.00**
				Total Project Costs($)	**200,000.00**	**18,000.00**	**218,000.00**

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	135900.00	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 that meets national or international third party certification that incorporates biodiversity considerations (hectares)

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)
	135,900.00		

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

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

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

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)	0	154368	0	0
Expected metric tons of CO?e (indirect)	0	0	0	0

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

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

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

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO?e (direct)		154,368		
Expected metric tons of CO?e (indirect)				
Anticipated start year of accounting		2022		
Duration of accounting		5		

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

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

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

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

Indicator 9 Reduction, disposal/destruction, phase out, elimination and avoidance of chemicals of global concern and their waste in the environment and in processes, materials and products (metric tons of toxic chemicals reduced)

Metric Tons (Expected at PIF)	Metric Tons (Expected at CEO Endorsement)	Metric Tons (Achieved at MTR)	Metric Tons (Achieved at TE)
0.00	72.00	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)
	72.00		

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 Quantity of 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 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		5,250		
Male		5,250		
Total	0	10500	0	0

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

(*) An estimated reduction of 18 tons of mercury is expected during project implementation. However, through the establishment of enabling framework conditions, the financial mechanism to be designed and the awareness and dissemination efforts, it is expected that the mercury reduction target will be replicated after the project is finalized. A replication factor of 3 is expected over the 10 years following completion of the project representing an additional 54 tons of mercury reduction, reaching an overall project total amount of 72 tons. More detailed justification for the GEBs estimation is provided under section 1.a.6. Global Environmental Benefits.

Part II. Project Justification

1a. Project Description

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

The co-financing identified at CEO Endorsement is higher than the amount identified at the concept stage. An intensive consultation and engagement process has taken place during the project preparatory phase allowing a co-financing increase of 5 million USD. Nevertheless, the process has proved to be challenging due to the COVID-19 pandemic and the impossibility to organize in-person consultations and meetings.

At the concept stage, the tentative project executing entity (PEE) identified were the main governmental counterparts (Ministry of Environment and Water and Ministry of Mining and Metallurgy) and national civil society organizations with expertise in the artisanal and small-scale gold mining (ASGM) sector. During the preparatory project phase and in agreement with the government counterparts, a consultative expression of interest was launched to identify national entities with adequate technical and operational capacity to execute the project activities. The selection of the PEE was based on the cheapest technically compliant entity. Both government counterparts and UNIDO staff carried out the technical and financial evaluation. As a result, a consortium of national specialized entities led by an international entity (Projekt Consult) was selected as PEE. An institutional assessment was then carried out and confirmed the administrative capacity of the lead PEE in line with GEF and UNIDO fiduciary standards. More information on the execution arrangements can be found in section 6.

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

Finally, the budget of project components 1, 2 and 3 was slightly lowered to allow for a higher allocation to the Monitoring and Evaluation component that responds to the project needs.

1a. Project Description

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

1. Artisanal and small-scale gold mining (ASGM)[1][1] accounts for approximately 20% of the global gold supply[2][2] and is the largest source of mercury emissions into the environment,

reaching 38% of the total amount[3][3]. It takes place in more than 70 countries, mainly developing countries and economies in transition. Approximately 12-15 million people are directly involved in the sector, out of which 4.5 million are women and children.

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

3. ASGM generates atmospheric mercury emissions and releases them to air, soil and water due to its widespread use. Once reaching the aquatic environment, inorganic mercury can be transformed to an organic form, methylmercury that enters trophic chains, resulting through bioaccumulation and biomagnification processes, in significant negative impacts on biodiversity and ecosystemic functions of importance to society, and even more importantly, it has a very detrimental impact on human health. In this regard, children are most susceptible to the adverse effects of mercury exposure.

4. Mercury is released and emitted at the local level. However, it is also transported over long distances contributing to global pollution and contaminating the world?s ecosystems and fisheries.

1.1 Main environmental problems

5. Bolivia is traditionally a mining country, and cooperative mining prevails in artisanal and small-scale gold mining. More than 1,400 gold mining cooperatives exist, consisting of approximately 120,000 members. In addition, an undetermined number of men and women are active in the sector as workers, day laborers, self-employed, representatives, barranquilleros[4][4]?

6. ASGM cooperatives operate both in rivers, old riverbeds, shafts and terraces, and underground hard rock deposits, mainly located in the highlands.

7. The Bolivian territory represents 0.2% of the world's surface. However, due to its altitudinal gradient, which ranges between 130 and 6,542 meters above sea level, it is one of the most biodiverse countries in the world, comprising 32 ecological regions and 199 ecosystems[5][5].

8. Mining is present in 16 of the 22 national protected areas. Unlike most countries in the region, Bolivia allows mining in protected areas on the sole condition that the conservation objectives of the protected areas are respected[6][6]. In this sense, mining activities can only be undertaken in areas

of natural resource use according to the category zoning called Integrated Management (*?rea Natural de Manejo Integrado*, ANMI).

9. For example, in the Apolobamba-Madidi-Pil?n-Lajas-Cotapata Corridor, there are more than 1,066 gold mining operations (Figure 1), which have increased fourfold in the last ten years. In addition, several studies reveal that anthropic changes in land use contribute to soil erosion, increasing mercury's deposition and transport rates in the environment. Although soils could be considered as temporary mercury sinks in a similar way to forests and carbon, they tend to act more as sources of mercury release into surface waters. In this sense, it is increasingly important to understand the role of deforestation and subsequent soil degradation as drivers of mercury enrichment in surface waters, especially in lowlands of the Amazonian macro-basin, which is particularly sensitive to mercury contamination.

Figure 1. Impact of gold mining activities in Conservation Corridor [Mining activities marked in red]. Source: WCS (2020).

10. From the spatial analysis of the presence of ASGM in Bolivian forests (Figure 2), deforestation as a result of the extractive activities is particularly noticeable in the gold mining area of San Ram?n (department of Santa Cruz), primarily due to the type of open-pit mining. The deforestation rate is less relevant in the Yungas Region (department of La Paz), where hard rock mining is carried out, and in the Madre de Dios Region (departments of Pando and Beni) as mostly alluvial gold mining dredging takes place, having a less considerable impact on forests for the time being but a significant

impact on surface water bodies. However, as the gold mining activity expands into old riverbed platforms, the deforestation rate could also increase in Madre de Dios.

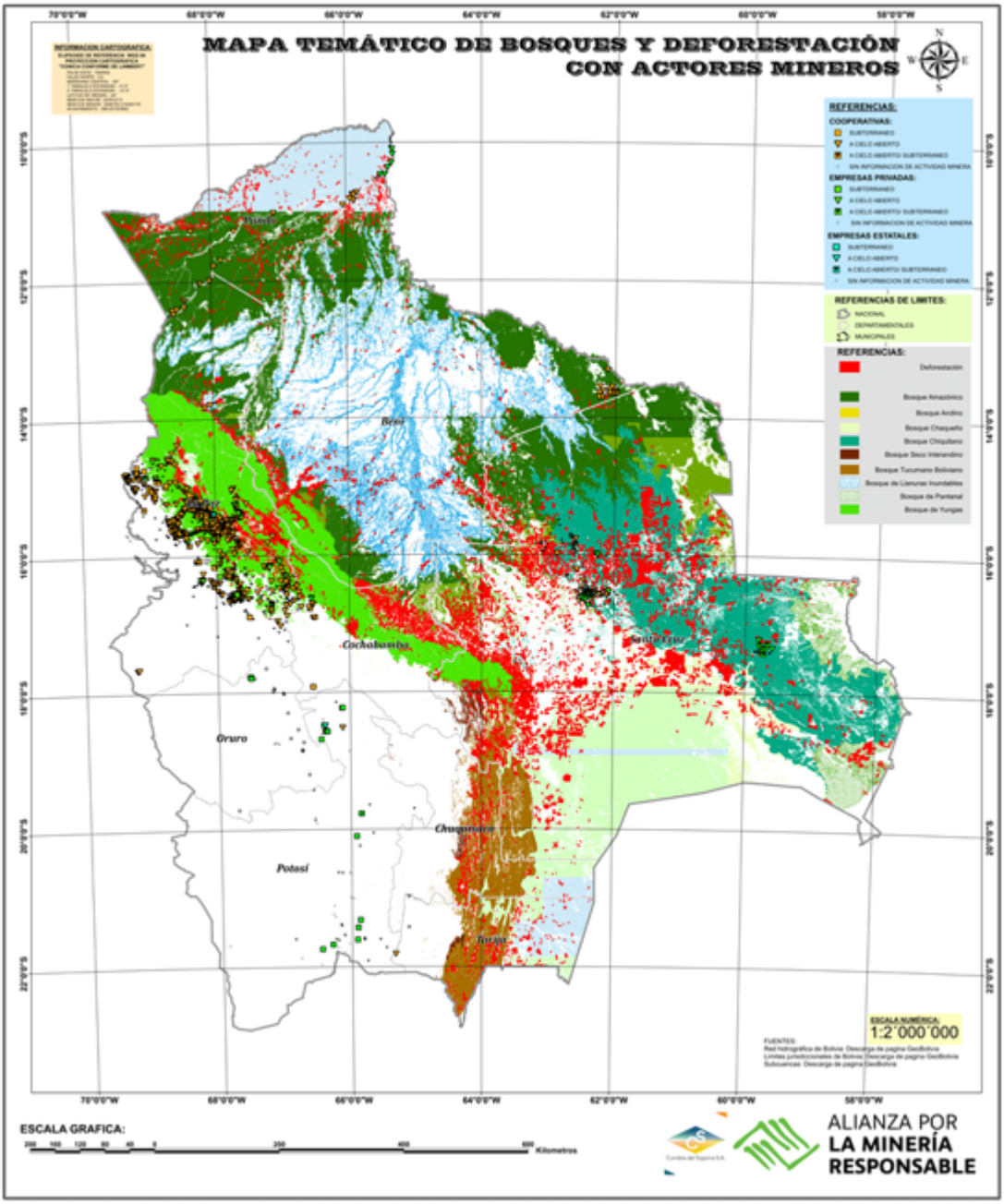

Figure 2. Map of forests, deforestation, and mining stakeholders [Gold mining cooperatives in yellow and black triangles or squares, deforestation in red]. Source: Zenteno (2020)

11. The Government of Bolivia, through the following two studies, identified ASGM as the most significant source of mercury emissions to the environment with a range between 37 and 62 tons per year:

? ??Baseline of mercury use, emissions and contamination?? (2014): The study revealed that the average mercury emissions in Bolivia were 133.1 tons per year, corresponding to approximately 11% of the global emissions average. It was estimated that the artisanal and small-scale gold mining sector contributed an average of 62.5 tons of mercury per year, which represented about 47% of the national emissions.

? ?National Inventory of Mercury Emission Sources in Bolivia?? (Minamata Initial Assessment) (2017): The estimated total mercury emissions in 2014 were 45.7 tons per year, out of which gold extraction with mercury amalgamation accounted for the highest contribution to the environment with 82.3% of the total (37.6 tons of mercury per year).

12. The 2014 baseline mentioned that due to the erosion and transportation of mercury through the rivers, values between 7.7 and 20.3 tons of mercury per year were reported, playing a critical role in the contamination of the country?s lowlands, such as the Amazon plain and the Pantanal. These areas are priorities for conservation and biodiversity strategies as unique species are present[7][7]. The affected watersheds in Bolivia are shown in Figure 3.

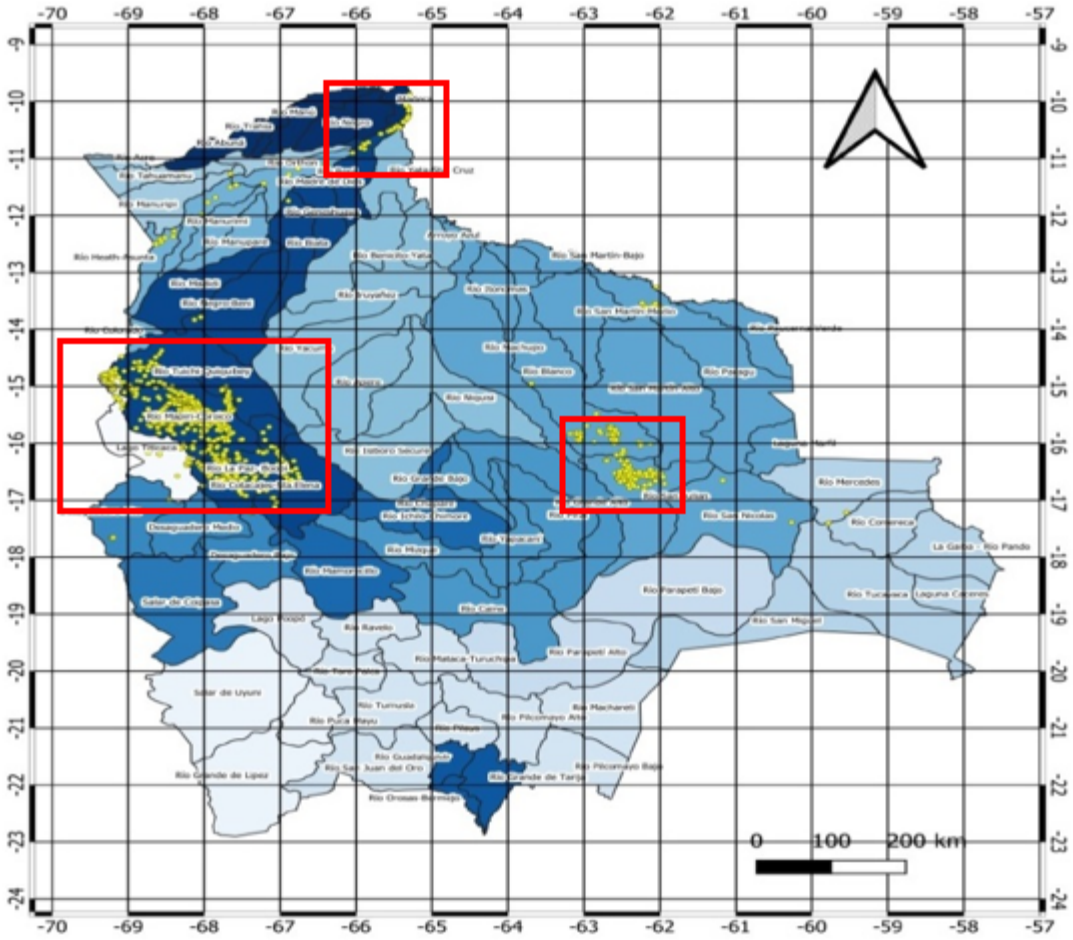

Figure 3. Map of affected watersheds. Source: Zenteno (2020)

13. The most frequent cause of human mercury poisoning is through fish consumption, mainly affecting riverside populations and indigenous communities, particularly in the Beni and Madre de Dios rivers, where ASGM activities are common.

14. The sub-basins of the Mapiri-Coroico and La Paz-Boopi rivers (department of La Paz), San Julian (department of Santa Cruz) and Madre de Dios (departments of Pando and Beni) are identified as having a high presence of alluvial gold mining as illustrated in Table 1.

Department/region	Sub - basin	Presence of gold mining
La Paz	Mapori-Coroico River	High
	La Paz ? Boopi River	High
	Tuichi ? Quiquibey River	Medium
	Beni River	High

Santa Cruz	San Julian River Blanco River	High High
Pando/Beni	Madre de Dios River	High

Table 1. Sub-basins with a high presence of alluvial gold mining. Source: Prepared by project team

15. The study "Mercury in Small-scale Gold Mining in Bolivia"[8][8] determined that approximately 75% of the gold production comes from alluvial mining of secondary gold deposits (i.e., sediments) and approximately 25% from primary mining (i.e., hard rock mining of vein-type primary deposits). In 2019, 42 tons of gold were produced in the country, of which 31 tons were reportedly from alluvial mining operations and 11 tons from primary mining operations. Based on the analyses performed during the same study, the ratio of mercury use per unit of gold produced in primary mining is, on average, at around 5:1, indicating a predominant use of whole ore amalgamation (WOA), one of the worst practices identified under the Minamata Convention on Mercury. In alluvial operations, mercury use was estimated to be around 0.4:1. Therefore, the mercury consumption in primary deposits is approximately about 55 tons per year, while that of secondary deposits, where most gold production occurs, is around 13 tons per year, for an annual total of 68 tons of mercury per year.

16. According to various experts, the use of mercury in small-scale gold mining in Bolivia could be even higher than what was indicated in the study, reaching up to 140 tons of mercury per year in total.

17. The areas with the highest concentration of ASGM activities are shown in Figure 4, although gold production is not only limited to these regions[9][9].

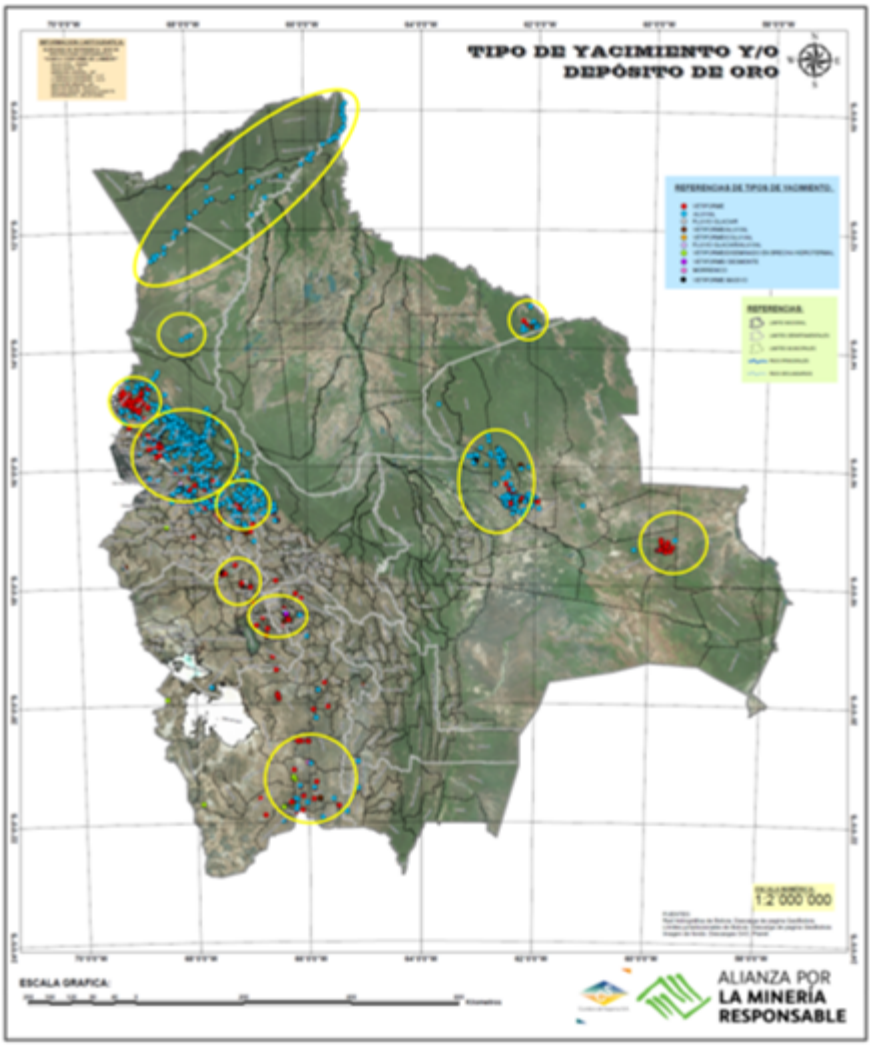

Figure 4: Gold mining areas in Bolivia: Source: Prepared by project team

18. Table 2 presents the departments, provinces, and municipalities where gold mining mostly takes place in Bolivia, although there are other regions in expansion, mainly in the last two years (2019-2020), such as the San Juan del Oro region located in the Southern part of the country.

Department	**Province**	**Municipality**
LA PAZ	Murillo	Palca
	Larecaja	Guanay
		Tacacoma
		Tipuani

		Mapiri
		Teoponte
		Sorata
	Franz Tamayo	Pelechuco
	Mu?ecas	Aucapata
	Abel Iturralde	Ixiamas
	Nor Yungas	Coroico
SANTA CRUZ	?uflo de Ch?vez	Concepci?n
		San Javier
		San Ram?n
		San Antonio de Lomerio
	Guarayos	Ascenci?n de Guarayos
	Velasco	San Miguel
BENI	Vaca Diez	Riberalta
		Guayaramer?n
	It?nez	Baures
PANDO	Manuripi	Puerto Rico
		Filadelfia
	Madre de Dios	Puerto Gonzalo Moreno
		San Lorenzo
		El Sena
		San Pedro
	Federico Rom?n	Nueva Esperanza
		Villa Nueva
ORURO	Poop?	Paz?a

	Cercado	Caracollo
POTOS?	Rafael Bustillos	Chayanta
	Cornelio Saavedra	Tacobamba

Table 2. Locations with the highest concentration of ASGM activities. Source: Cumbre del Sajama S. A.

19. The municipalities with the highest number of gold mining operations, concentration of mining cooperatives, use of mercury and collection of mining royalties are: Guanay, Mapiri, Sorata and Tacacoma (department of La Paz); Guayaramein, Riberalta, Baures and San Ram?n (department of Beni); San Ram?n, Concepci?n, and San Jos? (department of Santa Cruz).

20. In reference to the type of deposit exploited in the country, the following can be found:

? Alluvial auriferous, which is the type of deposit that is mostly exploited in Bolivia and is developed in the department of La Paz (Guanay, Tacacoma, Tipuani, Mapiri, Teoponte, Aucapata, Ixiamas, Coroico, Pelechuco); in the department of Santa Cruz (Concepci?n, San Javier, San Ram?n, San Antonio de Lomerio, Ascenci?n de Guarayos, San Miguel); in the department of Beni (Riberalta, Guayaramer?n and Baures); and in the department of Pando (Puerto Rico, Filadelfia, Puerto Gonzalo Moreno, San Lorenzo, El Sena, San Pedro, Nueva Esperanza, Villa Nueva).

? Cangall?[10][10] auriferous which is developed mainly in the department of La Paz (Palca, Guanay, Tacacoma, Tipuani, Mapiri, Teoponte); and

? Primary auriferous, which is a type of deposit that is exploited in the department of La Paz (Palca, Pelechuco, Sorata); in the department of Oruro (Paz?a and Caracollo) and in the department of Potos? (Chayanta and Tacobamba).

21. Due to the gold mining potential and the recognition of mining cooperatives as productive actors in the Political Constitution of the State, the prospects of the ASGM sector are growing. In the last years, a considerable growth of gold mining operations has taken place in the country, expanding to new areas, especially in indigenous territories (*Territorios Ind?genas Originarios Campesinos*, TIOC) and protected areas.

1.2 Root causes

22. Among the causes that have generated the noticed increase in ASGM activities in the countries are the expeditious current procedures in place to form mining cooperatives, the ease of access to mineral resources (ponds, rivers, terraces), the favourable conditions in the tax treatment of the cooperative sector and limited enforcement capacity of the authorities to control gold mining operations. Additionally, one of the main evident reasons for the increase in operations has been the rise in the international price of gold, which has taken place since 2005 and the influence of the

COVID-19 pandemic. Figure 5 and Figure 6 give a graphical representation of the project?s problem tree and objective tree, respectively.

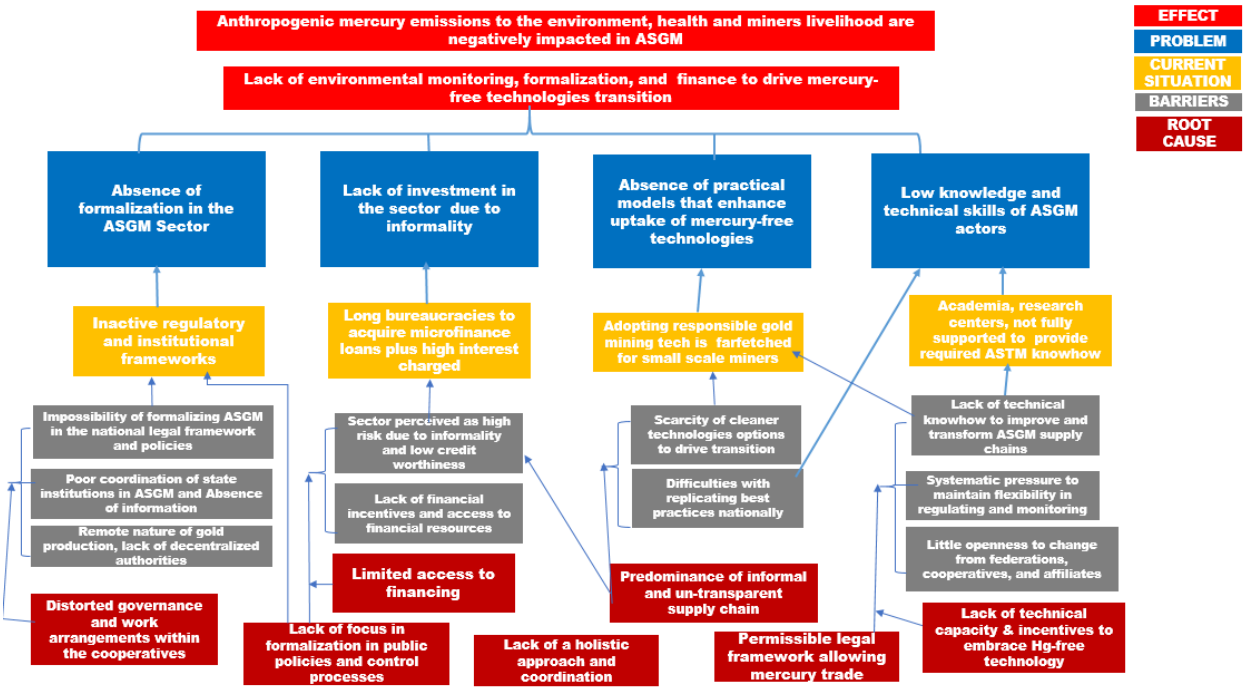

Figure 5: Problem Tree of GOLD+ Bolivia

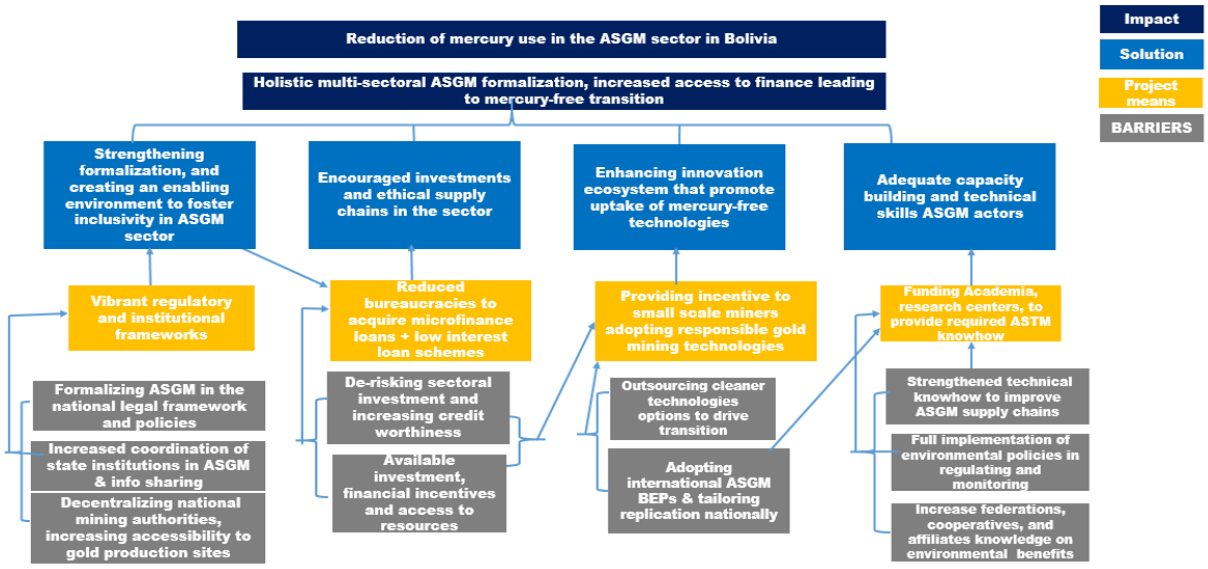

Figure 6: Objective Tree of GOLD+ Bolivia

The seven (7) main root causes are presented in more detail hereafter:

? Lack of focus in formalization in public policies and control processes

23. The cooperative gold mining sector has essential relevance in the country as it generates more than 90% of the jobs in the mining sector and approximately 95% of the national gold production. In addition, gold exports have a critical role at the macro-economic level as gold was the primary commodity exported in 2019, accounting for an equivalent value of USD 1,7 billion[11][11].

24. Formalization includes all processes by which the activities of the ASGM sector are brought into the formal economy through appropriate policy and legislative frameworks as well as institutional arrangements to support and promote formalization while regulating the sector.

25. In Bolivia, miners are organized in mining cooperatives and most of these have legal mining rights granted by the State. The Mining Administrative Jurisdictional Authority (AJAM) is the institution responsible for granting mining rights. However, the current procedures to obtain mining licenses entail complex technical-legal bureaucratic procedures that hamper formalization processes.

26. Despite its importance, the sector has not been a priority for the State. As a result, mining regulations and public policies in Bolivia do not include any article or conceptual reference to formalization. While the mining cooperatives are legal, there is no basis to determine when a mining operation is formalized or which steps to follow or requirements to achieve to have a formal status. Additionally, individual miners (*barranquilleros/as*) are not recognized under the current legal framework.

27. Although the Mining and Metallurgy Law 535[12][12], including the Penal Code[13][13], clearly include the definition of illegal mining and the corresponding sanctions, it has not yet been possible to effectively control the excessive and increasing illegal and informal gold mining in the country.

28. In addition, Environmental Law 1333 establishes that an activity, works or project may operate legally when it has an environmental license, a document that guarantees compliance with all environmental requirements established by the same law. Less than 15% of the mining cooperatives have an environmental license[14][14].

? Distorted governance in the mining cooperative system

29. Traditionally in Bolivia, the mining cooperatives have had a strong political influence. Due to a favourable legislative framework, the cooperatives enjoy a beneficial tax system compared to private entities. This has caused that a large percentage of cooperatives are in reality private individuals and groups that undertake investments under this form.

30. The regulations also mandate that cooperatives should not have employees. However, a significant number of individuals work clandestinely in inadequate conditions under the name of *asalariados*.

31. Weak governance mechanisms in place and constant changes in leadership are also identified as deterrents of consistent and long-term plans within cooperatives.

32. There is little openness to change from some of federations and its members due to their high political influence in the country and the fact that they benefit from the current status quo.

? Limited access to financing

33. Limited access of miners to formal and legitimate financing prevents them from improving productivity and switching to low or no mercury alternative techniques and technologies.

34. In Bolivia, there are no mining investment promotion policies in any of the exploration, exploitation, metallurgical, industrial and commercialization phases based on technical criteria to develop the mining areas.

35. The Financing Fund for Mining (*Fondo de Financiamiento Minero*, FOFIM) was created in 2009[15][15] , granting almost USD 28,735,632 approximately in credits. However, within the ASGM sector, the coverage of beneficiaries was deficient reaching less than 5%[16][16]. Delinquency is high and the recovery of the portfolio has been very slow.

36. Formal financial institutions perceive mining cooperatives as unattractive and high risk due to a low level of assets, the difficulty of proving a production-based income[17][17], the high informality that characterizes the sector and their location in difficult-to-access areas.

37. Additionally, most of the cooperatives lack (i) data on the mineral reserves and historical production as well as (ii) the management abilities and business skills required to provide financial and operational information needed by a financing institution to assess the viability of granting a loan.

38. Furthermore, the restrictions on financial resources due to the deferral of interest payments on credits in the financial system due to the COVID-19 pandemic has worsened the access to credit in Bolivia.

39. As gold mining cooperatives do not have access to formal credit either from private or public entities, the majority of ASGM financing comes from gold traders or other informal financiers. These loans have interest rates between 36% and 60% and often operate in informal settings incentivizing mining operations that are often not complying with environmental and social safeguards.

40. There is a clear gap between the demand and supply of financing to the sector and a lack of financial products by the formal finance sector that suit ASGM. The mining cooperatives identified the need for investments in a range of approximately USD 400,000 to 700,000[18][18] to set up adequate conditions for mining operations which is higher than the credits provided by FOFIM or the financial credit technology or requisites coming from private financial entities.

? Vast predominance of informal and un-transparent supply chain

41. Another recurring issue is related to gold commercialization and supply chain. Most of the gold transactions are carried out with incomplete or absent documentation and often not complying with the national legislation.

42. The general tax regime for the mining sector is complicated and onerous in a context of low formality. Tax collection is difficult in practice which is added to the disincentives to report formally economic activities due to the high complexity and costs of the current system.

43. Trading companies and wholesale intermediaries (known locally as *comercializadores* and *rescatadores****[19]***[19]) are the main gold buyers. Both actors have considerable economic power, which allows them to pre-finance the miners (via loans or cash advances) in exchange for capturing their gold supply. In many cases, small-scale producers become highly dependent on intermediaries, undermining the feasibility or attractiveness of traceable supply chain systems. Additionally, these actors buy and sell gold informally and do not provide the necessary legal deductions in the process which leads miners losing the possibility to contribute to the short-term health insurance and impacts municipalities? collection of royalties.

44. Some cooperatives use individuals as a tool to commercialize gold to avoid potential tax payments. This is partly because there are gold production quotas with a maximum of 40 kg per month on the basis that cooperatives are low-tax non-profit entities created for the subsistence of its members.

45. The legal framework forbids individuals without mining rights to commercialize gold. However, thousands of actors without mining rights are currently involved in the sale of gold ore in the country.

46. There are other actors in the supply chain, such as the Bolivian Gold Enterprise (*Empresa Boliviana del Oro*, EBO) and Mineral Trader (*Comercializadora de Minerales*, COMERMIN), although they did not manage to reach a preponderant role in the commercialization and control of the gold produced in the country. Among the challenges faced by EBO is that it is a subsidiary of the Bolivian Mining Corporation (*Corporaci?n Minera de Bolivia*, COMIBOL), implying a high level of bureaucracy and slow decision-making mechanisms. Additionally, gold purchases to be captured by the Central Bank of Bolivia (*Banco Central de Bolivia*, BCB) could not be consolidated due to the numerous requirements that should be followed to include gold as Net International Reserves (NIR) in the corresponding national banks.

47. Only three (3) gold mining cooperatives managed to export directly to international markets under the Fairmined certification scheme, and none of them managed to sustain certified direct exports[20][20].

48. Mistrust among the miners, intense local competition in the purchase of gold, important loyalty mechanisms put in place by gold buyers, and the frequent changes in the cooperatives management structures translate into significant challenges to achieve the above-mentioned sustainability of supply chains in the long term. Additional external factors are linked to the bureaucratic requirements, lack of incentives and/or mechanisms to promote a higher traceability, high export costs and complex logistical procedures.

? Permissible legal framework allowing mercury trade

49. Mercury imports to Bolivia are extremely high, with an average of 198 tons per year[21][21]. However, unlike the situation in neighbouring countries, the legislative framework is very favourable. Figure 7 shows that 165 tons were imported in 2020. It is presumed that some of this mercury is "re-exported" via smuggling to neighbouring gold-producing countries, where mercury import for ASGM is prohibited or controlling measures for mercury import are more rigid[22][22].

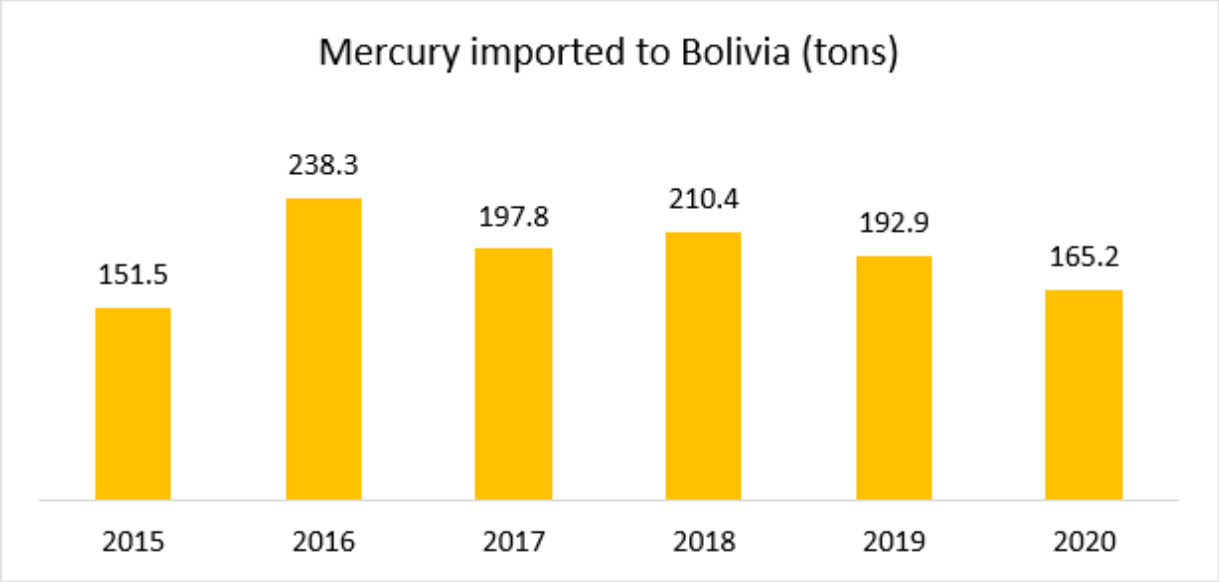

Figure 7: Imports of mercury to Bolivia. Source: INE (2021)

50. Figure 8 shows that Peru has reduced mercury imports significantly since the ratification of the Minamata Convention on Mercury, while mercury imports in Bolivia have been increasing since. After reaching a peak in 2013, annual mercury imports in Peru decreased to below 1 ton in 2018.

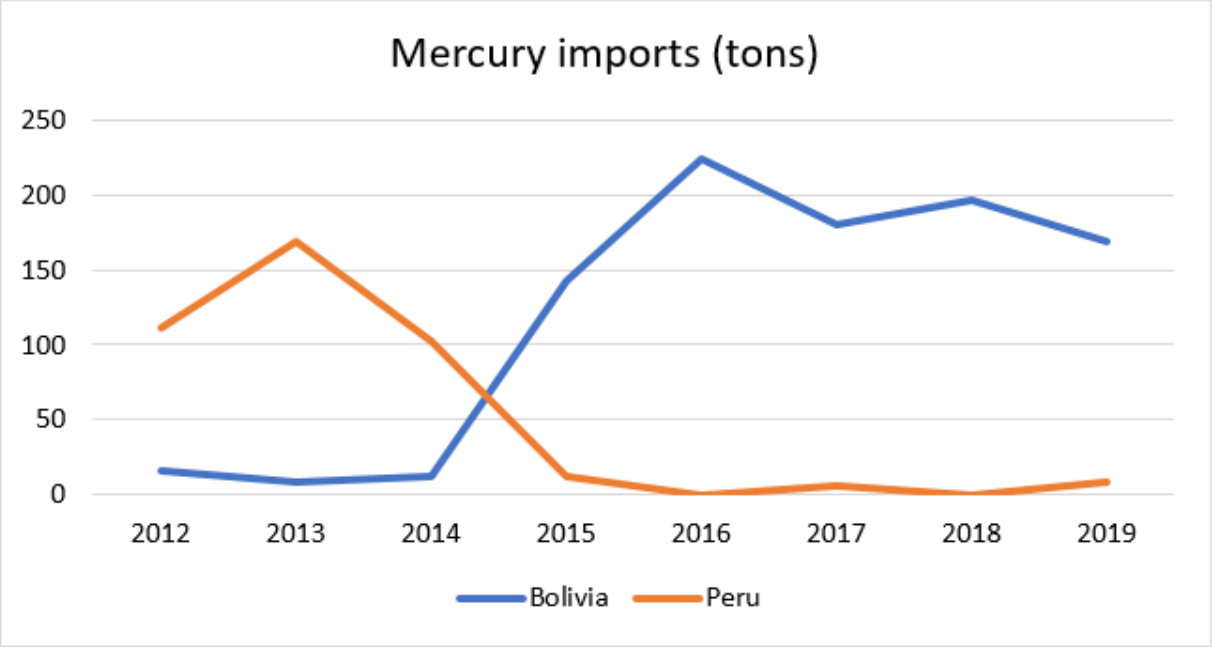

Figure 8: Imports of mercury to Bolivia and Peru. Source: COMTRADE

51. In 2013, together with 140 other countries, Bolivia signed the Minamata Convention on Mercury and assigned to the Ministry of Environment and Water (MMAYA) the responsibility for its compliance. However, this institution and other national entities such as Customs, Ministry of Mining and Metallurgy do not have regulatory instruments that allow them to fulfil this role, especially when it comes to controlling mercury trade.

52. Mercury is not included in the goods that require prior authorization and/or certification. Besides a 5% custom import tariff, it does not require any other additional document for its importation. Therefore, there are no specific control measures beyond the ones carried out for other common goods[23][23].

53. In recent years, the Ministry of Environment and Water has drafted a Supreme Decree which aims at registering and controlling the import, export, and trading of mercury in the country. However, this Decree has not been approved yet, due to the opposition of lobbying groups that request the introduction of alternatives before enacting such a Decree.

54. In 2018, Bolivia was the second mercury importing country in the world[24][24]. Imports from Mexico to Bolivia in the same year represented the main trade flow globally, accounting for 25%

of the global imports[25][25]. Among the main mercury providers to Bolivia are India, Russia, Turkey, Vietnam, and Mexico.

? Lack of technical capacity and incentives to embrace mercury-free technologies

55. In primary deposits (hard rock) containing gold-bearing quartz veins, generally accompanied by metallic sulfides or their oxides, it is very common in Bolivia to pour mercury directly into the milling equipment and amalgamate simultaneously in the same unit (whole ore amalgamation). Many mills that work in this way do not have a subsequent concentration stage as the gold is extracted as an amalgam from the same milling equipment. As stated previously, this is identified as a worst practice and refers to simultaneous milling and amalgamation of the whole ore in an open circuit.

56. Due to poor practices and mercury management in whole ore amalgamation combined with a lack of (i) technical capacity, (ii) investment in cleaner technology, (iii) interest mixed with reluctance to change, the limited economic resources of the miners are lost in two ways.

57. On the one hand, a considerable amount of atomized mercury is wasted, ending in tailings which represent a non-negligible cost for miners given increasing mercury prices. On the other hand, through the low gold recovery, according to a study conducted by the Universidad Mayor de San Andr?s[26][26], the mining cooperatives manage to recover only between 50% and 60% of gold.

58. There is little openness on the part of some mining cooperatives to receive professionals and technical to make changes and improvements in their mining operations.

? Lack of a holistic approach and coordination

59. The limited decentralization of programs and projects and the lack of institutional coordination to support the ASGM sector has not contributed sufficiently to build capacity in the gold producing areas.

60. In addition, lack of human resources specialized in responsible gold and a low level of knowledge sharing among the relevant stakeholders involved in ASGM has led to a failure to disseminate research and studies and replicate good practices and lessons learned.

1.3 Barriers

61. Currently, a higher emphasis on formalization in the national legal framework that could lead to an effective change is hindered by incentives towards formalizing operations that are more political and bureaucratic than technical. In addition, the coordination of the State institutions that are linked to ASGM is still insufficient and characterized by a limited exchange of information. The remoteness of gold production areas and ineffective decentralization of responsibilities are further

complicating the situation. This translates into a lack of capacity from local authorities and municipalities to effectively enforce or provide support.

62. The main barrier that prevents miners from accessing financial resources is the lack of understanding of the sector within local financial institutions who consider the mining sector as a high risk due to its informality and the lack of collateral that miners can offer.

63. Additionally, there is a mismatch between the demand and supply of credit offered by financial institutions as well as a lack of coverage in certain gold producing areas due to their remoteness. Furthermore, the lack of financial incentives and schemes from both the public and the private sector also prevents greater formalization and the reduction of mercury use.

64. Ensuring the provenance of the gold through the supply chain and meeting responsibility standards represents another significant challenge as multiple actors along the supply chain must be considered and eventually capacitated and funded.

65. The gold cooperative sector lacks the technical capacity and in some cases interest to help the sector professionalize, provide training on mercury-free techniques and the adequate related support.

66. Bolivia's successful experience in introducing cleaner technological systems and transitioning towards little or no mercury use is scarce. Hence, it is not possible to showcase and replicate good practices or successful experiences at a broader scale.

67. The main barriers for a lack of migration to mercury-free technologies include: (i) cost of the equipment, (ii) failure to adapt technologies to the level appropriate for ASGM organizations, (iii) lack of training to enhance capacity during transfer of technology to miners and (iv) lack of awareness on available mercury-free alternatives.

68. The gold mining cooperative sector has consolidated its position as an essential productive sector at the national and regional level while being an actor with capacities to influence public policies, regulations, and governmental decisions for the benefit of the sector. In most cases, this translates into a strong preference for the status quo.

69. In addition, there is a high level of advocacy and political pressure to maintain flexibility in the control and monitoring mechanisms, which show little openness to change on the part of the federations, cooperatives, and their affiliates.

70. Finally, mercury flows are a significant regional challenge. The lack of regional coordination combined with transborder informal gold trading and illicit financing hampers mercury reduction in ASGM.

2) The baseline scenario and any associated baseline projects

2.1 Regulatory and institutional policy framework

71. Relevant current legislation related to ASGM in the country include the following:

Political Constitution of the State

- **Articles of the Political Constitution of the State (*Constituci?n Pol?tica del Estado*, CPE) related to Mining Activity:** Chapter 2 (Article 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358) and Chapter 4 (Articles 369, 370, 371 and 372).

Laws

- **Law 353 on Mining and Metallurgy (28 May 2014)**
- **Law 845 on the Control of Mining Cooperatives (24 October 2016)**

Supreme Decrees

- **Supreme Decree N? 29165 Creation of SENARECOM[27]**[27] **(13 June 2007) and Supreme Decree N? 29581 Modifying Supreme Decree N? 29165 (27 May 2008)**
- **Supreme Decree N? 29577 On Mining Royalties (21 May 2008)**
- **Supreme Decree N? 2288 Control and Supervision of Royalties through Departmental Governments (12 March 2015)**
- **Supreme Decree N? 2892 to Establish the 1.8% Withholding for Health Insurance (1 September 2016)**
- **Supreme Decree N? 3405 Creation of the Single Mining Registry (RUM) and Implementation of the Mining and Metallurgical Information System (SIMM) (29 November 2017)**

Ministerial Resolutions

- **Ministerial Resolution N? 65/2008 Approves the Internal Regulation of SENARECOM (7 July 2008)**
- **Ministerial Resolution N? 090/2010 Approves the Verification Cost 0.05% for the Export of Minerals and Metals (27 July 2010)**
- **Ministerial Resolution N? 115/2010 Authorizes SENARECOM to Exclude Mining Cooperatives from the Verification Cost of Export of Minerals and Metals (7 September 2010)**

- **Ministerial Resolution N? 123/2012 to Approve the Tariff Items Corresponding to Minerals and Metals which Require the Control Form M-03 in Each Export (17 May 2012)**

- **Ministerial Resolution N? 225/2013 to Approve the List of Additional Tariff Items for the Control of SENARECOM, Corresponding to Minerals and Metals that Require the Control Form M-03 in Each Export (22 November 2013)**

- **Ministerial Resolution N? 238/2013 Approves Form Costs SENARECOM (3 December 2013)**

- **Ministerial Resolution N? 115/2015 Provides for the Suspension of Supreme Decree N? 2288 (16 April 2015)**

- **Ministerial Resolution N? 251/2015 Approves Listing of Additional Tariff Items Form M-03 and Form M-02 (29 September 2015)**

- **Ministerial Resolution N? 157/2017 Provides for the Reduction of Requirements for Obtaining the NIM (11 August 2017)**

- **Ministerial Resolution N? 165/2017 Establishes Procedure for Marginal Gold (16 August 2017)**

Board Resolutions

- **Board Resolution N? 07/2017 Approves the Procedure for Registration and Control of the Commercialization of Gold from Marginal and Small-Scale Deposits Plus its Annexes A, B, C and D (4 December 2017).**

72. The current regulations differentiate between the acquired rights of the private and State mining productive actors and the pre-constituted rights corresponding to the mining cooperatives, whose scope is the same and implies the respect of the rights obtained in any of the current modalities for their adaptation within the framework of the provisions of Law 535 of Mining and Metallurgy.

73. The institutional framework of the Bolivian mining sector is made up of different institutions whose organization and dependence are detailed in Figure 9:

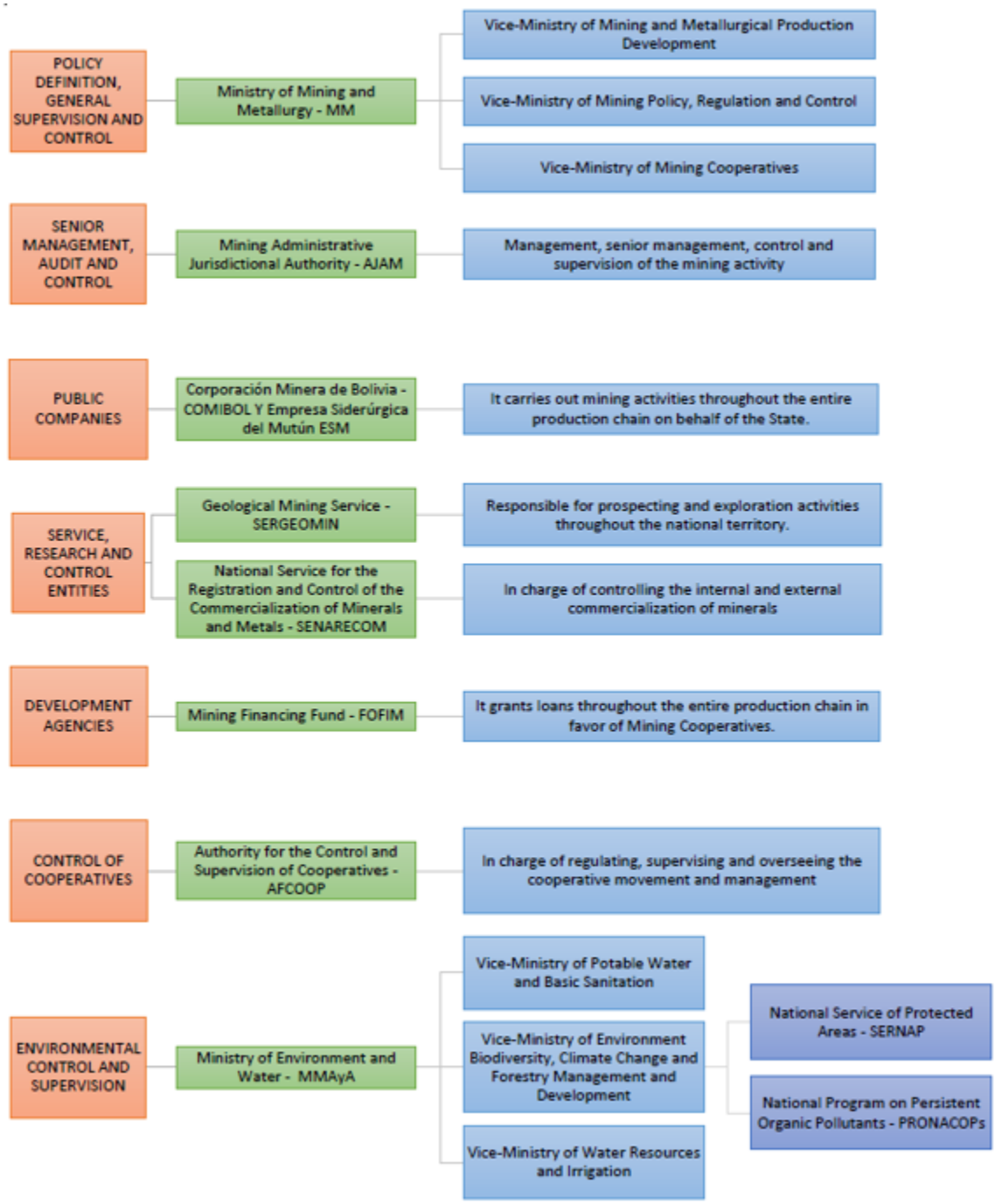

Figure 9: Institutional framework of the mining sector in Bolivia. Source: Beltran, IIse (WCS)

74. Currently in Bolivia, there is no specific legislation that regulates the use, trade, and handling of mercury. However, there are some technical regulations that stipulate certain parameters regarding mercury as a toxic chemical substance.

75. The main mechanism implemented by the Ministry of Environment and Water - MMAyA to regulate the use of mercury is the License for Activities with Hazardous Substances - LAPS,

included in the D.S. 24176 Regulation for Activities with Hazardous Substances - RASP (1995) which mentions (RASP, 1995):

Article 15. Any natural or collective, public, or private person that carries out activities with hazardous substances, shall submit a memorial addressed to the Competent Environmental Authority, as a complement to what is required in the Environmental Prevention and Control Regulation for the purpose of obtaining the registration and license for activities with hazardous substances.

76. The most specific provision for gold mining is established in D.S. 24176 Reglamento Ambiental para Actividades Mineras (1995), which mentions (RAAM, 1995):

Article 27. The use of mercury in mineral concentration processes is only allowed when mercury recovery equipment is installed at the exit of the process. The treatment of amalgam must be carried out in retorts and other equipment that avoids the release of mercury to the environment.

77. Some legislative amendments and relevant initiatives related to the gold mining sector are currently under development at the central level.

78. The most relevant are detailed below:

a. Draft Law for the Creation of the Office of the Defender of Mother Earth, which aims to establish a structure, operation, and attributions of the Office of the Defender of Mother Earth, within the framework of the protection of the rights of Mother Earth, its components and life systems, recognized in the current legal system;

b. Draft Supreme Decree presented by the Ministry of Environment and Water (MMAyA) which aims at registering and controlling the import, export and trading of mercury, mercury compounds and mercury-added products within the national territory, as well as establishing administrative procedures for the granting of prior authorization for the import and/or export of mercury, mercury compounds and mercury-added products; and,

c. Law of National Gold Production destined to strengthen the Net International Reserves (RIN), which was approved in large part on Wednesday, June 23, 2021, in the Chamber of Deputies.

2.2 Actors in the gold mining sector in Bolivia

79. According to the legal framework, mining activities in Bolivia are carried out by three (3) types of productive mining actors[28][28]: state mining, private mining, and cooperative mining. However, individual miners (artisanal miners) also operate in the country.

80. Specific to gold mining:

81. There are no relevant **state-led gold mining operations** in the country.

82. The **private gold mining sector**, mostly represented by medium-sized mining companies, currently has no large-scale mining projects (such as those developed by Empresa Minera Inti Raymi or Empresa Minera Paititi-EMIPA in the past).

83. The main gold mining sector in Bolivia is the **cooperative system** with up to 95% of the operations. Mining cooperatives are non-profit, self-managed social and economic institutions of social interest. The mining cooperatives can be pragmatically classified as follows: (i) large gold cooperative: more than 100 partners; (ii) medium sized gold cooperative: between 20 and 100 members; and (iii) small-sized gold cooperatives: cooperatives of family nature with up to 20 members.

84. According to the Authority for Cooperative Control and Supervision (AFCOOP), the total number of mining cooperatives in the country is 2,388 with gold mining cooperatives being above 1,400 (Table 2).

N?	**Department**	**Total mining cooperatives**	**Total members**[29][29]
1	La Paz	1,873	60,590
2	Cochabamba	131	5,845
3	Potos?	214	54,970
4	Chuquisaca	30	1,482
5	Beni	30	1,413
6	Oruro	58	7,843
7	Santa Cruz	38	1,306
8	Pando	4	1,424
9	Tarija	10	563
TOTAL		**2,388**	**135,436**

Table 2. Mining cooperatives in Bolivia. Source: AFCOOP - Viceministry of Mining Cooperatives

85. The national federation FENCOMIN[30][30] represents the mining cooperatives and comprises the Departmental Federations of Mining Cooperatives known as FEDECOMIN[31][31], which groups the regional federations (refer to Figure 10).

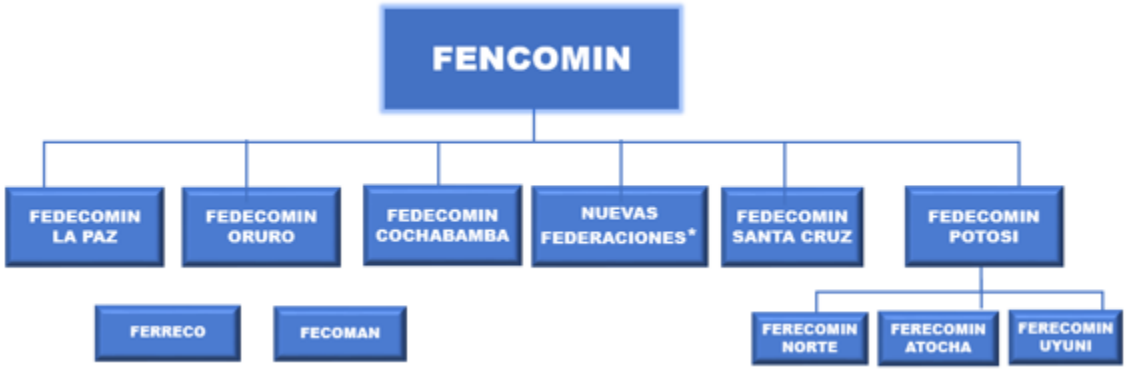

Figure 10: Organization of Mining Cooperatives. Source: Prepared by project team

86. There are new departmental federations in Beni/Pando and Chuquisaca. There is also a federation (FECMABOL[32][32]) still without legal status that unites the main gold federations (FERRECO[33][33] and FECOMAN[34][34]).

87. Most mining cooperatives federations have a technical department within their internal structure to advise their affiliates regarding administrative adaptation in their work areas.

88. In recent decades, there has been a gradual and sustained process of growth and consolidation of gold mining cooperatives in the country. This situation, in large part, has its origins in the relocation and unemployment of thousands of miners since 1985, the increase in the price of gold in recent years and the state support for the formation of mining cooperatives as a response to massive unemployment.

89. Currently, the gold cooperative sector has not only consolidated its position as an important economic actor at the national and regional level, but has also become a stakeholder with significant power, a broad social base, political influence, and organizational and mobilization capacity, with the ability to influence public policy, regulations, and governmental decisions.

90. Among the main concerns of the gold miners' representatives is their disagreement with the draft laws and regulations currently developed by the State and mentioned under section 2.1 (i.e., Supreme Decree on mercury trade) and in this sense, they have proposed modifications to it.

91. The representatives of the federations consider that the central government has not provided an enabling framework that allows replacing the use of mercury, and they consider it should be done progressively and providing the required financial support.

92. There are no official statistics regarding artisanal or individual miners (*barranquilleros**[35]***[35], *balseros**[36]***[36] and *carrancheros**[37]***[37]). These **individuals or groups of individuals** undertaking informal ASGM activities are mainly located in Larecaja and Franz Tamayo in La Paz, Madre de Dios, Manuripi and Federico Rom?n, in Pando, Vaca Diez in Beni and Nuflo de Ch?vez in Santa Cruz.

93. These miners often experience high mobility, especially in alluvial mining, as they follow cooperatives to work on their tailings. Once a cooperative finds a gold-rich area, informal miners appear quickly causing tensions among both groups. Barranquilleros/as also find their own places outside the concessions of the cooperatives, staying for longer periods in the banks of rivers.

94. Some of these activities are promoted by producer associations, joint ventures, and individual companies (with national and foreign capital mostly from China, Brazil, Colombia, Peru) which is not allowed by Bolivian legislation and are normally not concerned with issues related to environmental protection, occupational health and safety, and normally evade the payment of taxes.

95. It is worth noting that in Pando and Beni the *balseros* and *carrancheros* constitute collective mining production units, as they are made up of two, three or even four partners.

96.Individual and collective miners who are organized under these structures do not have any mining rights to support their activities, and in 2014, at least 1,000 operators were in this illegal situation[38][38].

97.A general overview of the classification of ASGM miners in Bolivia can be found in Figure 11.

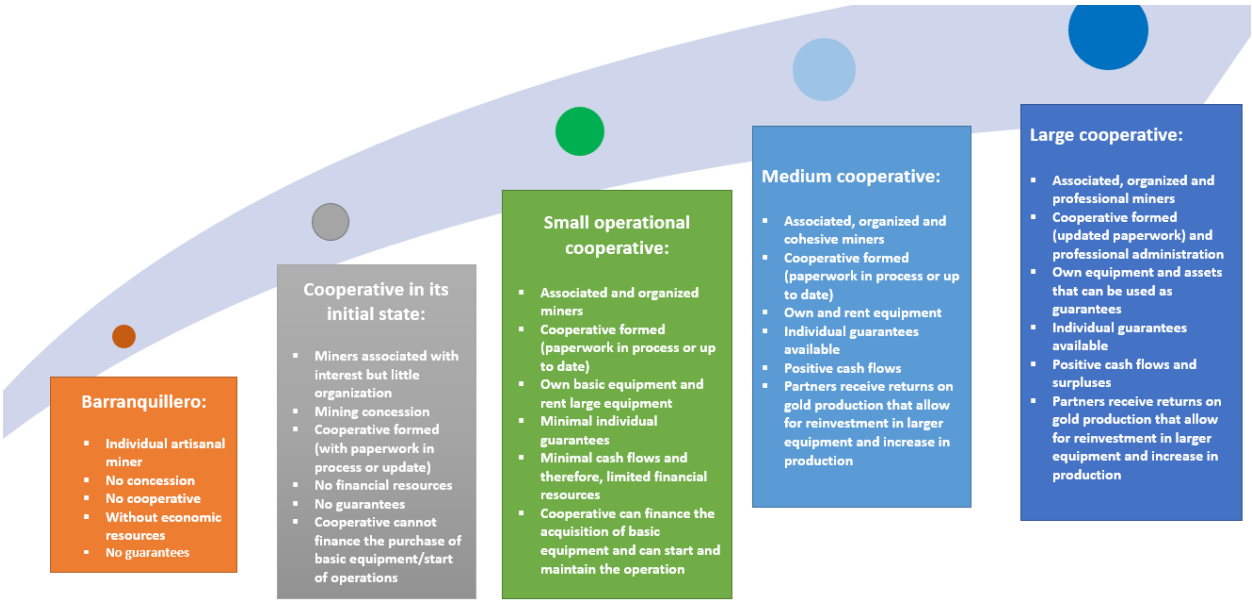

Figure 11. General classification of ASGM miners in Bolivia. Source: Prepared by project team

2.5 Financial sector and ASGM

98. Since the implementation of technologies to grant microcredit in Bolivia in the 1980s, significant progress has been made in the universalization of formal financing to all persons in the country. Bolivia has been a forerunner in the world by allowing the regulation of microfinance entities in the 1990s. Bancosol, established as a bank in 1992, was the first regulated microfinance entity globally.

99. The Bolivian financial sector is composed of a formal sector regulated by the Financial System Authority (*Autoridad de Supervisi?n del Sistema Financiero*, ASFI), a semi-formal sector, and an informal sector.

100. Since 2007, the Bolivian financial system has significantly increased service points in the country. Considering only the branches and agencies, there is an increase of more than 4 times, from 867 in 2007 to 3,649 as of September 2020.

101. The Authority of the Financial System in Bolivia (ASFI) uses the Economic Activity and Credit Destination Codes (*C?digo de Actividad Econ?mica y Destino del Cr?dito*, CAEDEC) to classify activities of credit customers and type of financial product used.

102. The ASGM sector falls currently under a generic classification (Group D: Extraction Activities). This implies that it is quite challenging to obtain specific information related to access to finance from the ASGM sector.

103. **State-led initiatives** related to access to finance and mining can be found below:

Support Fund for the Reactivation of Small-Mining (*Fondo de Apoyo a la Reactivaci?n de la Miner?a Chica*, FAREMIN)

104. The Support Fund for the Reactivation of Small Mining ? FAREMIN, is a decentralized entity, with legal personality, autonomy of administrative, technical, financial, and legal management, with its own assets, under the supervision of the Ministry of Mining and Metallurgy, responsible to promote and finance small mining.

105. FAREMIN was envisaged to manage and administer the economic resources that come from the State through reimbursable financing used as a Revolving Fund, as well as other resources from national or foreign private organizations and institutions. Currently, the entity is not in operation and therefore, not relevant for ASGM in the country.

APEMIN II:

106. The APEMIN II project (2004-2010) funded by the European Commission and implemented by the Ministry of Mining and Metallurgy included a financial mechanism with USD 11 Mio contributed by the European Union and USD 2 Mio from the Bolivian State.

107. The resources were granted as loans to the traditional mining cooperatives and had to be returned through a contract and payment plan to the municipalities in which these cooperatives were located.

108. The financial mechanism was not conceived to contribute to the development of the mining sector but to reduce migration and hence, did not achieve results that allow to draw lessons on how to increase access to finance in ASGM.

Financing Fund for Cooperative Mining (*Fondo de Financiamiento Minero*, FOFIM)

109. The FOFIM is a decentralized non-bank public law entity under the supervision of the Ministry of Mining and Metallurgy created by Supreme Decree No. 0233 in 2009, with legal status, autonomy of administrative, technical, legal, and financial management, with its own assets, whose purpose is to grant development loans and technical administrative assistance throughout the production chain in favor of the mining cooperatives.

110. It started with USD 13 Mio to finance machinery for mining cooperatives. Until mid-2020, it had granted disbursements of USD 28 Mio in eleven years of operation, just over USD 2.5 Mio per year with a minimum amount of USD 100,000 per loan.

111. However, the entity lacks the necessary resources to operate continuously over time and reach the substantial demand of credit of mining cooperatives.

112. Although the credits are quite attractive in terms of conditions, obtaining funds is complicated from the perspective of the cooperatives, and the current default rate is around 50%.

113. Additionally, this entity went through a crisis in 2016-2017 and is still recovering from it nowadays.

114. Looking at the **private sector initiatives**, most of the intermediary financial entities (*Entidades de Intermediaci?n Financiera*, EIF) consider the ASGM sector high risk and unattractive[39][39].

115. Nevertheless, some entities have a small credit portfolio directed to the ASGM sector in Bolivia[40][40]. However, the credits are not granted to cooperatives but to individuals. The cooperative members, asalariados[41][41], barranquilleros and rescatadores can receive up to USD 20,000 in the form of microcredit[42][42] and on many occasions in the form of consumer credit[43][43], however only if they can demonstrate that they have an additional source of income other than gold mining.

116. To access these funds, which have higher interest rates (approximately 20% per year), the individuals should: (i) have home stability; (ii) demonstrate a second source of income and (iii) provide their own guarantee (for micro-credits) or real estate mortgage guarantee (for funds over 20,000 USD).

117. To date, there are no financial mechanisms that promote the use of mercury-free technologies or that incentivize environmental and social safeguards for the mining sector.

118. In Bolivia, there is only one ??green credit?? developed by the EIF Diacon?a with support of the Ecomicro Program by BID Lab, which aims to support farmers purchasing materials and equipment to implement climate change adaptation activities.

119. Consequently, gold miners obtain financing from other economic activities or from informal sources such as relatives or friends, gold buyers and mercury suppliers or informal lenders. In the last cases, financing comes as an advance payment for the gold provided and in disadvantaged conditions in terms of interest rates and guarantees.

2.5 Gold supply chain

120. The role of intermediaries

121. Apart from the trading companies that export to the international market, there is a significant number of wholesale traders (*rescatadores* and *comercializadores*), who have great economic capacity to buy gold in cash. The miners take the gold personally to these buying centres, or these wholesalers have retail intermediaries deployed in the main gold production areas. The price they offer is quite attractive in relation to the international price, so sellers prefer to have cash on the spot and avoid export procedures and scrutiny of their financial statements.

122. Some studies show that the trading companies, once the purity discounts, retentions and administrative expenses are made, pay at least 95% of the international price of the day (determined by LBMA) and it is suspected that most likely they can offer this price due to the volumes of gold they handle.

123. These intermediaries supply many of the trading-exporting companies mentioned above, which then ship to the international market, while some trading-exporting companies have sub-sites in the production zones. The trading companies and wholesale intermediaries (Figure 12) are the main capturers of the gold produced by the mining cooperatives and other producers in Bolivia, and both maintain a high economic power, which even allows them to make loans and cash advances to the miners, on the condition that the miners later pay with the gold production. In many cases, small-scale producers become highly dependent on intermediaries for the economic factor, which undermines the competitiveness of traceable supply chain systems.

Figure 12. Gold supply chain in Bolivia [yellow arrows indicate gold flows and blue arrows indicate financing flows]. Source: Prepared by project team

Bolivian gold exports

124. Gold exports have gained importance in recent years (Table 3), standing at an average of 27 tons between 2014 and 2019. In 2019, gold became the main mining export, with a value of approximately 1.7 billion dollars.

Year	Bolivian gold exports (kg)
2014	33,793
2015	19,978
2016	19,297
2017	26,352

2018	28,851
2019	38,992

Table 3. Bolivian gold exports. Source: MMM

125. According to the nomenclature used by the Bolivian State, marginal gold is that which comes from marginal deposits exploited by mining cooperatives and other small producers. Marginal gold benefits from a preferential royalty of 2.5% on the gross value, while gold produced by medium or large mining companies, which do not exist at present, is subject to a 7% royalty on exports.

126. The main countries where gold was exported from Bolivia (2019) are: United Arab Emirates, India, United States of America, Hong Kong, and Italy.

127. Before 2014, the main destination of Bolivian gold was the United States, but due to investigations in gold trade, it was identified that gold imports were linked to money laundering, drug trafficking and other illicit activities in producing countries, such as Peru, Colombia, Ecuador, and Bolivia mainly. In response, the requirements of the U.S. market have become more rigorous in terms of traceability and documentation aspects In addition, it was reported that there are gold importing companies, mainly in India, that offer interesting benefits to capture the gold production of countries such as Bolivia.

128. The only three (3) mining cooperatives that so far have managed to export directly to the international market are those that achieved certification under the Fairmined scheme. None of these cooperatives are still certified or exporting directly.

2.5 Main technologies, practices and use of mercury in ASGM in Bolivia

129. Operations are differentiated by topography, the mining system employed, the degree of mechanization and the number of workers. A wide range of technical possibilities are used, from picks and shovels to heavy equipment for moving large volumes of ore.

Alluvial mining

130. Alluvial mining has developed large operations, although there are also those that have not exceeded the level of gullying. Large operations use heavy earthmoving machinery (tractors, front shovels, backhoes, dump trucks, etc.). They move large volumes of material (sterile and gold-bearing), which are generally "pushed" into the rivers after the gold extraction process. This practice is causing a serious environmental impact by silting up the rivers and altering their courses. The landscape is also altered by the destruction of fertile terraces and beaches. The earth movement capacity in some cases reaches up to 1,000 m^3/day, so that large areas of land, originally fertile, are transformed into chaotic piles of stones, whose subsequent recultivation is practically impossible.

131. For the separation of the gold from the gravel, sluices are used, after the coarse sterile material is discarded by classification, using trommels and static or vibrating screens. For gold

retention, stones (tojlla), high metal grids and mats are used. Under this technique, much of the fine gold is lost to the tailings.

132. The pre-concentrate from the sluices is normally gathered once a week, to be enriched afterwards through panning. The coarse gold is recovered directly with the pan, while the fine content is amalgamated with mercury. Amalgamation is done manually or also mechanically (using amalgamating drums, agitators and even mixers similar to small concrete mixers). In alluvial mining, mercury is not used in open circuit (directly in the trough). Instead, it is very common to burn the amalgam in the open air, losing all the mercury. Thus, a considerable amount of mercury is released into the environment. The same mining and treatment method is applied in the Suches area where fluvioglacial gold deposits and gold-bearing moraines are mined[44][44].

133. The dredges operating in the Madre de Dios River are another variant designed for small-scale gold mining of alluvial placers with fine and not too fine gold grains, allowing the exploitation of areas of the deposit that could not be reached by other systems. It would be practically impossible to access the gold-bearing sands present in the river bed without the help of suction pumps. The processing is carried out in the same pond and it does not vary in essence because it includes gravimetric concentration in a sluice and amalgamation of the concentrate, with all the implications that the use of mercury entails.

Cangall? mining

134. The operations that work on cangall? (gravel from ancient tertiary rivers, already in an advanced stage of geologic compaction towards hard rock conglomerate) are essentially a combination of alluvial and primary mining.

135. The material is extracted mainly by underground mining, using compressors, drilling machines and explosives to remove the hard (semi-consolidated) material. Galleries of considerable length (up to several hundred meters) are used to extract the cangall?-type gold ore from the rich paleo-bedrock. In many cases, even an entire mountain is collapsed (open pit), to remove the gold-bearing material by erosion caused by strong torrents of water, causing serious problems such as the mudification of rivers that run at the foot of the mountain and the destruction of landscapes. But generally, underground mining on cangall? works by extracting small quantities of rich material (a few tons per day).

136. Concentration for gold recovery is carried out in the same way as in quaternary alluvial mining, using sluices. In this type of operation, the use of mercury is not necessary because the gold is in relatively large (coarse) particles. There are a large number of operations that work gravimetrically. If it is not "open pit" mining, the environmental impact produced by this method of mining and beneficiation (which can be quite successful and rich) is comparatively low.

Primary mining

137. These work on primary deposits (hard rock), containing gold-bearing quartz veins, generally accompanied by metallic sulfides or their oxides. This type of underground mining is common in Yani, Illimani in the department of La Paz, also in the north of Potosi, Oruro and only one region in the east (Santa Cruz).

138. The use of explosives is common. Generally, the applied underground mining method does not advance systematically by cutting certain blocks, but rather the enriched zones are extracted, sometimes exploiting them in an extremely dangerous way (without leaving safety pillars and emptying large stopes) while the poor low-grade parts of the vein are left in place. The backfill system is very rarely used.

139. The processing of the material and gold beneficiation is carried out using different schemes. The most rustic is a manual combo crushing, followed by grinding in stone mills (*quimbaletes*), which can be done dry or wet. In the latter form, mercury is generally used in combination with grinding and amalgamation. The free amalgamated gold is then separated from the ground quartz using pans.

140. In mills or mechanized concentrator plants, jaw crushers, wheel mills (trapiches), hammer mills, ball mills and then one or more stages of concentration, which can be amalgamation plates, concentrating tables and eventually some jigs. Generally, the installed capacity of the mill cannot be fully exploited because the operation cannot supply the necessary load. It is very common to pour mercury directly into the milling equipment, to grind and amalgamate simultaneously in the same unit. Many mills that work in this way do not have a subsequent concentration stage; the gold is extracted as an amalgam from the same milling equipment. This is listed by the Minamata Convention as one of the "worst practices" and refers specifically to simultaneous milling and amalgamation (whole ore amalgamation) in open circuit.

141. The excessive use of mercury in primary gold mining in Bolivia is currently one of the biggest problems and requires an urgent and pragmatic solution. Due to the dynamics of the operation of the different milling equipment, most of the mercury is atomized forming the so-called "mercury flour", which is not useful for amalgamation. This forces miners to use more and more mercury, up to 10 times the amount of gold recovered by weight. Because almost no operation has an adequate mine waste disposal system, the floured mercury generated by milling goes with the tailings into the rivers.

Cyanidation

142. In the last decades in neighbouring countries, mainly in Peru, a process that has received an important boost in the field of small-scale gold mining is precisely cyanide leaching (in heaps, vats, columns and tanks with agitation systems), followed by zinc precipitation or the use of activated carbon, both for raw loads with fine gold content or tailings from gravimetric and/or amalgamation processes.

143. Some Bolivian gold mining cooperatives opted to work with foreign engineers and receive technical advice for the implementation of this technology in their operations. One of the cooperatives in the Department of La Paz that already has a leaching plant is the Cooperativa Minera Aur?fera 15 de Agosto, which has had positive results with this procedure. Although cyanide is used in a closed

circuit, if amalgamated tailings are leached, the mercury must be removed from the load before the leaching process and there must be responsible management of the solid and liquid waste resulting from the process. Issues that are still pending for mining operations that want to use this new processing system.

144. A high percentage of operations that exploit and treat ore in Bolivia and that apply the open circuit mercury method sell part of their tailings and residues with significant gold and mercury content to private cyanidation plants, thus generating additional income. These plants are mostly located in the municipality of Viacha, near the city of La Paz, and there are no more than ten (10) of them.

2.5 Academic and research institutions

145. Five (5) public universities in Bolivia offer specialities related to Geology, Mining and Metallurgy. Most of them are concentrated in the Western departments of the country:

? Universidad Mayor de San Andr?s (UMSA) in La Paz.

? Technical University of Oruro (UTO) in Oruro.

? Universidad Aut?noma Tom?s Fr?as (UATF) in Potos?.

? Universidad Nacional Siglo XX (USXX) in Llalagua.

? Universidad Aut?noma Gabriel Ren? Moreno (UAGRM) in Santa Cruz.

146. At the technical institute level, the Escuela Industrial Superior Pedro Domingo Murillo in the city of La Paz is dedicated to the training of technicians in metallurgy.

147. The Mining and Metallurgical Research Centre (*Centro de Investigaciones Minero Metal?rgicas*, CIMM), under the Bolivian Mineral Corporation (*Corporaci?n Minera de Bolivia*, COMIBOL), is another important center that has been certified by the Bolivian Institute of Metrology (*Instituto Boliviano de Metrolog?a*, Ibmetro) since 2015. The CIMM has geology, mining and concentrate plant laboratories and provides support for production development projects of mining companies. It also assists mining cooperatives in exploitation, enrichment, commercialization, and environmental protection processes.

148. All these higher education institutions have developed research related to the efficiency of gold mining processes and are permanently in search of projects or support programs. However, the research and studies carried out have not been widely disseminated and socialized to generate more sustainable changes and replication of lessons learned.

2.6 Indigenous people

149. In Article 5, the Political Constitution of the State recognizes the existence of 36 indigenous peoples in the national territory[45][45]. According to the last National Census of 2012, 41% of the Bolivian population over 15 years of age identifies as indigenous, belonging to one of the 36 constitutionally recognized peoples. Approximately 88.5% of the population, self-identified as indigenous, belongs to the Aymara and Quechua peoples, located mainly in the western Andes. The remaining 11.5% are in the lowlands (Chaco and Amazon) and the eastern slopes of the Andes. Regarding the indigenous population per sex, 50.5% are women, and 49.5% are men.

150. According to the Political Constitution of the State, indigenous rights have their own chapter, which includes fundamental issues such as prior consultation, autonomous indigenous territorial management, and participation in the benefits of the exploitation of natural resources in their territories.

151. There is a historical territorial overlap between the living spaces of indigenous peoples and mining activities (Figure 13). In gold mining, mainly in the West, most of the cooperatives are made up of representatives of Aymara or Quechua origin, closely linked to the mining activity since colonial times. In the case of the lowland communities, mining activity is relatively new and has been developed in their territories, generating conflict situations in recent years.

152. In recent years, there has been a significant increase in mining demands and operations, with a notorious expansion into new areas of gold potential, many of which coincide with indigenous territories (TIOC) and protected areas. As a result, conflict situations between indigenous peoples and gold miners, both legal and illegal, have increased significantly.

153. However, Mining and Metallurgy Law 535 regulates, from its sectorial scope of action, the form, scope, and procedures for prior consultation with the indigenous native peasant peoples, introducing the figure of the agreement between the requesting mining actor and the consulted actors, which will be countersigned by the Competent Authority (Ministry of Mining and Metallurgy). The agreement must lead to the signing of a binding Mining Administrative Agreement.

154. The agreement, as the purpose of the prior consultation, turns out to be a controversial issue, since the economic capacity of the mining actors, mainly gold miners, combined with the economic needs and limitations that characterize a large part of the indigenous native peasant population, entails the possibility of distortions in the consultation processes.

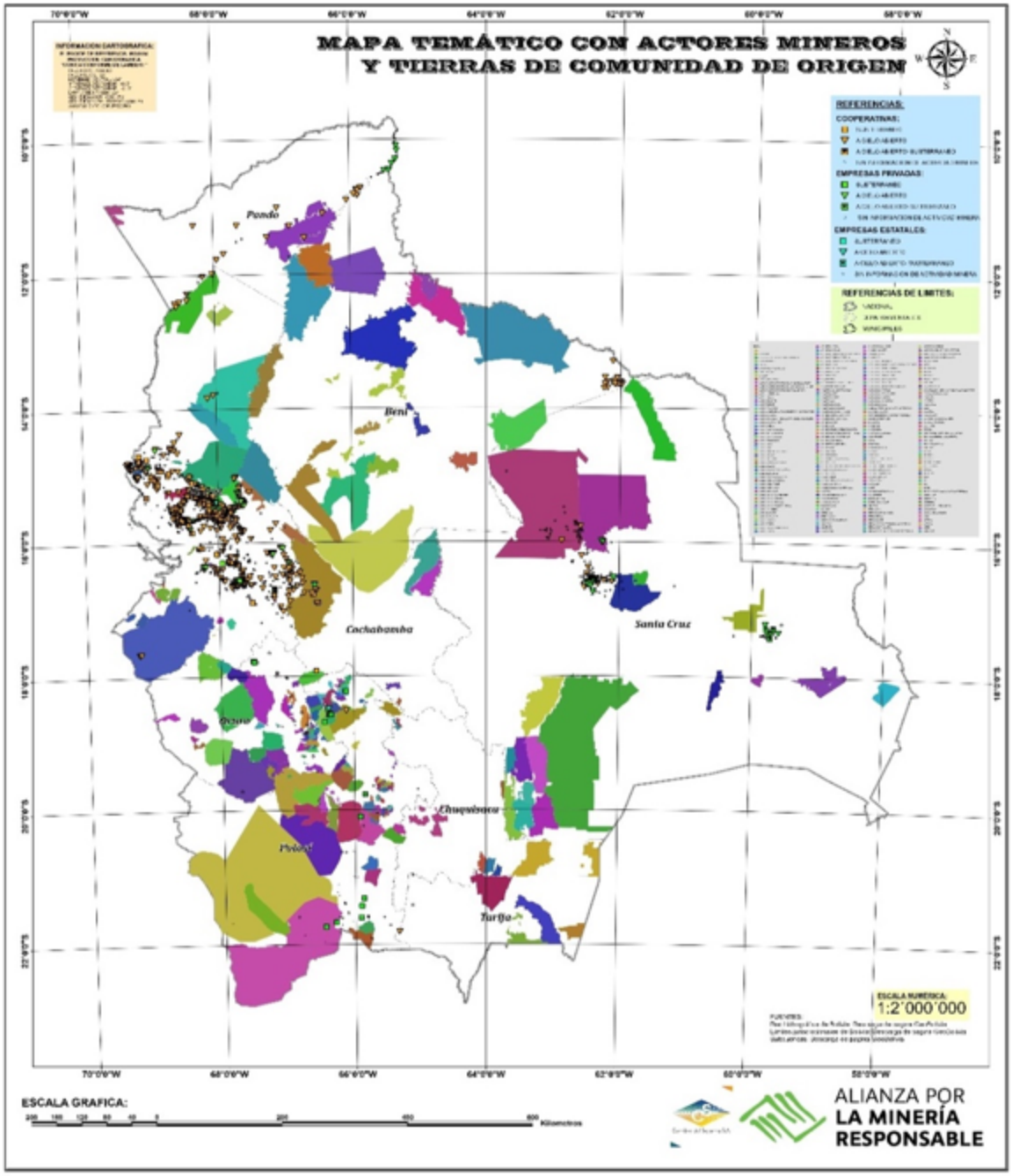

Figure 13: Mining actors and indigenous communities. Source: Zenteno, 2020

2.7 National and international initiatives supporting ASGM

155. Most of the initiatives supporting ASM in Bolivia were traditionally linked to the public sector, specifically the Ministry of Mining and Metallurgy but in recent years, many actors have developed and implemented other types of initiatives to generate a change towards a vision of responsible gold mining in Bolivia.

National Network of Women and Mining (Red Nacional de Mujeres y Miner?a - RNMM) (2000 ? currently):

156. RNMM is a movement of women linked to mining activities that was created to articulate and strengthen the work of women miners at the national level, enhancing their visibility and representation, improving quality of life, and preventing gender-based violence (GBV).

157. The network is comprised of women who are members of cooperatives, informal miners or barranquilleras and representatives from NGOs, academia, and other sectors.

Mining Reform Program (REFORMIN) (2002-2006):

158. Funded by the Canadian Development Cooperation with the objective of training mining cooperatives, including gold mining cooperatives, on environmental, management and trade-related aspects.

APEMIN II (2004-2010):

159. Program to Support Sustainable Economic Development in the Impoverished Mining Areas of Western Bolivia funded by the European Commission and implemented by the Ministry of Mining and Metallurgy. It aimed at reducing the migration of disadvantaged miners to areas linked to coca production.

160. The program included five main components: Creation of viable mining jobs; creation of alternative employment; regional development; municipal strengthening; and protection of vulnerable population.

Employment for Mining (EMPLEOMIN) (2010-2015):

161. Funded by the European Union as an extension of the APEMIN project to contribute to the economic, social, and environmental development of the mining areas in Bolivia, expecting the following results: (i) improved productivity in mining areas according to social and environmental responsibility criteria; and (ii) financing initiatives to improve working conditions, competitiveness, and environmental adaptation in the ASM sector.

162. Fourteen (14) municipalities in La Paz, Oruro and Potos?, were prioritized as areas of intervention.

Support for certification of mining organizations in Bolivia and Colombia (2013-2016):

163. Funded by Chopard and implemented by the Alliance for Responsible Mining (ARM), the project worked towards improving practices in artisanal and small-scale organizations in the Andean countries.

164. In Bolivia, the project worked closely with the gold mining cooperative 15 de Agosto.

Improving the social, economic, and environmental performance of ASM in Latin America and the Caribbean (2013-2018):

165. Funded by the Inter-American Development Bank via the Multilateral Investment Fund (MIF) and implemented by the Alliance for Responsible Mining (ARM), the project supported the development of market incentives and the formalization of artisanal and small-scale mining.

Better Gold Initiative (BGI) (2013 ? currently):

166. The BGI is a public-private partnership between the Swiss State Secretariat for Economic Affairs (SECO) and the Swiss Better Gold Association (SBGA) implanted through the consultancy firm Projekt Consult.

167. The project seeks to support artisanal and small-scale miners in achieving standards that enable them to sell their production at fair prices to buyers that value compliance with environmental and social requirements. The end goal is that artisanal and small-scale mining becomes an engine to generate better living conditions and sustainable development.

168. The initiative is entering its third phase (2021-2026) and will focus on support and close coordination with government entities at all levels to promote and encourage public policies for responsible mining.

Environmental Social Support Program for Responsible Mining (2015 ? currently):

169. Depending on the Departmental Autonomous Government of La Paz through the Departmental Secretariat of Mining, Metallurgy and Hydrocarbons, the program has supported gold mining cooperatives through advisory programs, training, events, workshops, seminars, and others, to promote responsible ASGM.

Mercury reduction in gold processing plants in Andean countries (2016-2018):

170. Funded by the US Department of State and executed by the Artisanal Gold Council, the Alliance for Responsible Mining and the Colorado School of Mines, the project worked to reduce the use of mercury in two (2) mining sites.

Project ??Capacity Building to Reduce the Impact of Mining in the Polylepis Forests of Apolobamba, Madidi, and Pilon Lajas Protected Areas of Bolivia?? (2016-2018):

171. Funded by the Critical Ecosystem Partnership Fund (CEPF) and implemented by Wildlife Conservation Society with the following expected results: (i) baseline of mining activities and integrated monitoring programs and environmental action plans for protected areas; (ii) representatives of mining operations, leaders and park rangers trained; (iii) protected areas committees strengthened; and (iv) pilot experience in the application of good practices.

Project ??Favorable political environment for responsible artisanal and small-scale gold mining in Bolivia?? or Qori Suma (2016-2020):

172. Funded by the Government of the Netherlands and implemented by Solidaridad Network in partnership with Cumbre del Sajama S. A.

173. The project focused on three (3) main lines of actions: (i) generation of spaces for dialogue for women miners to exchange experiences and information; (ii) promote responsible mining with a gender focus, to empower women to generate their income; and (iii) create integral small-scale mining platform (PIM) to generate collaborative information among its members and to connect supply with demand for responsible gold.

Project ??Integrating Environmental Best Practices into Mining Operations in the Madidi - Pilon Lajas ? Cotapata Conservation Corridor of Bolivia?? (2018-2020):

174. Funded by the Critical Ecosystem Partnership Fund (CEPF) and implemented by Wildlife Conservation Society with the following expected impacts: (i) improved capacities in protected areas; (ii) pilot experiences to apply best practices; (iii) mining operators and park rangers trained; (iv) strategy and public policy to promote responsible mining and (v) provide support to build a network of organizations working in responsible mining.

Inter-Institutional Group on Responsible Gold (Grupo Inter-Institucional de Trabajo en Oro Responsable ? GIT OR) (2018 ? currently):

175. The GIT OR was created to join efforts and create synergies among its members to increase the potential to build a responsible ASGM sector.

176. The Group regularly shares information and knowledge generated among its members that contribute to formalization via government agencies and productive actors. It currently consists of 11 entities[46][46].

Mining Agenda (*Agenda Minera*) (2018 ? currently):

177. The Agenda Minera program is a private initiative that disseminates of information for the gold mining cooperative sector. Led by two cooperative miners, the program showcases changes and improvements in gold mining among cooperative members and miners.

Promoting mercury-free practices to improve the sustainability of artisanal gold mining as a viable livelihood (2020-2022):

178. Funded by the CISU the project is working in the municipalities of Sorata and Guanay where activities are being carried out to achieve (i) productive transformation; (ii) human resources development; and (iii) shared responsibility, to achieve a greater mercury reduction in the ASGM sector.

CADD: Consolidated Autonomous Due Diligence (2019-2021):

179. Funded by the European Partnership for Responsible Minerals (EPRM) and executed by Affinor, Barksanem, BetterChain and Power Resource Group, this project focuses on gold and tantalum in Bolivia and Burkina Faso.

180. The CADD Project consists in the development and pilot deployment of an open-source, public framework for upstream supply chain stakeholders to operationalize requirements from the OECD Due Diligence Guidance.

Plataforma Integral de Peque?a Miner?a (PIM)

181. Collaborative platform created in 2016 by the NGO Solidaridad with funding from the Government of the Netherlands that integrates information and connects artisanal and small-scale mining stakeholders in Bolivia, Colombia, Ecuador, and Peru.

Landscape approach-related initiatives

182. In Bolivia, initiatives under the landscape approach arise and are developed on issues related to biodiversity conservation, such as the Ambor? - Madidi Ecological Corridor[47], which is promoted by institutions such as Wildlife Conservation Society (WCS), Conservation International (CI) and World Wildlife Fund (WWF).

183. It is an inter-institutional effort to reconcile social, economic, cultural, ecological and environmental objectives in an area of high ecological connectivity and where protected areas become the axis of landscape management. It is based on an integrated, holistic, multi-actor, multidimensional, multi-sectoral management approach to the territory, its stakeholders and institutions.

184. There are no specific references to pilots of jurisdictional approach. However, there are experiences of integrated territorial management in which the role of subnational public institutions. Some of these experiences include Basin Master Plans, Land Management Plans and the creation of associations of municipalities for different purposes.

185. Some of these initiatives include:

- ? Madidi-Tambopata Great Landscape (1999): The program aimed at strengthening the link between protected areas and other territorial management units (communities, indigenous territories, municipalities), supporting integrated planning processes and the development of territorial management capacities.

- ? Northwest Bolivian Andes Landscape Conservation Area (2001): The initiative established baseline and monitoring for landscape species, facilitated community-based management, strengthened national institutional capacities and developed an action plan for landscape conservation.

? Great Conservation Lanscape Kaa Iya ? Defensors of the Chaco (2020): binational conservation strategy that is expected to advance the climate change agenda, avoid deforestation and environmental degradation increasing the capacity and resilience of local and indigenous populations.

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

186. The Project *??GEF GOLD+ Bolivia: Improving formalization and mercury reduction in artisanal and small-scale gold mining in the Plurinational State of Bolivia??* represents a vital opportunity to promote the transition of ASGM towards a more responsible sector.

187. The following section explains how the project will lead to an alternative scenario to the current context experienced by the sector at the national level. To this end, the foreseen outcomes, outputs, and activities expected in the next five (5) years are presented graphically below in the Theory of Change (Figure 14) and explained in subsequent paragraphs.

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

189. The integrated approach proposed responds to and reflects the Programme Theory of Change (ToC) by designing interventions that focus on the mentioned barriers preventing the uptake of responsible mining technologies and practices.

190. The ToC is based on the problem tree that outlines the root causes and barriers of the existing environmental problems in ASGM in Bolivia highlighted in the previous section. The project outputs are structured to target one or more root causes of mercury use and negative impacts on the human health and the environment. The logical pathways between the outputs and outcomes are shown with arrows connecting the boxes.

191. If the outputs are completed successfully THEN the project will reduce mercury use in ASGM and the negative impacts on health and the environment because increasing formalization in the ASGM sector through jurisdictional approaches, increasing investment through access to finance and responsible supply chains, increasing uptake of mercury-free technologies and improving knowledge and skills of local actors will drive formalization and responsible mining practices that will reduce mercury use and realize environmental and human protection outcomes.

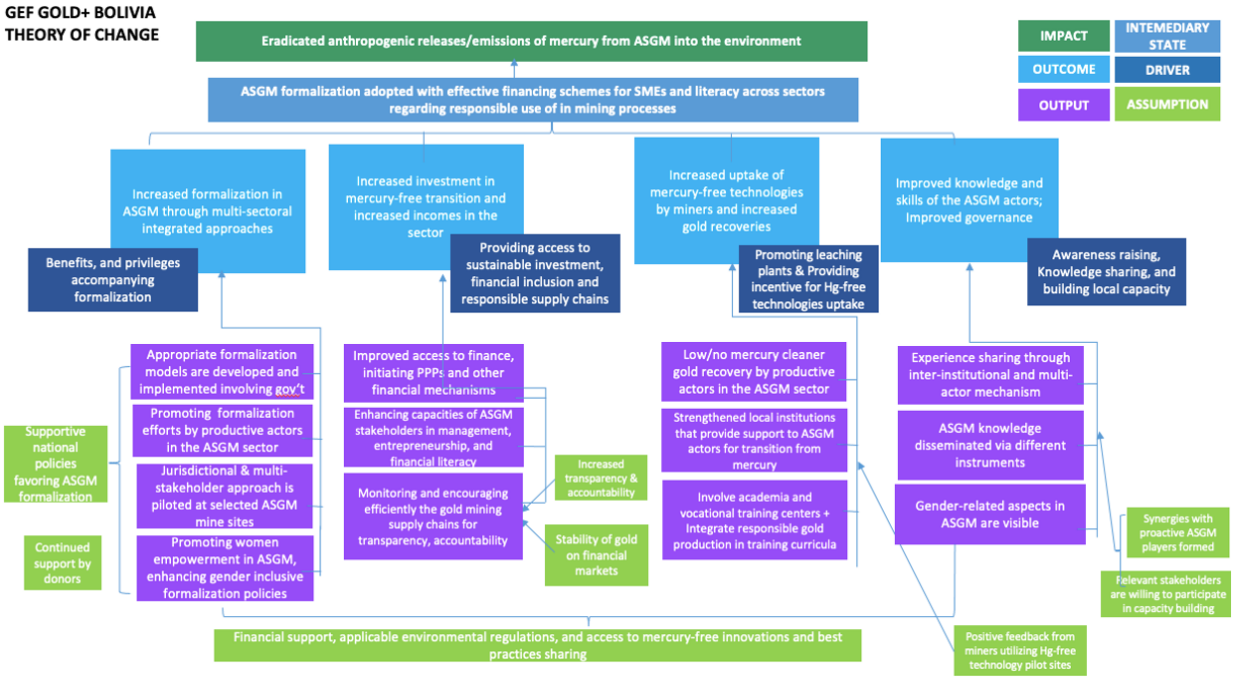

Figure 14: Theory of Change, GOLD+ Bolivia

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

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

Component 1. Enhancing formalization in the ASGM sector

193. As stated in the baseline section, in Bolivia, there are no specific policies or regulations aimed at promoting formalization processes in ASGM. While the State has been designing some normative measures to increase the levels of formalization, the progress has been slow for both the State and the productive actors.

194. For this reason, one of the challenges to be tackled through the project is the internalization and practical application of formalization processes in the ASGM sector as the progress achieved will contribute towards a more responsible and efficient sector.

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

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

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

***Output 1.1.** State actors from central, departmental, and municipal governments linked to the ASGM sector have improved capacities to promote policies, programmes, regulations, and actions aimed at a greater formalization of the sector.*

197. The project will work closely with the Mining Administrative Jurisdictional Authority (*Autoridad Jurisdiccional Administrativa Minera*, AJAM) to improve the processes of granting mining rights by reducing administrative complexity and increasing transparency in order to contribute to the formalization of mining activities.

198. An assessment on existing ASGM policies, including permits, taxation, labour, environment, and gender-related aspects will be carried out and recommendations will be made. As a result, an ASGM policy document will be drafted with the participation of the mining actors and competent institutions involved to propose legislation amendments or mechanisms to achieve a greater formalization.

199. There are regulatory gaps to be addressed such as the compliance with environmental regulation, relations with communities and prior consultation, adjustments in the procedures for granting mining rights, regulation for the treatment of illegal mining activity, definition of the scope of compliance with the nature and character of cooperatives in the development of mining activities, control of gold production and commercialization, regulation on the scope and characteristics of marginal deposits, among the main ones. Mercury-trade and gender-related aspects will also be considered.

200. The process of producing the policy document will be participatory, inclusive, and comprehensive with the participation of all relevant stakeholders including community representatives, experts, and officials from all the relevant Government institutions. Gender mainstreaming will be included at the policy-formulation level to ensure that women are part of the process, and their interest and concerns are accounted for in ASGM related policies (in line with the work to be done under output 1.4).

201. A capacity building programme will be developed to strengthen technical and institutional capacities of public stakeholders to undertake formalization processes.

202. Capacity building activities based on the programme will then be carried out for civil servants from the main institutions responsible for formalization in ASGM.

Output 1.2. *Productive actors in the ASGM sector as well as the parent organizations and federations strengthened to promote formalization processes in the sector and its productive activities.*

203. A tool will be developed to measure the formalization status and progress of mining cooperatives. During the project lifecycle, 30 ASGM organizations in the selected mining areas will apply this formalization analysis and measurement tool.

204. Capacity building events will be conducted for ASGM leaders of federations and mining cooperatives to support them in the formalization processes.

205. Capacity building events will be conducted for ASGM organizations in the selected mining areas to increase skills and awareness regarding formalization.

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

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

207. The program will support the planetGOLD Bolivia project via webinar series, topical presentations, tools and methodologies workshops and product review and consultations with CI?s JA

experts. Based on the activities planned under GOLD+ global project (GEF ID 10606), planetGOLD Bolivia intend to participate in JA Tier 2 level[48][48].

208. Implementing jurisdictional approaches as a framework for structuring interventions is generally associated with certain challenges (limited public sector capacity, lack of broader support and initiatives and others). To overcome these challenges, the jurisdiction prioritized should have the pre-conditions in place needed for a successful pilot.

209. Based on a set of political, technical, administrative, environmental, and social criteria, mining jurisdictional landscapes (MJL)[49][49] were defined and analysed during the project preparatory phase (Table 4). Each MJL was rated according to these five (5) aspects on a scale from 1 to 10 expressing the conditions needed to pilot a jurisdictional approach. The highest ranked MJL are the recommended to pilot the JA.

MJL	Political aspects	Administrative aspects	Technical aspects	Environmental aspects	Social aspects	TOTAL
Illimani	8	8	7	7	4	34
Sorata-Yani	7	8	6	7	5	33
San Ram?n	6	7	6	6	6	31
Larecaja Tropical	6	5	6	4	6	27
Suches Pelechuco	6	5	5	6	4	26
Madre de Dios	5	4	6	4	5	24

Table 4. MJL analyzed during project preparatory phase. Source: Prepared by project team

210. Traditional certification schemes generally focus on improving the production processes of one business at a time, which greatly limits the scale at which environmental and social benefits can accrue. A key advantage of the jurisdictional approach is that by having an entire subnational jurisdiction on a clear path to sustainability, supply chain managers and investors can avoid the scale limitations of a ??mine by mine?? approach. In the case of the ASGM sector, once an entire subnational jurisdiction ? including both operators and government ? has committed to conforming to agreed standards and targets, all miners within the jurisdiction can capture the sourcing and investment benefits.

211. While the integrated nature of the jurisdictional approach is its strength, it also puts substantial demands on those interested in putting it into practice due to the diverse components and skillsets required. While there are a variety of frameworks and process guidance for each, most have certain commonalities that constitute the essential elements for successful implementation.

212. The themes that will be included in this project jurisdictional approach curriculum and global expert group in charge of each are:

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

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

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

Output 1.4. *Women?s capacities to exert their rights are strengthened and a public policy agenda is generated towards formalization, gender equality and women empowerment.*

213. Women miners are often less formalized due to the invisibility of the activities they conduct in artisanal and small-scale gold mining.

214. It is necessary to have accurate and representative data about women in ASGM in the selected areas of work, especially considering that since the COVID-19 pandemic, the number of women involved in the sector has increased considerably.

215. The gender analysis will acknowledge and incorporate the concept of intersectionality[50][50] and will ensure that the specific needs of sub-groups (particularly those most vulnerable) have been considered (e.g., girls and boys, women and men with disabilities, elder men and women, widows).

216. A socioeconomic baseline of women miners in the selected areas will be developed with relevant information to guide informed decision-making on gender-related aspects. Once this information is available, it should be disseminated at the national and international level to raise awareness on the key challenges and opportunities of women miners in Bolivia.

217. The starting point should take place at the local level in the mining municipalities giving visibility to women cooperative members and individual workers. Local governments will receive knowledge products from the project that emphasize the importance of gender equality in the ASGM sector.

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

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

220. Capacity building events will be organized to lead to the establishment of three (3) women miners? organizations.

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

221. As stated above, the high risk and informal nature that characterizes the ASGM sector are among the main barriers to access financing in Bolivia. Few experiences related to financing small-scale mining have taken place in the country and therefore, the project will aim at designing innovative mechanisms to improve access to financing and improving the capacity and awareness on the ASGM sector and financial education for public and private entities, mining cooperatives and individuals.

222. The project also emphasizes the need to put in place better conditions to improve control and traceability as the current context stimulates smuggling and tax evasion. A more responsible and transparent gold supply chain will result in greater economic and social benefits for the areas where the activity takes place. For the State, revenues will increase through the collection of taxes. For the miners and their families, responsible and transparent supply chains will reduce the discretion and illegality with which some commercialization companies currently operate and reduce smuggling or sales "under the table". As an indirect consequence, it has also the potential to positively reduce informal mercury trade as the same actors are often involved in both mercury and gold trading.

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

Output 2.1. *Public and private funding bodies strengthened to increase support to ASGM and complementary financial mechanism implemented.*

223. Capacity building activities will be organized for the relevant State authorities that could potentially be involved in improving access to finance for ASGM (Ministry of Mining and Metallurgy, Ministry of Economy and Finances, FOFIM and others).

224. Regarding the activities linked to FOFIM, the project will strengthen its credit assessment technology, consolidate its institutional capacity, and support the identification of possible sources of funds.

225. The project will work jointly with the Ministry of Mining and Metallurgy in requesting the Authority of the Financial System in Bolivia (ASFI) the creation of a specific Economic Activity and Credit Destination Code (CAEDEC) for gold mining activities to ensure information on gold

cooperatives accessing the formal financial sector and its products is available and can be used to define policies that increase access to formal finance in ASGM.

226. To increase financing directed to the ASGM sector, the project will foster exchanges between the Bank Union, Productive Development Bank[51][51] and other State institutions through the organization of meeting to assess joint opportunities to increase financing to the ASGM sector.

227. The project will seek to engage social investors and gold buyers through participation in socially responsible financing sessions, workshops and technical forums linking miners to potential financiers and buyers.

228. Innovative schemes such as accepting alternatives guarantees (i.e., warrants and future contracts) or the possibility of having specific actors in the supply chain becoming withholding agents for the payment of credit instalments will be closely analyzed with the ASFI and the Ministry of Mining and Metallurgy.

229. The project will also promote capacity building activities with financial institutions to increase their understanding of the ASGM sector and promote the development of a portfolio of financial products and related infrastructure for the sector. Case studies, best practices and financial products and services provided in other countries will be showcased. Similarly, experiences from the agricultural sector will be shared to showcase how credit technologies for specific sectors can translate into low default rates.

230. During the project preparatory phase, the main current types of credit mechanisms (business credit, small medium business credit, microcredit, housing credit, consumer credit, credits to the agricultural sector) as well as the existing strategies to meet the demand of the productive sectors in Bolivia (Communal Financial Entities, Public Banks, State Banks, regulations for financial entities, credit technologies for the agricultural sector, regulation of non-conventional guarantees and public funds for the gold sector) were analyzed.

231. Following a consultation process consisting of 32 interviews with the main stakeholders related to access to finance and ASGM in the country, two (2) complementary financial mechanisms (including a women friendly financial mechanism) are proposed.

232. Due to their high flexibility, trust mechanisms[52][52] could be set up in banking entities for the following purposes:

? Subsidy for opening new agencies of financing entities in high-potential gold mining production areas with a low financial supply[53][53];

? Credit for different segments based on the financing needs identified in the preparatory phase: (i) rudimentary barranquilleros/as and asalariados/as (up to 10,000 USD); (ii) advanced barranquilleros/as and small cooperatives (20,000-50,000 USD); (iii) medium and large cooperatives (more than 50,000 USD);

? Guarantee fund that can guarantee up to the 50% amount for loans over 20,000 USD; or

? Seed capital[54][54] fund to promote new activities for women without mining vocation and initial cooperatives. These resources could also be used to promote the adoption by financial institutions of new credit technologies such as Self-Managed Savings and Credit Groups[55][55] for people who do not qualify for credit from financial intermediaries.

233. The conditions for the loans will be set up by the trustor and might include the following: (i) Credit subjects must be part of the production chain; (ii) Development interest rates; (iii) Longer terms; (iv) Grace periods; (v) Flexibility in guarantees; (vi) Financing could be conditional on the adoption of mercury-free technologies or formalization processes.

234. The trustor or trustors will be the stakeholders with interest in promoting responsible ASGM and influencing the reduction of mercury use, gender equality and women empowerment (e.g., State, development agencies, companies trading responsible gold and others).

235. USD 30,000-50,000 have been identified through interviews with cooperative leaders and members during the project preparatory phase as the minimum amount needed to implement changes in mining operations. However, the exact amount will depend on the size and type of technologies used by the mining cooperatives which should be assessed in details during the inception phase of the project.

236. By raising financial resources of USD 4 million, an average amount of USD 40,000 could reach approximately 100 cooperatives prior to the reimbursement of the loans and further lending to other cooperatives. If the State is not able to allocate the initial funding, the trusts proposed above are expected to motivate the private sector through incentives to direct resources to ASGM.

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

237. One of the pre-conditions to access financing is for the cooperative members and individual miners to qualify as credit subjects. For that purpose, capacity building will be carried out by developing and implementing training programs on financing, accounting and other topics providing miners the tools not only to access the finance but also to successfully execute their business plans to create a sustainable and more profitable mining operation.

238. The module targeting individual miners will include topics such as: (i) importance of the financial sector for the development of the sector; (ii) financial products and services, including

insurance; (iii) conditions and requirements to be a ?credit subject?; (iv) rights and obligations of financial customers.

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

240. Capacity building in entrepreneurship will be provided to allow women miners turn to alternative income-generating activities translating into economic empowerment. Alliances with entities specialized in the development of women's entrepreneurship will be explored.

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

241. Interventions along the supply chain will be performed to raise awareness on the benefits of responsible mining and increase commitment to these.

242. To achieve this output, the following activities are proposed:

? An in-depth assessment of the gold supply chain in Bolivia including the current tax system, production limits and barriers for direct export will be undertaken;

? Support the modernization and improvement of SINACOM[56][56] for adequate traceability and control of sales and contribution of mining royalties;

? Explore and design two (2) initiatives to incentivize responsible sourcing of gold with increased transparency in the country together with the public and/or private sector; and

? Set up traceable supply chains, either through mining organizations directly or with the support of trading companies to support the sale of responsible to formal markets.

243. The feasibility of implementing a gold buying program with the Central Bank of Bolivia will be explored based on the lessons learned from other State Gold Buying Programmes. One of the priorities of the Government is to strengthen the international reserves contributing to a stable exchange rate. Given the importance of the sector in Bolivia and the experiences in other countries, this activity presents a transformative potential that will be assessed.

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

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

246. In line with the objective of the programme, the project will apply the planetGOLD Criteria for Environmental and Socially Responsible Operations[57][57]. The programme will assist country projects to access existing training modules and resources to implement these criteria.

247. To achieve this outputs, close coordination will be required with the responsible government bodies, such as SENARECOM[58][58], National Customs and other relevant stakeholders through regular information exchange and consultation.

248. It is also essential to involve the private sector in the creation of alliances with responsible commercialization companies that could capture the gold from specific mining organizations that have made progress in the field of mercury reduction and formalization, which could lead to a traceability programme.

Component 3. Enhancing uptake of mercury-free technologies

249. The reduction of mercury use in ASGM in Bolivia is undoubtedly the central contribution that the project aims to achieve. Promoting alternative technologies or adapting those currently implemented represents an important step towards compliance with the Minamata Convention and the reduction of the social and environmental impacts generated by the sector, which have been constantly highlighted in recent years.

250. The project proposes the reduction or elimination of 18 tons of mercury in the course of the five (5) years of implementation, a goal that will only be possible to achieve if technological changes are undertaken in the current production processes combined with a conducive framework. However, to promote technological change, the project proposes an integral approach and practical application in specific mining sites, where the necessary financial, regulatory, political, technical, knowledge management and formalization aspects will be considered (refer to section 7).

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

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

Output 3.1. *Productive actors in ASGM are strengthened to implement technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery.*

252. After the inception phase, the mining areas where the project will operate will be confirmed, and similarly within these areas, the actual mining sites.

253. It is foreseen to work with eight (8) pilot operations extracting primary hard rock deposits (i.e., where mercury emissions are highest). Tentatively, the project aims to reduce mercury by eliminating whole ore amalgamation in six (6) operations. In parallel, two (2) cooperatives will benefit from the project support to replace amalgamation with cyanidation. Some cooperatives are already

implementing cyanidation in the country but in a precarious manner. Hence, there is a strong need for the necessary and adequate technical capacities to operate and maintain these operations and the related tailings in an environmentally and socially sound way.

254. The project will seek to develop models that (i) are applicable to different levels of ASGM operations in terms of financial and technical capacity as well as (ii) achieve higher gold recoveries.

255. Actions to eliminate ??cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury?? will be considered.

256. The project will provide the technical assistance required by each of the pilot operations, which will include among others formalization, traceability, trade, occupational health and safety in order to strengthen the overall capacities of ASGM cooperatives.

257. The pilot processes will be systematically documented for dissemination and awareness raising so that other mining operations can replicate the lessons learned and benefit from the knowledge generated. The goal is to amplify the technological options for less or no mercury use. It is envisaged that at least ten (10) mining operations will replicate the experiences and thus implement new cleaner technologies during the project lifetime.

258. The implementation of new technologies requires a significant number of trained personnel, both ASGM operators where the technologies are applied, and personnel from other operations where there is the expectation and potential to do it in parallel or at a later stage. In this sense, the project will train cooperative members and workers in mercury-free technologies and occupational health and safety (OHS).

259. The unequal access to resources, including technology, and the fact that most women are involved in the processing stage can translate into negative impacts for women due to the introduction of new technologies.

260. A gendered impact assessment of the introduction of new technologies including mitigation measures for the displacement of vulnerable population will be conducted for the project. Alternative livelihoods strategies will be considered for those cases in which mercury-free gold mining technologies might pose a threat to eliminate sources of livelihoods.

261. The gender analysis confirmed that a high percentage of women use mercury in gold recovery, especially in the informal activities. The vast majority carry out this work with rudimentary and basic technologies, posing a greater health risk for them and their families and without any training or resources to invest in the necessary equipment for their health and safety. Therefore, some of the activities of this component will be the introduction of tools that reduce health risks for women miners.

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

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

263. During the implementation of the project, two (2) large-scale events will be held to bring together buyers and suppliers of services and equipment in technologies that use less or no mercury.

264. There is an important demand from mining operators due to the currently limited access to mining equipment, which offers greater recovery efficiency and less polluting impact.

265. These events will be an important catalyst for the active participation of the private sector in the project.

266. Based on these events, a directory of suppliers of equipment and clean technologies for gold recovery will be developed and disseminated.

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

267. The project will seek to strengthen and involve academic institutions such as universities, research centers and institutes with mining operators, to help improve or complement the curricula on improved technology and issues related exclusively to small-scale gold mining and all its technical, economic, environmental, and social implications.

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

269. One (1) clean technology research center and the existing curricula will be strengthened with ASGM specific knowledge.

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

271. Collaboration between technical institutions and miners? cooperatives will be explored to involve trainers from the host communities and associations. Onward peer-learning and experience exchange among miners will have scaling up effects on technology uptake.

272. Six (6) diploma courses in responsible gold production for ASGM will be developed in academic units and people will take part on these courses during the project implementation if timeline allows.

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

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

274. The project will build on existing efforts already present in the country through public sector, the GIT OR, the RNMM and the Program Agenda Minera, among others.

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

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

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

276. This output includes the following activities:

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

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

? Identify and build capacities of local partner (GIT OR, RNMM, other) to host a sustainable exchange mechanism for the ASGM sector in Bolivia; and,

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

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

278. The information and documentation gathered will also be made available through the planetGOLD webpage for Bolivia.

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

279. Given the general negative public perception of the ASGM sector, it is essential to disseminate information on the sector's progress in formalization, mercury reduction, gender equality, and good environmental practices. As a result, the general public can learn about the challenges, efforts and positive results achieved by the sector and this project in particular.

280. Furthermore, capacity will be built at the local level through in-person and online education events as well as digital marketing tools to support the traditional workshop and training models helping to institutionalize responsible mining methods at the community level. If online tools are not available or applicable to the selected mining sites, suitable approaches will be defined.

281. The project will work closely with the public sector, existing networks such as the GIT-OR and the RNMM and other relevant actors to generate awareness and knowledge in ASGM.

282. The following activities are proposed:

- ? Organize national and international events for miners in Bolivia related to responsible gold mining (symposiums, workshops, conferences, courses, campaigns and others, face-to-face as well as virtual);
- ? Organize capacity building and awareness raising events at the jurisdiction level;
- ? Document and disseminate the lessons learned and information produced as a result of the pilot experiences implemented within the project and share these on the planetGOLD website[59][59], Global Forums and other global dissemination channels;
- ? Explore publishing the results of the project in peer-reviewed journals;
- ? Conduct media and information campaigns to inform the general public and key stakeholders about the challenges and progress present in the sector in Bolivia (1 per year); and
- ? Design certificates based on competencies in coordination with the Ministry of Education for technical formations of interest and importance for the ASGM sector.

283. In addition, the project will contribute to the PlanetGOLD program level communications through the following activities:

- ? Develop a project strategy for communications in alignment with the global communication strategy;
- ? Use PlanetGOLD country logo and brand assets for all communication materials;
- ? Adhere to the PlanetGOLD style guide and messaging guide in the production of external materials, adapting global messages to the national context;
- ? Share relevant visual assets in a timely manner with the global project for global promotion and dissemination;
- ? The project communication manager will participate in programme communications network, including regular calls, digital communication platforms, trainings and share relevant communication-related activities at country level;
- ? The project communication manager will attend Annual Program Meetings (APM) when held in concert with Global Forum (GF) and the communication network side meeting for the APM; and,
- ? Publish at least one original blog article per year and contribute to other news articles, events, photo essays, videos as materials to the program website.

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

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

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

? Subject consultants participate in regular knowledge exchange meetings/networks;

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

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

285. The project will also:

? Participate in virtual inception/implementation orientation with global program staff;

? Have the CTA attend bimonthly program coordination calls;

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

? Adopt stakeholder engagement strategy consistent with the program guidelines.

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

286. Some of the challenges and gaps identified in the gender analysis were related to the local capacity and knowledge. Women leaders are scarce as most of the women miners lack the knowledge and skills needed to represent other women and defend their rights. Networks of women miners should be strengthened to increase the knowledge base on gender-related aspects in ASGM.

287. Awareness raising was also identified as a mean to reduce barriers to equal opportunities and benefits in the sector.

288. Consequently, the following activities are proposed:

? Identify and strengthen women miners with potential for leadership to generate alliances among different municipalities;

? Promote exchanges among women miners from the Andean region to learn about formalization, access to finance and hg-free technologies; and

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

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

290. Knowledge products on gender issues in ASGM will be developed and communication tools and methods will be designed including the perspective of both men and women.

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

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

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

293. A specific objective within this program is reducing and eliminating mercury in the artisanal and small-scale gold mining sector. planetGOLD Phase 2 and this country project will contribute directly to this objective, building on the planetGOLD Phase 1 (GEF ID 9602).

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

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

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

296. The GOLD+ programme will provide incremental funding for the reduction of mercury use in ASGM in the participating countries, including Bolivia. It will build on Phase 1 (GEF ID 6901) currently being implemented, through the use of the existing knowledge platform, lessons learned, capacity building materials, databases, proven technologies and market opportunities. This is particularly relevant for Bolivia as two of the ongoing child projects are taking place in the same region and are facing with similar challenges (Colombia and Peru).

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

298. Specifically, GEF funding will be used for awareness raising, capacity building, knowledge management, development of technical plans and advisory support under the four project components.

The grant-funded project activities will design and implement financial mechanisms that will support the financial inclusion of miners. Further technical assistance will facilitate the assessment and implementation of enabling policies and regulations that will increase the levels of formalization.

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

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

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

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

? Alliance for Responsible Mining Foundation (ARM);

? Argor Heraeus;

? Better Gold Initiative (BGI);

? Central de Cooperativas Illimani;

? Conservation International Bolivia (CI);

? Cumbre del Sajama S.A.;

? Departmental Government of La Paz;

? MEDMIN Foundation;

? Ministry of Environment and Water (MMAyA);

? Ministry of Mining and Metallurgy (MMM);

? National Network of Women and Mining (RNMM)

? National Service for the Registration and Commercialization of Minerals (SENARECOM);

? PLAGBOL Foundation;

? Polytechnic University of Catalonia (UPC);

? PROFIN Foundation;

? UNIDO;

? Wildlife Conservation Society (WCS); and,

? 15 de Agosto Mining Cooperative.

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

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

305. As the ASGM National Action Plan (NAP) is still in early stage of development, the project will closely coordinate with it to further strengthen coherence and complementarity.

306. In the absence of the GEF grant, the ASGM sector will continue to be unprioritized with actions to support its responsible development despite its significance for the economic growth of the country. There is a lack of systematic investments that would contribute to a greater development based on responsible gold production leading to considerable mercury reductions.

307. As described in section 2.7, there are few examples of improvement in terms of efficiency, reduction or elimination of mercury use in Bolivian ASGM, most of them in the framework of cooperation with the Bolivian State as the main counterpart, such as those supported by the international cooperation and national CSOs as well as the metallurgical centres of the public universities (UTO and UMSA).

308. Without GEF support, the gold mining cooperatives will continue to use significant amounts of mercury due to the widespread practice of whole ore amalgamation. It is likely that less than 1% of the Bolivian mining operations currently carry out their activities in closed mercury circuits or with total elimination of mercury.

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

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

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

312. The project would be cost-effective since it aims to directly reduce 18 tons of mercury with a GEF grant of 6,583,500 USD which would mean that the cost-effectiveness of the project would be 365.75 USD per kg of directly reduced mercury. Cost effectiveness is further evident from the replication factor of 3 after project completion which would bring cost down to 91.44 USD. Furthermore, the project will also mobilize approximately 21.8 million USD from the public and private sector for investments in responsible ASGM.

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

6.1 Landscape area under improved practices

313. This 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.

314. Table 5 details the surface area of the mining areas considered by the project: Illimani, San Ram?n, Suches and Pelechuco, and Larecaja Tropical.

315. The jurisdictional approach will be piloted in one (1) of these areas. A preliminary assessment has identified Illimani as the priority area, although this will be confirmed during the project's inception phase. Therefore, the related co-benefits calculated at the CEO endorsement stage is 135,900 hectares.

316. Piloting the jurisdictional approach will result in improved practices for the selected landscape area, while the component 3 activities will support the implementation of technologies to reduce and eliminate mercury use in selected sites.

Area	Surface area (Hectares)
Illimani	135,900
San Ram?n	62,777
Suches and Pelechuco	260,900
Larecaja Tropical	716,700

Table 5: Surface areas of proposed Jurisdictions. Source: Extracted from Google Earth

6.2 Mitigation of greenhouse gas emissions

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

318. Most of the gold mining cooperatives currently use heavy machinery that is highly carbon emitting. Often running on heavy fuel oils (HFOs), diesel or gasoline for several hours per day (>10 hours) for mining, milling and concentration processes.

319. Technical improvements will be implemented in the metallurgical practices of gold recovery in all the targeted gold mining cooperatives whilst simultaneously deploying energy efficiency mechanisms to increase productivity. Consequently, it is expected that these processes will effectively reduce monthly fuel consumption in the six (6) pilot mining cooperatives and the ten (10) mining organizations that will replicate the good practices by an average of 6,000 litres of hydrocarbons per month resulting in a reduction of greenhouse gas emissions by an estimated 2,572 metric tons of CO_2eq[60][60].

320. Over the entire project lifetime, an average of 154,368 metric tons of CO_2eq will be prevented in addition to the other environmental co-benefits of the project.

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

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

322. The avoidance of mercury that the project will generate is calculated based on the total amount of gold produced at the national level, the number of gold mining cooperatives existing in the country, the type of deposit exploited (which in turn determines the type of beneficiation process they apply), and the average values in gold recovery processes.

323. Mercury loss depends on the amalgamation process used. While some sources suggest that the amount mercury lost versus gold produced can be greater than 10, other studies[61][61] indicate that the main mercury emissions in traditional gold recovery processes show higher values when milling-amalgamation is combined.

324. In a first step, an average value of mercury use for each sub-sector is calculated, independent of cooperative size or specificities due to the lack of related data. According to official data, 1,480 gold mining cooperatives currently operate throughout the country. It is estimated that one third (approximately 500) of them correspond to mining operations in primary deposits and two thirds (approximately 1,000) to operations in secondary deposits. For an average annual gold production of 40 tons, 30 tons of gold correspond to alluvial mining operations and 10 tons to primary mining operations.

325. In the 1,000 alluvial mining operations it is estimated that 30 tons of mercury are used per year, with a recovery of 50 % of mercury, which finally results in an annual consumption of 15 tons of mercury. Therefore, on average, each alluvial mining operation consumes 0.015 tons of mercury/year.

326. In Bolivian primary hard rock mining, 100 tons of mercury are used per year with a recovery rate of 5%, resulting in an annual consumption of 95 tons of mercury. It is possible to infer that 500 operations in primary mining have an annual consumption of 95 tons of mercury. Therefore, on average, each hard rock mining operation consumes **0.2 tons of mercury/year** (due to their characteristics, there are undoubtedly operations that are well above this value).

327. The project aims to support and strengthen eight (8) pilot operations extracting primary hard rock deposits (i.e., where mercury emissions are highest) by implementing technically efficient, economically profitable, environmentally appropriate, and socially acceptable beneficiation processes, including cyanide leaching which has an enormous potential for mercury reduction if carried out responsibly. In parallel, ten (10) mining operations are expected to replicate and adopt similar systems or methods with less or no use of mercury.

328. Therefore, the approximate amount of mercury to be reduced annually for 18 sites at 0.2 tons per year can be calculated at **3.6 tons per year.** Over the 5 years of the project, a total reduction in mercury use of 18 tons is hence targeted.

329. The reduction in mercury use will be significantly increased if, as designed, the project can intervene in the operations with the highest production capacity, in which, due to the type of process used, the mercury use is certainly well above the average values used above.

330. Based on the above data, the calculated mercury reduction of 3.6 tons per year (18 tons in total) is considered an ambitious but achievable goal. In parallel, the improvement in the production processes will be monitored by recording the increase in gold recovery.

331. Regarding how the mercury reduction will be monitored, in each selected pilot operation, in situ and based on specific control protocols and mass balances, a thorough follow-up will determine the actual amount of mercury used in the current process, verifying this data with the records of acquisition or purchase by the beneficiary mining organization.

332. By comparing the situation at inception and after the implementation of the technical-environmental measures in the beneficiation process, a pragmatic way of estimating the actual mercury reduction will be achieved.

333. The important contribution of the informal women miners in the mercury issue, estimated at **0.75 tons/year** based on data gathered during the gender workshop[62][62]**,** are not counted under the above estimation but should not be overlooked. An adequate training plan and implementation of simple, practical, and inexpensive gold-mercury separation method will be implemented to improve their working and living conditions.

334. Additionally, through the dissemination efforts of the GOLD+ Bolivia project, as well as the conductive framework such as the strengthened national legislation, the financial mechanism to be established, the improved institutional framework, as well as the extensive capacity-building and awareness-raising, it is expected that the reduction target will have a replication factor of 3 after the end of the project. In total, the Project is thus designed to contribute to a total mercury reduction of 72 tons.

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

335. The project is expected to reach 10,500 direct beneficiaries (50% women) mainly related to supporting to ASGM organizations, organization of training sessions, awareness-raising, and events related to the different components. Several of these activities will be carried out in the mining communities of the selected jurisdiction, beneficiary organizations, as well as in exchange platform with all the relevant project stakeholders.

336. The summary of beneficiaries by component is presented in Table 4:

COMPONENT	MEN	WOMEN
Component 1. Enhancing formalization in the ASGM sector	1,260	1,010
Component 2. Access to finance enhanced by financial inclusion and responsible supply chains	1,410	1,340
Component 3. Enhancing the uptake of mercury-free technologies	1,170	1,300
Component 4. Knowledge sharing, communication, and local capacity building support	1,410	1,600
TOTAL	**5,250**	**5,250**

Table 6: Estimated number of beneficiaries

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

7) Innovativeness, sustainability, and potential for scaling up

Innovativeness

338. The project will examine and test novel models of formalization, mercury reduction and financial inclusion initiatives with promising innovative aspects that could be scaled up or adopted in other places.

339. The application of jurisdictional approaches to boost ASGM formalization has never been tailored or applied in this sector. However, their track records in other fields and their focus on the

sound management of shared natural resources are well aligned to contribute to tackling the many issues associated with ASGM formalization.

340. The selection of specific jurisdictions where ASGM operations coexist with other productive activities and actors is an innovative aspect of the Project and will generate meaningful experiences. It has the potential to be a catalyst for change.

341. The jurisdictional mining landscape (*Paisaje Jurisdiccional Minero*, PJM) is the concept used in the project and refers to gold production areas where several mining operations (sites) are present. It corresponds to a sub-national scale, where one or more municipalities can be involved. This is the territorial scale where the participation of the different actors and interests linked to ASGM activities is contemplated aiming at balancing competing yet interlinked economic, social, and environmental goals.

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

343. The pre-selection process of the PJM during the project preparatory phase resulted in the need to implement a dual approach: (i) integrating the four (4) project components into the JA/SLA piloting in a specific jurisdiction and (ii) targeted activities in other ASGM areas in specific prioritized themes. Under this dual approach and building on the analysis of the different mining areas conducted during the project preparatory phase, the related intervention topics are presented in Table 5.

Areas	**Type of intervention**	**Intervention topics**
Illimani	Integrated approach (incl. piloting SLA/JA)	4 components and gender equality and women empowerment (GEWE)
Suches	Specific themes	Gold mining and protected areas, conservation, and ecosystems. Binational experiences
Larecaja Tropical	Specific themes	GEWE
San Ramon	Specific themes	Mining operations in consolidation
Larecaja Tropical	Specific themes	Madidi Zone, unregulated expansion of mining in protected areas

Table 7: Intervention topics for the PJM areas

344. Additionally, based on the suggestions of the representatives of the Ministry of Mining and Metallurgy and in addition to the areas mentioned above, the region of San Juan del Oro in the department of Potos? will also be assessed during project inception as ASGM activities have recently appeared and therefore, there are opportunities to support better conditions for a more responsible and

formalized mining as the activities are in the initial stages with higher possibilities of influencing its development.

345. Regarding access to finance, some public entities such as the Financial System Development and Support to the Productive Sector (*Fondo de Desarrollo del Sistema Financiero y de Apoyo al Sector Productivo*, FONDESIF) or the Productive Development Bank have been successful in increasing finance to certain productive sectors (i.e., agriculture).

346. However, mechanisms set up by private entities have not been used to promote access to finance for specific productive sectors in Bolivia making the trust funds proposed under component 2 an innovative financial scheme that could be replicated to other productive areas with similar challenges.

347. In the last decades in neighbouring countries, especially in Peru, cyanide leaching has seen a significant boost. Some cooperatives in Bolivia just started implementing or are in the process to implement this technology which presents a recent opportunity to introduce innovative solutions in reducing mercury use in the ASGM sector. This new process for the ASGM sector in Bolivia has a huge potential for replication as long as it is done in a technically and environmentally responsible way.

348. Finally, the gender analysis showed a high degree of lack of visibility on women miners and gender-related aspects in the sector. The fact that the project is targeting women throughout all its components will also be innovative in the Bolivian context as there have not been initiatives of this magnitude emphasizing gender equality and women empowerment (GEWE) in ASGM.

Sustainability

349. A key aspect is the implementation of the jurisdictional approach as it provides the basis for sustainability in the selected territory. ASGM formalization will be integrated into community land use planning, biodiversity preservation and livelihood security as well as drawing stronger political and stakeholder commitments. Ideally local authorities and productive actors present in the territory will be engaged via a multi-stakeholder platform that should allow for consolidating the positive changes envisaged in the long-term.

350. The intervention has been designed to constantly engage stakeholders in order to ensure commitment, relevance and ownership, increasing thus the sustainability of the project outcomes beyond project completion. It should be further supported by the coordinated and long-lasting strengthening of the regulatory framework aimed at resisting governmental changes. Similarly, institutionalizing financial mechanisms will also be key in ensuring the long-term sustainability of the project results.

351. Finally, the sustainability of the project will be closely linked to the implementation of an adequate knowledge management strategy. The programme platform will continue to be available even after programme completion hosted in collaboration with the Secretariat of the Minamata Convention

on Mercury and the Global Mercury Partnership. In addition, the GOLD+ Bolivia project will work closely with already existing national networks.

Potential for scaling up

352. The potential for scalability is related, among other mechanisms, to the creation of a knowledge management repository at programme level, collating project and country information which will continue to function after the country projects have ended and will inform future ASGM activities in Bolivia and other countries.

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

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

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

356. The capacity building, awareness-raising activities and exchanges among country-projects are also designed to contribute to scaling-up. In particular, the development and inclusion of technical curricula in academic centres combined with official competency-based certificates will contribute to the generation of knowledge and capacity at the local level within relevant institutions.

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[1] ASGM is understood as gold mining conducted by individual miners or small enterprises with limited capital investments and production. Minamata Convention on Mercury.

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

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

[4] Terminology used in Latin American countries for traditional individual miners using rudimentary techniques.

[5] WCS (2020) Diagnosis of the impacts of mining on the Madidi-Apolobamba-Pilon Lajas conservation corridor. Available here.

[6] WCS (2020) Situation of gold mining activities and their intensity in relation to biodiversity, ecosystems, protected areas, indigenous territories, and forest areas in the North of La Paz, Bolivia. Available here.

[7] WWF (2019) The Amazon biome in the face of mercury contamination. Available here.

[8] Villegas, K. et al. (2021) Mercury in small-scale gold mining in Bolivia. Better Gold Initiative. Available here.

[9] Authority for Cooperative Control and Supervision, Vice-Ministry of Mining Cooperatives (2019).

[10] Tertiary alluvial deposits.

[11] National Institute of Statistics. Available here.

[12] Article 104 of the Mining Law considers illegal exploitation as carried out without authorizations or rights granted by the competent mining authority.

[13] The Penal Code stipulates that whoever carries out activities of exploitation of mineral resources without authorization or right granted within the framework of the regulations in force will be punished with imprisonment of four (4) to eight (8) years.

[14] C?rdova, H. (2015) Gold. Analysis of the cooperative subsector in the La Paz Department. Fundaci?n Jubileo. Available here.

[15] Bolivia: Supreme Decree No. 233, August 4, 2009. Available here.

[16] Pradel (2020). The development of gold mining cooperatives and their financing alternatives.

[17] The low level of assets and inability to prove an income based on production are barriers caused by the current legislation and the indirect incentives to elude taxes.

[18] The mining productive actors present in Bolivia have different needs in terms of credit: large cooperatives (USD 1 Mio), medium cooperatives (USD 50,000 to 700,000), small cooperatives (USD 20,000 to 50,000) and barranquilleras/os (< USD 10,000).

[19] "*Rescatador*" is the term used in Bolivia to describe any buyer of gold. There are small and large mobile actors who move across places and act as a link between miners and large exporters.

[20] Cumbre del Sajama S. A. (2020).

[21] National Institute of Statistics. Available here.

[22] Campanini, O. (2020). The mercury business in Bolivia: Study on the commercialization for gold mining in Bolivia. IUCN. Available here.

[23] Campanini, O. (2020). The mercury business in Bolivia: Study on the commercialization for gold mining in Bolivia. IUCN. Available here.

[24] COMTRADE. Available here.

[25] TrendEconomy. Available here.

[26] Mining and Metallurgical Research Institute (IIMETMAT-UMSA) (2014).

[27] National Service for the Registration and Control of the Commercialization of Minerals and Metals (*Servicio Nacional de Registro y Control de la Comercializaci?n de Minerales y Metales*, SENARECOM).

[28] Article 369 of the Political Constitution of the State recognizes the following mining productive actors: i) State-owned mining, ii) private mining and iii) cooperative societies.

[29] The total number of miners in the 3 sectors (private, state and cooperatives) as of 2019 was 137,770 (Dossier Estad?stico del Sector Minero, MMM).

[30] National Federation of Mining Cooperatives of Bolivia (*Federaci?n Nacional de Cooperativas Mineras de Bolivia*, FENCOMIN).

[31] Departmental Federation of Mining Cooperatives (*Federaci?n Departamental de Cooperativas Mineras*, FEDECOMIN).

[32] Federation of Bolivian Gold Mining Cooperatives (*Federaci?n de Cooperativas Mineras Aur?feras de Bolivia*, FECMABOL).

[33] Regional Federation of Gold Mining Cooperatives (Federaci?n Regional de Cooperativas Mineras Aur?feras, FERRECO).

[34] Federation of Gold Mining Cooperatives of the North of La Paz (Federaci?n de Cooperativas Mineras Auriferas del Norte de La Paz, FECOMAN).

[35] Miner engaged in the activity of gold mining by using rudimentary tools.

[36] Miner engaged in the activity of gold mining by means of dredges and "rafts".

[37] Miner engaged in the activity of gold mining by using an artisanal boat with low-powered engine that sucks gold-bearing sands from the river known locally as "carrancha".

[38] Cumbre del Sajama S. A. (2014). Study on ilegal mining in Bolivia.

[39] Solidaridad (2019). ASM Gold Deserves Support from Formal Finance. Available here.

[40] The portfolio of the financial system dedicated to CAEDEC 13202 comprising platinum, silver and gold reaching at participation of 0.12% is distributed as follows: Multiple Banks (0.08%), SME Banks (1.22%), Cooperatives (0.25%), Development Financial Institutions (0.23%) and Hosing Financial Entities (0.17%). Source: Fundaci?n PROFIN.

[41] Employees of mining cooperatives that are contracted informally as cooperatives are not legally allowed to have laborers.

[42] Any credit granted to a natural or legal person, or to a group of borrowers, in order to finance production, marketing and service activities, whose main source of payment is the product of sales and income generated by said activities. Based on the size of the economic activity, it is classified in the microenterprise index, according to the information on the size of the borrower's activity.

[43] Any credit granted to a natural person, in order to finance the acquisition of consumer goods or the payment of services, repayable in successive installments and whose main source of payment is the person's salary or income from his/her activity, properly verified. This definition includes operations carried out through the credit card system of natural persons.

[44] The open burning of amalgam or processed amalgam is identified as a worst practice in the Minamata Convention on Mercury.

[45] Indigenous peoples recognized in the 2009 Political Constitution of the State: aymara, araona, baure, b?siro, canichana, cavine?o, cayubaba, ch?cobo, chim?n, ese ejja, guaran?, guarasu'we, guarayu, itonama, leco, machajuyai-kallawaya, machineri, maropa, moje?o-trinitario, moje?o-ignaciano, mor?, moset?n, movima, pacawara, puquina, quechua, sirion?, tacana, tapiete, toromona, uru-chipaya, weenhayek, yaminawa, yuki, yuracar? and zamuco.

[46] The network currently consists of: Asociaci?n Boliviana para la Investigaci?n y Conservaci?n de Ecosistemas Andino Amaz?nicos, Alianza Gato Andino, Better Gold Initiative, Colegio de Bi?logos de la Paz, Conservation International, Cumbre del Sajama S. A., Fundaci?n MEDMIN, HELVETAS, Instituto de Investigaciones en Metalurgia y Materiales (IIMETMAT/UMSA), Plataforma Integral de Miner?a a Peque?a Escala, Wildlife Conservation Society.

[47] The Ambor? - Madidi Corridor has a high biological-ecological value, is part of the Vilcabamba - Ambor? Corridor that extends between Peru and Bolivia and is part of the biodiversity hotspots of the Tropical Andes.

[48] Tier 2: Each country project will have the opportunity to take deep dives into the themes and tools of greatest impact to the respective countries. Tier 2 trainings will involve advance interviews and surveys by global landscape experts to identify priority interests, needs and opportunities so that a tailored curricula can be developed. Trainings will take place over 4-6 hours using virtual platforms. Following these trainings, experts will prepare reports with recommendations for each country program regarding how to advance on the respective theme.

[49] A MJL is defined as a gold production area where several mining operations (sites) are present. The MJL corresponds to a subnational scale, where one or more municipalities can be involved. It is a territorial level that contemplates the participation of different stakeholders with interests in the gold mining activity, either positively or negatively.

[50] Intersectionality can be defined as ??the interconnected nature of social categorizations such as race, class, and gender, regarded as creating overlapping and interdependent systems of discrimination or disadvantage??. Source: Oxford Dictionary.

[51] First- and second-tier financial intermediation entity aimed at promoting and financing national productive development, regulated by the Financial System Supervision Authority (ASFI). 80% of its shares are owned by the Plurinational State of Bolivia and 20% by the Andean Development Corporation - CAF. Operationally, it works on the first floor, second tier, and technical assistance; and as a trust bank, it manages autonomous public and private assets, with an AAA risk rating.

[52] "By the trust a person, called trustor, transmits one or more assets to a Bank, called trustee, who is obliged to manage or dispose of them to fulfill a specific purpose for the benefit of the former or of a third party called beneficiary". Further details can be found in Articles 1409 to 1427 of the Code of Commerce and in the Trust Regulations issued by ASFI.

[53] A trust that involves a loan for entities to cover the costs of setting up a new agency in the areas prioritized by the program could be created. An initial incentive will be a zero financial cost for this loan. Additionally, a loan would be granted to the financial institution for the placement of a portfolio in the gold production sector.

[54] Seed capital is necessary for individuals that can hardly access loans under the current credit technologies and have greater recovery risks.

[55] Similar to Community Banking but the capital is owned by the partners and credit can be granted only to members.

[56] National Information System on Mining Trade and Exports (*Sistema Nacional de Informaci?n sobre Comercializaci?n y Exportaciones Mineras*, SINACOM).

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

[58] National Service for the Registration and Control of the Commercialization of Minerals and Metals (*Servicio Nacional de Registro y Control de la Comercializaci?n de Minerales y Metales*, SENARECOM).

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

[60] Revised Manual for calculating GHG Benefits of GEF Energy and GEF Transport Projects. Available here.

[61] H. Wotruba, T. Hentschel, K. Livan, F. Hruschka, M. Priester. Environmental Management in Small-Scale Mining. SDC, MEDMIN, Projekt-Consult GmbH, January 2004.

[62] Estimation made based on data gathered during the gender workshop: Estimated number of barranquilleras is around 5,000 with an annual average production of 0.5 grams of gold per day. For

200 days of work per year, the annual production reaches 0.5 tons. Considering a relation of 1:1.5 (Hg:Au), a minimum amount of mercury used by informal women miners is 0.75 tons per year.

1b. Project Map and Coordinates

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

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

358. The area highlighted in yellow is the area recommended to pilot the activities related to the jurisdictional approach.

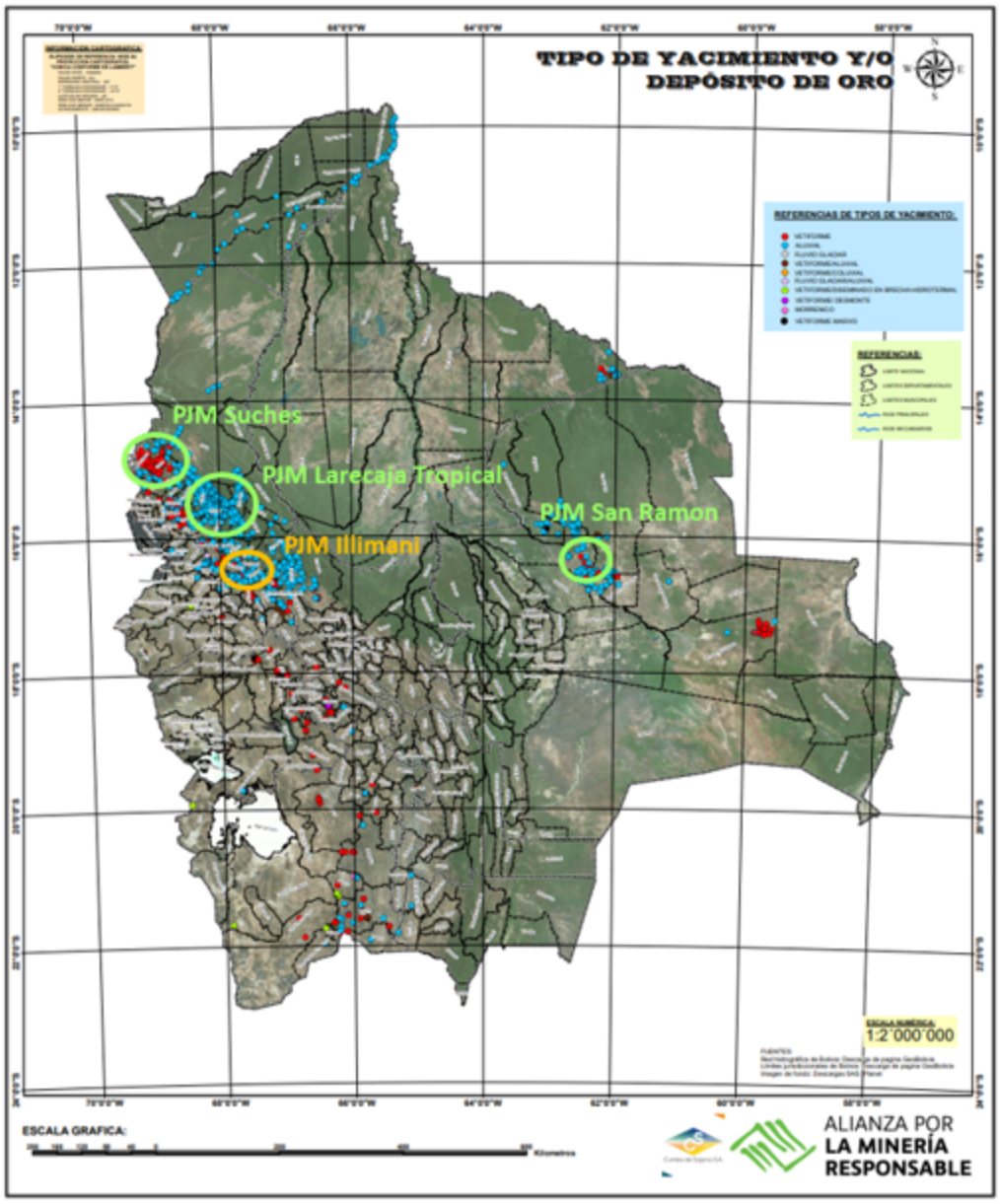

Figure 15: Map highlighting main areas of the project

1c. Child Project?

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

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

360. The project will analyze and make recommendations on the relevant policies needed and strengthen the capacities of state actors and miners to promote a greater formalization in the sector

at the national and local levels. It will test innovative financial mechanisms, including a specific mechanism targeting women miners, while strengthening the knowledge of public officials, financial entities and individual miners on the opportunities and needs of finance for the ASGM sector. Finally, the project will pilot technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery adapted to the local circumstances and with a replication potential for other areas of the country.

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

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

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

363. During the project preparation phase, key stakeholders have been identified, engaged, and consulted based on an initial matrix established. This initial stakeholder matrix is a basic tool to map and plan the involvement of stakeholders.

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

365. The complete list of stakeholders is presented in Annex 1 and comprises among others following entities:

? Public sector institutions

- Authority for the Control and Supervision of Cooperatives (AFCOOP)
- Authority for the Supervision of the Financial System (ASFI)
- Autonomous Departmental Government
- Bolivian Gold Company (EBO)

- Central Bank of Bolivia (BCB)
- Financing Fund for Mining (FOFIM)
- Mining Jurisdictional Administrative Authority (AJAM)
- Ministries: Ministry of Development Planning, Ministry of Economy and Public Finances, Ministry of Environment and Water, Ministry of Mining and Metallurgy
- Municipalities
- National Customs
- National Institute of Occupational Health (INSO)
- National Service of Protected Areas (SERNAP)
- National Service for the Registration and Control of the Commercialization of Minerals and Metals (SENARECOM)

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

- Entities that are part of the Inter-Institutional Working Group of Responsible Gold (GIT ? OR)
- National Network of Women and Mining (RNMM)

? International entities and organizations

- Andean Committee on Illegal Mining (CAMI)
- Alliance for Responsible Mining (ARM)
- Latin America Mining Organization (OLAMI)
- planetGOLD child projects and global project
- Solidaridad Network

? Private sector

- Local financial institutions (Banco EcoFuturo, Banco FIE, Banco PRODEM, Diacon?a IFD)
- Consulting services on mining (Cumbre del Sajama S. A., CESA, MINCO)
- Gold trading companies

- Equipment and technology providers (Goldtech S. R. L., Hansa)
- Productive Development Bank

? Academia and research centers

? Mining sector

- Departmental Federation of Mining Cooperatives (FEDECOMIN LP)
- Departmental Federation of Mining Cooperatives (FEDECOMIN SC)
- National Federation of Mining Cooperatives (FENCOMIN)
- Regional Federation of Gold Mining Cooperatives (FERRECO)
- Regional Federation of Gold Mining Cooperatives of the North of La Paz (FECOMAN LP)

? Indigenous People

Please provide the Stakeholder Engagement Plan or equivalent assessment.

366. The main stakeholder engagement interactions during the preparatory phase can be summarized as follows:

? 1 inception workshop that gathered 84 participants (35 women and 49 men) and 1 validation workshop that gathered 52 participants (17 women and 35 men);

? 1 online survey form (35 responses from different entities);

? 43 semi-structured surveys on gender-related issues;

? 31 semi-structured surveys for the elaboration of the Environmental and Social Management Plan;

? 12 interviews for the assessment of the jurisdictional approach;

? 32 interviews for the assessment on access to finance in ASGM in Bolivia;

? 6 participatory workshops and 12 meetings with public sector institutions to socialize progress and gather information with the participation of approximately 307 people (110 women and 197 men); and

? 2 meetings with planetGOLD child projects in Latin America (Ecuador and Peru).

367. A stakeholder engagement plan was prepared to map the key stakeholders identified, their corresponding mandates, roles in the project, linkages related to GOLD+ components, period of

participation, spatial scope and an approximation of possible investments or contributions (refer to Annex I Stakeholder Engagement Plan).

368. The diverse groups of stakeholders mean that there are different interests, levels of education on the ASGM sector, cultural norms, and values. Therefore, different approaches should be used to communicate with different stakeholders. Local communities and other economic actors within the selected jurisdiction will also be engaged for integrated land use planning, developing road maps and monitoring plans.

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

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

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

Target	Roles and responsibilities	Stakeholders	Mechanism	Activities	Results
Public sector National, regional, and municipal levels	Contribute to the proper implementation of the project based on public policy and compliance with regulations and laws	Public sector focal points, relevant ministries, departmental and municipal autonomous governments	Technical committees, direct interaction	Provide information and regular technical assistance to increase the public sector's knowledge capacity to identify, generate, manage, and implement actions to support formalization and mercury reduction in ASGM	Authorities, officials, and representatives of the public sector are informed about progress and possible opportunities for change, mainly at the public policy level
Civil Society organizations / non-Governmental organizations National and regional level	Generate synergies with the project to help join efforts and economic resources	Institutions that undertake activities similar to the objective and components of the project as well as gender equality and women empowerment	Internships, courses, workshops, symposiums, audiovisual materials, training and/or knowledge exchange hubs, digital communications, direct interaction	Exchange information and build capacity through booklets, reports, studies, research, and others. CSOs/NGOs can provide input in the development of knowledge products	Executives and technical staff of civil society support organizations have all the means and information to enhance synergies

International entities and organizations International and regional level	Exchange of information and generation of knowledge to replicate positive results	International organizations that carry out similar activities (ASGM) in other countries or support similar programs in Bolivia Other PlanetGOLD projects including the Global Project	Virtual events and knowledge exchange hubs	Exchange information via booklets, reports, studies, research, and others	Staff of international organizations can share results and good practices in order to replicate them, in addition to the generation and opportunities for synergies
Private sector International, national, and regional level	Implement investments or business plans that benefit the project and help implement more efficient technologies	Gold buyers and financiers, investors, banks, technology providers, other private sector entities	Meetings, workshops, events	Exchange information and analyze business plans/strategies that could contribute to generate cleaner and more efficient technologies as well as more responsible supply chains	Executives and representatives of private sector companies learn about the work of the Project and can analyze business opportunities
Academia and research centres National and regional level	Contribute with professionals, research, laboratories, and others from the academic field to support the expected changes	Universities and research centers	Courses, workshops and internships	Undertake and exchange reports and studies in relation to technological processes and other relevant aspects to build a responsible ASGM sector	Academic staff are able to share their research and findings and are aware of advances in technological processes and other relevant aspects to build a responsible ASGM sector

Mining sector National level	Get involved in a proactive manner and inform the mining cooperative bases about the impacts of the project for a permanent openness to change	Gold mining federations and centrals, cooperatives	Assemblies, symposiums, consultation, workshops, and other media (radio) or digital media	Organize regular meetings/consultations and prepare booklets and reports for dissemination of information, progress on the project and other relevant elements	Mining leaders of federations and cooperative centers can share their needs and concerns and learn about the project's progress in order to generate engagement and improve dissemination
Indigenous people Local level	Get involved in a proactive manner and inform and consult their affiliates about the project	Indigenous people and local communities surrounding mining sites	Meetings, consultations	Report on activities implemented and provide a space for dialogue and consultation	Representatives of communities and indigenous peoples can make suggestions, consultations and raise concerns and are aware of the Project's work
General public	Exchange of information and generation of knowledge to replicate positive results	General public	Consultations, workshops, digital information campaigns etc.	Raise awareness on key aspects of the ASGM sector and the progress of the project	General public is informed about the positive results of promoting a responsible ASGM sector.

Table 8: Stakeholder Engagement Plan summary

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier; Yes

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

Executor or co-executor;

Other (Please explain)

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

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

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

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

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

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

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

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

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

379. The participation of women in ASGM in Bolivia is considerable and has increased significantly in recent years, both as cooperative members, and informal workers although the exact number is difficult to estimate due to a lack of data. There is a significant number of gold panners, known as *barranquilleras* in the departments of La Paz and *bateadoras* in the department of Santa Cruz.

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

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

? Women in ASM in Bolivia suffer from an unfavorable situation due to socio-cultural and economic aspects. Access to education, employment and resources and the distribution of labor is unequal, while the representation of women miners and their work is almost non-existent;

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

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

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

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

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

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

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

382. Working on gender equality and women empowerment will primarily positively impact economic growth, helping poverty alleviation in a sector where most women live and work informally.

Furthermore, the empowerment of women groups can have very beneficial impacts in strengthening communities? responses to unsafe practices in ASGM.

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

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

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

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

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

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

385. The project will set up a strategic alliance with the *Red Nacional de Mujeres y Miner?a* (RNMM)[1] a national network that represents women miners. Most of the mining areas considered for the project are represented via women part of the network, which will increase the outreach and impact of the activities.

386. It is also planned to work with other international and national organizations active in Bolivia such as the UNITAS, UN Women and the Women Coordinating Committee among others, in areas such as women rights, gender-based violence and leadership.

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

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

389. 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.

390. Additionally, the strategies proposed in the Gender Action Plan have been integrated into the project's logical framework, resulting in specific outputs and activities (targeting at least 40% of women) and sex-disaggregated data and gender information to inform gender-responsive monitoring and evaluation.

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[1] National Network of Women in Mining. Available here.

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.

391. In Bolivia, and unlike in other mining countries, joint exploitation activities in the same area between private and small-scale cooperative mining is prohibited by law (Law 535). In this sense, the private mining sector, represented by the National Association of Medium-Scale Miners, will not be involved in the project. In practice, this is not an issue as the private mining sector, traditionally represented by medium-scale mining, does not currently have any operation in the country. Previous initiatives were undertaken by the multinationals Newmont, Inti Raymi-EMRISA or Orvana, Paititi-EMIPA.

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

393. Several impact investment working groups including finance and insurance providers, bilateral and multilateral agencies, NGOs and other private sector actors have taken place in Bolivia. The project will build on these advocacy processes to raise interest and awareness on the importance of financing responsible ASGM for profit, sustainability, and corporate social responsibility purposes.

394. In terms of responsible supply chains, the involvement of the private sector will be mostly linked with intermediary companies that deal with gold commercialization in the country as well as international buyers and users that could potentially be interested in buying responsible gold.

395. Achieving engagement and commitment of local gold traders and informal financiers will be particularly challenging as these companies prefer to keep a low profile in their activities and relationships due to the high sensitivity and nature of the sector (i.e., to avoid scrutiny by the National Service for the Registration and Commercialization of Minerals ? SENARECOM). However, their participation is important to achieve an increase in traceability and transparency and successful forms of engagement of these specific actors will be explored.

396. International refiners, jewellers and electronics companies will be informed on the ASGM sector in Bolivia and relevant data related to the project progress and milestones through the Programme Advisory Group (PAG) meetings and reports to the program. Information on gold sourcing due diligence programs implemented by these actors will also be shared with the gold mining cooperatives to raise awareness on the importance of responsible ASGM.

397. Some leaching plants created with private investment have been developing activities in the Viacha area (department of La Paz). These plants could potentially be involved as possible drivers of technological changes ensuring responsible practices and local capacity are in place. This can be an essential vector for mercury reduction.

398. There are also possible linkages with equipment and machinery providers. The project will actively approach these actors to generate awareness on cleaner and more efficient technologies or how to use equipment and machinery for a more responsible mining sector. Win-win schemes where equipment suppliers provide proper technologies along with capacity building sessions on operation and maintenance in exchange for procurement and usage on the miners? side promoting environmentally responsible management plans in their operations will be explored.

5. Risks to Achieving Project Objectives

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

399. Table 10 presents the principal risks and proposed mitigation measures of the project.

Risk	Probability	Impact	Mitigation measures
COVID-19 related risks			

Lockdown/restrictions related to the pandemic affect project activities	Medium	Medium	Monitor constantly restrictions at the different levels (national, departmental). Opt for remote interaction for the implementation of some of the project's activities, and prepare and implement contingency plans for on-site activities
Project activities result in greater risks of infection for project team/beneficiaries	Medium	Low	Implement health awareness activities and COVID-19 biosafety protocols
Climate change risks[1] / Environmental risks			
Climatic events affect mining operations and/or project activities	Medium	Medium	Conduct risks and climate change vulnerability analysis for the selected sites, avoiding areas with acute risks of disaster due to unsafe mining conditions Plan activities considering the dry/rainy seasons and its impact on mining operations
Deforestation and biodiversity loss increase due to mining activities	Low	Low	Develop and implement progressive soil rehabilitation plans supported by the jurisdictional approach for sustainable landscape management
Generation of waste from mining operations to the environment	Low	Low	Ensure mining and metallurgical waste management plans are implemented in selected sites
Generation of smoke and other air pollutants from mining operations, equipment, and vehicles	Medium	Low	Preventive maintenance of fuel-powered equipment and machinery. Promote the change to electric equipment and clean energy sources
Operational risks			

Lack of coordination between key ministries, main stakeholders and various ASGM initiatives in the ground	Low	Medium	Ensure regular communication among key players working on ASGM related projects, including the national institutional committee on mercury and the alliance of ASGM stakeholders (GIT OR). Additionally, regular information on project will be shared with relevant stakeholders
Migration of miners after exhaustion of gold ore which jeopardize long-term stability and livelihoods of rural communities	Medium	Medium	Consider the presence of alternative livelihoods as well as basic estimation of gold reserves ensuring medium to long-term mine lifetime for site validation The application of jurisdictional approaches and the introduction of mercury-free technologies, could turn in social and environmental improvements for the community
Social risks			
Prevailing cultural norms and practices (negative views on outsiders, resistance to change) prevent project activities and/or behavior changes in mining activities	Medium	Medium	Carry out cultural orientation, community consultation, and miner-miner interactions. In addition, awareness raising and incentives will be put in place to motivate bi-directional behavior changes (for project team and for miners)
Presence of child labor in selected mining sites	Low	High	Monitor and ensure child labor does not take place in selected mining sites
Displacement of women and vulnerable groups through technological changes	Medium	Medium	Conduct a gendered impact assessment and its corresponding mitigation measures to avoid risks of exclusion
Loss of jobs for intermediaries and mercury providers lead to threats and/or criminal activities	Medium	High	Assess mercury trade flows and related risks during lifecycle and provide job opportunities in formalized gold supply chain for intermediaries

Potential impact to indigenous peoples (IPs) who are directly or indirectly involved in the mining/processing	Low	Low	The recommended area of work does not overlap with IPs territories. Consultation with IP; potential development of an environmental and social impact assessment (ESIA).
Technical risks			
Limited willingness of public and private financial institutions to coordinate and implement financial products targeting ASGM	Medium	High	Prioritize work agendas on specific issues. Use communication strategies that promote the importance of concurrence between actors and importance of financial mechanisms
Low absorption capacity of trainees on technical aspects and difficult site accessibility	Medium	Low	Employ skilled experts (local and international) to provide training and then hands-on guiding using accessible and understandable information. Promote peer-to-peer learning throughout the project. Concerning the accessibility, site prescreening combined with proper budgeting, transportation arrangement and communication support mechanisms

Table 9: Risk summary table

400. An in-depth analysis of the different risks of the project is presented in the Environmental and Social Management Plan (ESMP) that can be found in Annex J.

401. Additionally, the project team will ensure that all PlanetGOLD beneficiary mining entities conform with the PlanetGOLD Criteria for Environmentally and Socially Responsible Operations through the review of the PlanetGOLD Environmental and Social Risk Assessment Report and the Mitigation Report.

COVID-19

402. The COVID-19 pandemic has had significant impacts in Bolivia including in terms of lost lives, economic slowdown, unemployment, and loss of income for the overall population. The disappearance of livelihoods is particularly relevant in the context of a country with one of the highest informality rates in relation to the GDP (62.3% according to the IMF)[2].

403. The quarantine highlighted some of the living infrastructure deficiencies of urban and rural areas due to the poor quality of construction materials, over-crowded housing, and lack of running water or improved sanitation. Additionally, since the beginning of the pandemic, the country has witnessed an increase in intra-family violence against girls, boys, and women[3].

404. The mining sector in Bolivia also suffered from the consequences of COVID-19 in economic terms due to the stoppage of activities affecting in particular small mining cooperatives and vulnerable groups (i.e., informal women miners) as well as in social terms (i.e., increase in stress, shift to agricultural and alternative activities)[4].

405. Informal women miners have been the most affected by COVID-19 as they generally lacked reliable information on the pandemic. The need to work in order to support their families forced them to situations of vulnerability. Lack of food and basic goods have also impacted vulnerable groups.

406. By imposing dynamic and flexible quarantines, the government has started to re-open the economy and provided the financial system with funds for loans to boost domestic demand.

407. As of October 2021, Bolivia had a total of more than 507,134 infections and 18,834 deaths[5]. More than 7,084,229 vaccines were administered and 30.1% of the total population is fully vaccinated[6].

408. The impact of the COVID-19 pandemic needs to be carefully considered for the project's implementation period, especially in view of the new strains (i.e., Gamma variant).

409. Travel restrictions to and from Bolivia, as well as lockdowns, are likely to impact project execution. The situation will be closely monitored throughout the project life cycle, and a contingency plan building on the above-identified risks will be refined during the inception phase and then be regularly updated during Project lifetime.

410. The project will also face risks of national counterparts working at a lower capacity, a possible reduction in co-financing due to shifted priorities and the worsening of social inequalities as a consequence of the economic slowdown.

411. The project will aim at introducing digital solutions that can build technological capacity to reduce the digital divide; supporting livelihoods and job creation in the artisanal and small-scale gold mining sector; and building capacity of mining cooperatives to safely manage hazardous waste, including the use of personal protective equipment that will safeguard miners from health impacts including the ones related to COVID-19.

412. ASGM is practiced in many areas of Bolivia. It has impacts on biological diversity either through the clearance of forest or through the use of mercury and other substances that are transferred to the environment through emissions to air and releases to soils and nearby streams and rivers.

413. COVID-19 has dramatically increased the use of single use plastics and other materials part of personal protective equipment. Macro and micro-plastics can transport invasive alien species which can

form a new habitat and increase the likelihood of diseases outbreaks which is higher in tropical regions[7] such as some part of Bolivia.

Opportunities to support COVID-19 response

414. Finally, the COVID-19 pandemic not only generated a crisis but also presented an opportunity to build a new framework that is more equalitarian, inclusive, and just. When building back a perspective of sustainable development within the productive sectors, including the artisanal and small-scale gold mining, is essential in order to protect nature.

Opportunities to support COVID-19 response in the short term

415. The project could be used as an opportunity to improve public health awareness at the selected mining sites.

416. In addition, special assistance programmes for vulnerable groups including informal women miners (barranquilleras and bateadoras) will be introduced.

Opportunities to support COVID-19 response in the long-term

417. Transforming ASGM, as one of the key polluting sectors in Bolivia, can provide major benefits for biodiversity and ecosystems, as well as the human health of miners and their communities.

418. The project will pilot the sustainable landscape approach/jurisdictional approach which will promote responsible land uses that should limit deforestation and reduce human-wildlife contact having an impact in the overall protection of natural capital.

419. Additionally, the project will provide an opportunity to strengthen the local artisanal gold supply chains in the country while at the same time increasing natural and economic resilience and the adaptive capacities in the selected communities.

420. Green Recovery measures will be promoted not only for ASGM but also for other high-polluting sectors in the country.

Climate change

421. Bolivia is one of the countries with the least negative contribution to climate change as its greenhouse gas emissions are very low. However, it is one of the countries that suffers the most from the phenomenon[8] due to poor adaptation capacity related to poverty, variable ecosystems, deforestation, irregular rainfall patterns, and the presence of tropical glaciers in the country.

422. Among the main vulnerabilities to climate change in Bolivia are the following:

? The wide topographic spectrum from rainforest or arid plains to Andean summits and the related range of climatic conditions combined with social vulnerability make the country more susceptible to natural disasters;

? Significant concentrations of the population are found in fragile mountain ecosystems and expanding arid zones;

? The country is considered to have an abundance of water resources, but water scarcity is a growing problem in parts of the highlands and valleys; and,

? Temperature increases and climate variability are also causing several health-related problems, with diseases such as malaria and dengue fever expanding to other areas.

423. Bolivia?s climate varies widely between regions. For instance, the tropical rainforests of La Paz in the West and the Salvador Dal? Desert in the South-West are distinct ecoregions with contrasting climates. Its average annual temperature and precipitation shows two different seasons: the dry season (April to September) and the rainy season (October to March) (Figure 16).

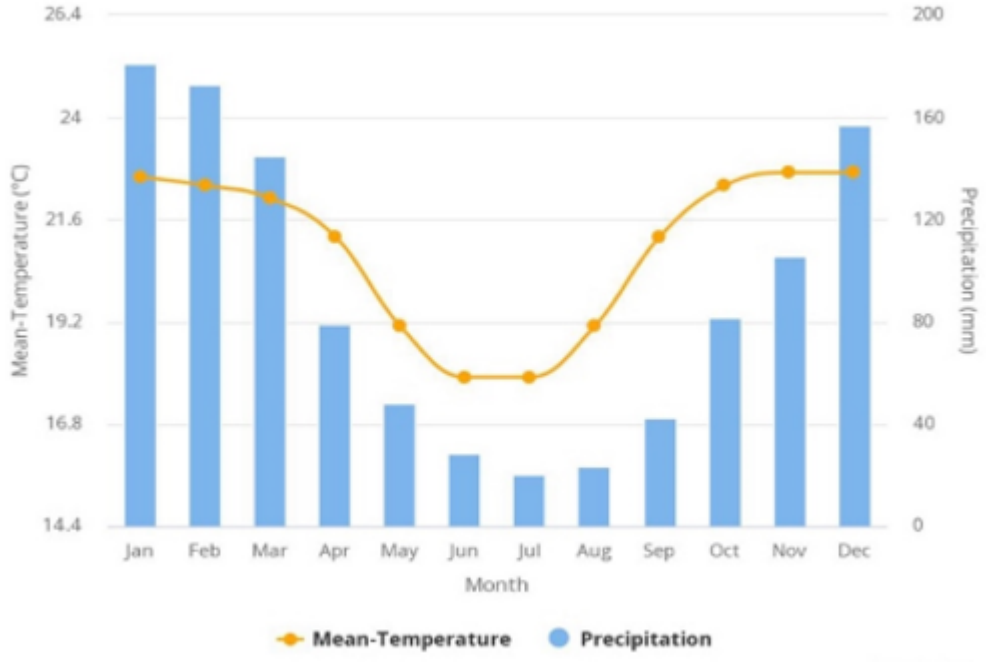

Figure 16. Monthly mean temperature and precipitation from 1991-2020 (Source: World Bank Group)

424. Climate change projections estimate that the temperature for the period 2020-2030 will be 1 ?C warmer.

425. In addition, the following trends have been identified in the medium and long-term:

? The wet scenario forecasts an average temperature increase of 1.5 ?C and the dry scenario forecasts an average temperature increase of 2.4 ?C;

? Cold days show a decreasing trend from 2 to 12 days;

? The wet scenario forecasts an increase in annual precipitation of 22% while the dry scenario forecasts a decrease in annual precipitation of 19%;

? Dry days are projected to increase by 6 to 7 days; and,

? Winters are projected to be drier and summers are projected to be wetter, resulting in increased risks of flooding and droughts.

426. In the Environmental and Social Management Plan (ESMP), vulnerability to certain events (droughts, floods, forest fires and landslides due to precipitation) has been analysed for the different areas considered for the project (Table 10).

Information	**Mining areas**					
	Illimani	**Yani**	**Suches-Pelechuco**	**Larecaja Tropical**	**San Ram?n**	**Madre de Dios**
Climate	Cold sub-Artic weather	Cold sub-Artic weather	Cold sub-Artic weather	Humid tropical weather	Humid continental warm-summer weather	Humid continental warm-summer weather
Climate change vulnerability	Low	Moderate	Moderate	Low	Low	Moderate
Drought Events	Yes	Yes	Yes	Yes	No	Yes
Flood Events	No	No	No	Yes	Yes	Yes
Wildfire density (0-1,700)	0	0	0	0	0	100
Precipitation triggered landslides (0-1,000)	1-30	1-30	1-30	31-100	0	0

Table 10. Climate change related information for tentative mining areas

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[1] The climate change risks were elaborated based on information from the Climate Change Knowledge Portal. Available here.

[2] International Monetary Fund (2021). The Global Informal Workforce. Available here.

[3] UNDP (2020). Socioeconomic impact of COVID-19 pandemic in Bolivia. Available here.

[4] Cumbre del Sajama S. A. and Solidaridad (2020). Impact of COVID-19 in artisanal and small-scale mining in Bolivia. Available here.

[5] Coronavirus Resource Center. John Hopkins University. Available here.

[6] Coronavirus Resource Center. John Hopkins University. Available here.

[7] Secretariats of the Basel, Rotterdam, Stockholm Conventions (BRS) and the Minamata Convention on Mercury (2021). Interlinkages between the Chemicals and Waste Multilateral Environmental Agreements and Biodiversity: Key Insights. Available here.

[8] Global Climate Risk Index (2020). Available here.

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.

427. The following section describes the institutional arrangements for project execution as well as the programmatic interaction. The final part of the section elaborates on the planned coordination with other GEF-funded and other initiatives.

Project level execution

428. The institutional arrangements, as well as a description of the roles and responsibilities of the different bodies are described here after and summarized in Figure 16:

? The **Project Executing Entity (PEE)** is responsible for the overall management of the financial and human resources directly related to project execution in the country. The PEE will be accountable to the implementing agency for the achievement of project outputs and outcomes. The PEE will consult both UNIDO as GEF Implementing Agency and the Project Steering Committee (PSC) in all matters concerning the project. In the delivery of its functions, it will act as the secretariat of the PSC;

? A **Project Steering Committee (PSC)** will be established to provide project direction, supervision, and overall guidance to project execution, making critical decisions on strategic matters. This body will also ensure the timely delivery of project outputs and the eventual achievement of the project outcomes by reviewing work plans and progress reports, approving work plan for the coming year, and taking adaptive management decisions if required. The PSC will be chaired by the Ministry of Environment and Water (MMAYA) and include representatives from the Ministry of Mining and Metallurgy, Ministry of Health and Sports, UNIDO and other key stakeholders. The GEF OFP will be invited to attend the PSC meetings; and,

? **A Project Management Unit (PMU)** will be in charge of the day-to-day management of the project and be set up by the Project Executing Entity in Bolivia within the Ministry of Environment and Water. It will be composed of a National Project Manager assigned and paid by the government, a Chief Technical Advisory (CTA) and an administrative assistant. The duties of the CTA for the PMU will be limited to drafting Terms of Reference as well as reviewing and compiling technical reports. Other technical project staff might be hosted in the PMU office but will not contribute to PMU activities. The PMU will regularly provide updates to UNIDO by submitting quarterly progress reports. UNIDO will share the updates with the PSC members and other relevant stakeholders.

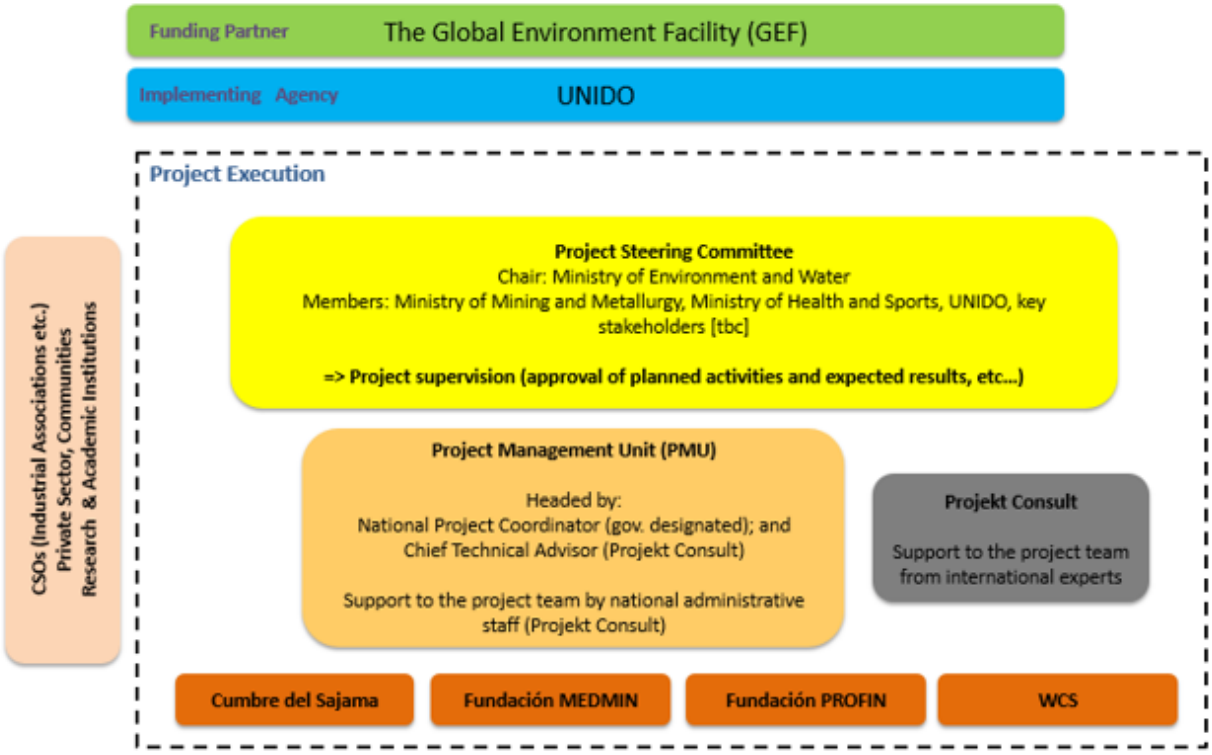


Figure 17. Execution arrangements of GOLD+ Bolivia Project

429. Any project amendments will be done following the GEF Council Document GEF/C.39/Inf.03.

430. The project will be implemented by the United Nations Industrial Development Organization (UNIDO) in line with GEF Project and Program Cycle Policy.

431. The project will be executed by Projekt Consult as the Project Executing Entity responsible for the day-to-day management of the activities. All procurement will have to adhere to the provisions of the UNIDO model agreement and should be based on annual procurement planned in line with annual work plans. All recruitments by the Project Executing Entity should be approved by the Ministry of Environment and Water through the Vice Ministry of Environment, Biodiversity, Climate Change and Forest Management.

432. UNIDO is exempt from all direct taxes, except taxes which are, in fact, no more than charges for public utility services, and is exempt from customs duties and prohibitions and restrictions on imports and exports in respect of articles imported or exported by UNIDO for its official use.

433. Within the framework of the project, the Government of the Plurinational State of Bolivia will facilitate the exemption of import taxes and custom clearance fees for the equipment to be purchased under the project. UNIDO will rely on the UNDP Office in La Paz to apply for the import tax exemption and carry out customs clearance processes taking into account the framework of cooperation between

UNIDO-UNDP as agencies of the United Nations. Alternatively, the customs clearance process could be carried out by an external agency.

434. Projekt Consult is an international entity with more than 40 years of experience in consulting for responsible mining and mineral sourcing. They have worked with development agencies, ministries and public clients, such as the Federal Institute for Geosciences and Natural Resources (BGR), the German International Cooperation (GIZ), or bilateral and multilateral donor institutions, such as the World Bank, the Swiss SDC and SECO, DFID, the United Nations, the European Commission and regional development banks.

435. Projekt Consult will work with specialized national entities for specific activities (Cumbre del Sajama, Fundaci?n PROFIN, Fundaci?n MEDMIN and Wildlife Conservation Society).

436. The selection of the Project Executing Entity was carried out through a call for project execution and endorsed by the main stakeholders during the validation workshop of the preparatory project phase.

437. Due to the characteristics and complexity of the activities to be carried out in the framework of this project, it is important that the executing entity has expertise in support of artisanal and small-scale gold mining, in addition to a broad capacity and experience in engaging with the public sector, mining cooperatives and federations, the private sector and other stakeholders of interest for adequate development of work synergies, which was the basis for selecting Projekt Consult as the PEE for this project.

438. The Ministry of Environment and Water will coordinate the government efforts related to the project and be the governmental focal point. Within the Ministry, the Minamata Convention Focal Point will be responsible for day-to-day compliance with the treaty and its provisions.

439. Other relevant stakeholders and representatives from regional or national projects in ASGM will be engaged throughout the project lifetime to assist and provide advice for specific activities as well as discussing their experiences, sharing their lessons learned in particular on formalization, entrepreneurship, access to finance, community/social enterprises, mining associations, and responsible supply chains.

440. The PSC will meet at least once annually. If COVID-19 restrictions are still in place, these meetings will be held virtually. Additional monitoring mechanisms are presented in section 9 ??Monitoring and Evaluation??.

Programme level interaction

441. The project is based on lessons learned from Phase 1 (GEF ID 6902). During the preparatory phase, exchange of experiences have been organized with the projects currently underway in Latin America in Ecuador (ID 9203) and Peru (ID 9710) as well as with the projects implemented by UNIDO in Burkina Faso (ID 9718), and jointly with UNEP in Mongolia and the Philippines (ID 9695).

442. Coordination with the PlanetGOLD program and child projects will be carried out mainly through component 4, through forums, meetings, webinars, and regular calls.

443. The participation of project representatives in annual program meetings (APMs) such as program steering committee meetings and thematic conferences will be paid by the project resources. The progress made by the project, as well as challenges faced and the related mitigation measured, will be presented.

444. Both Projekt Consult and UNIDO will participate in regular program calls to share progress made.

Coordination with GEF initiatives

445. The project will coordinate with existing GEF-initiatives in the region exploring synergies, sharing of resources and join activities when feasible. During the inception phase, the project will liaise with existing GEF-projects in the region to share information and establish partnerships.

Minamata Initial Assessment

446. In 2015, the Ministry of Environment and Water together with UN Environment developed a national inventory of mercury in Bolivia, which includes information on the ASGM sector. This information has been used to determine the baseline for the project. It is expected that the project can contribute to providing quality data to update this inventory regarding the ASGM sector, as well as a strengthening of capacities to comply with obligations under the Minamata Convention.

National Action Plan on the ASGM Sector in the Plurinational State of Bolivia

447. Under Article 7 of the Minamata Convention, the development of an ASGM NAP is an obligation for Parties that determine that the sector is more than insignificant in their territory. The project "National Action Plan in the Artisanal and Small-scale Gold Mining Sector in the Plurinational State of Bolivia" (NAP Bolivia, GEF ID 10310) is currently being implemented by UNIDO and executed by the Ministry of Environment and Water, the Ministry of Mining and Metallurgy, and the Ministry of Health and Sports.

448. Most of the entities involved are the same in both projects, which ensures excellent coordination and government ownership. The NAP Bolivia being an obligation and having a short timeline that the GOLD+ Bolivia project, it is expected that the latter will support the implementation of the former. This is especially true for the activities foreseen under the first component of the GOLD+ Bolivia project.

Amazon Sustainable Landscape Programme ? Phase II

449. The programme (GEF ID 10198) is implemented in the Amazon countries (Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname) and aims at improving the integrated landscape management and conservation of ecosystem in targeted areas of the Amazon region.

450. The GOLD+ project will join efforts with the activities planned for Bolivia in order to assess how to best build jurisdictional/landscape approaches in the country.

Coordination with other initiatives

451. In addition, the project will be carried out in close coordination with ongoing initiatives at the national and international level that have been mentioned under section 2.7 and the ones that have been identified through the co-financing letters.

452. Collaboration with these projects began in the preparatory phase and will continue as a key modality for execution, ensuring avoidance of duplication, seeking synergies, whenever relevant pooling of resources and regular consultation on best practices and lessons learned.

453. One example of this is the successful coordination with the Better Gold Initiative through regular scheduled calls and information exchange that have fed into the planning of both initiatives.

454. In addition, the project will cooperate with the Amazon Cooperation Treaty Organization (ACTO) which was established to promote sustainable development in the Amazon Basin. Its members include Bolivia, Brazil, Colombia, Ecuador Guyana, Peru, Suriname and Venezuela. Its work centers on collaborative initiatives geared to protecting the Amazon region through information exchange, capacity building and monitoring. Some of its more recent work involved supporting regional and thematic forums, implementing regional projects, establishing a system for environmental information and developing human and networking capacity.

455. The Stakeholder Engagement Plan will be a useful tool to ensure coordination with all the initiatives that have been developing activities to support ASGM in Bolivia.

Legal clause

456. The present project is governed by the provisions of the Standard Basic Cooperation Agreement between the Plurinational State of Bolivia and UNIDO, signed on 1 December 1988.

Transfer of assets

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

7. Consistency with National Priorities

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

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

455. The Minamata Convention on Mercury was signed by the Plurinational State of Bolivia on 10 October 2013 and ratified by Law No. 759 on 18 November 2015.

456. In 2017, the "Minamata Initial Assessment" (MIA) project was completed. This is an inventory of mercury emissions and releases in which the ASGM sector is presented as a priority at the national level as it accumulates 82% of total emissions and releases.

457. In addition, the country is in the process of preparing its National Action Plan (NAP) on the ASGM sector, which will include several strategies contained in Annex C of the Convention. During this NAP development process, where national priorities for mercury reduction in the ASM sector are determined, the Government of the Plurinational State of Bolivia will work closely with UNIDO. The present intervention will support the identification of reasonable strategies, objectives, and targets and the complementarity of the different articulated activities.

458. Therefore, this project is in line with the country's objectives to map and prevent environmental and health problems related to the use of mercury in the ASGM sector and invest in technological solutions and build institutional capacity to meet the obligations of the Minamata Convention.

459. Additionally, the project is in line with the following government priorities and initiatives: a) Draft Law for the Creation of an Office of the Defender of Mother Earth; b) Draft Supreme Decree for the Registry for the Import, Export and Commercialization of Mercury and c) Law on Nationally Produced Gold aimed at Strengthening Net International Reserves.

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.

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

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

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

Knowledge management beyond Bolivia

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

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

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

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

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

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

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

Knowledge management in Bolivia

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

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

471. Jointly with the relevant national stakeholders, a sustainable exchange mechanism to generate and socialize knowledge and information on ASGM in Bolivia will be designed in a participatory manner including all interested stakeholders that express their willingness in contributing. It will be hosted by a local partner and will build on ongoing initiatives such as GIT-OR and the National Network for Women in Mining (RNMM) ensuring that the information cascades down to the community and mining site levels.

472. The communication strategy will identify the most appropriate means to engage the key stakeholders (e.g. Government institutions, gold mining federations and cooperatives, individual miners, vocational training centres, universities and technical schools, gold buying entities, finance and banking sector, and related NGOs and development organizations) based on the local context, cultural differences, and messages that may already be used by parallel ASGM programmes in the country and region.

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

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

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

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

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

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

9. Monitoring and Evaluation

Describe the budgeted M and E plan

<u>Monitoring</u>

479. Continuous monitoring of the project activities, outputs and outcomes is required to track the progress and achievements of targets as well as overall project performance. It will also contribute to the early detection of potential issues and the related development of corrective measures. The monitoring will improve the performance of project activities and facilitate adapting to changes that might occur in the project environment.

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

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

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

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

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

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

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

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

485. UNIDO Field Office in Bolivia will assist and participate in the relevant monitoring and evaluation activities and visits.

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

? Implementation of project activities;

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

? Impact of the enforcement of the regulatory framework;

? Mobilization of stakeholders;

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

? Gender action plan.

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

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

Evaluation

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

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

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

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

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

494. More detailed information on monitoring and evaluation activities, related budget and timeframe is summarized in Table 9.

M&E activity	Purpose	Responsible	M&E Budget	Timeframe
Inception workshop and report	Adaptation of project activities, outputs and outcomes and proposed indicators and work-plan	PEE	0	Within three (3) months of project start
Project Steering Committee (PSC) meetings	Review of progress against work-plan and budget. Provide oversight to ensure the project achieves desired outputs and outcomes. Provide guidance on proposed changes or revisions of project	PEE	10,000	Annually (5 meetings)
Quarterly reports	Assess narrative and financial progress made and ensure resources are being utilized properly	PEE	0	End of March, June, October, December
Annual Progress Reports (APRs) / Project Implementation Reports (PIR)	Progress and effectiveness review for GEF Documentation on lessons learned	PEE / IA	0	30 June; 31 December
Ongoing monitoring (project execution)	Monitor continuously the execution of the project and gather data against indicators	PEE	170,000	Ongoing (5 years)

Mid-Term Review (MTR)	Assess project progress and recommend corrective actions	UNIDO	40,000	At mid-term of the project implementation
Final Report	Measure progress against baseline Highlights technical outputs Identify lessons learned and likely design approaches for future projects, assesses likelihood of achieving design outcomes	PEE	0	At the end of project implementation
Terminal Evaluation	Review project performance and coordination mechanisms Identifies lessons learned and actions for future projects Highlight technical achievements	UNIDO	50,000	No later than three (3) months after project activities completion
Total M&E			**270,000**	

Table 11: Monitoring and evaluation summary table

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)?

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

496. In addition, the project will contribute to economic, social, and environmental benefits supporting sustainable development in the country.

497. Gold mining is an essential source of economic income and job opportunities, especially considering that most of the cooperative members and personnel linked to the ASGM activities come from rural areas. However, due to the lack of control on trade and exports, inefficient gold recovery technologies and reduced formalization of the operations, considerable revenues are not being ripped and benefitting the state, producers, and society in general. By strengthening national and local authorities' technical and institutional capacities, policies, regulations, and measures for greater control and monitoring of gold producing and trading activities could be implemented. This will reduce gold smuggling, tax evasion and illicit trade resulting in increased revenues at the central, regional, and municipal levels.

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

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

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

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

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

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
Medium/Moderate			

Measures to address identified risks and impacts

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

Environmental and social impacts may be encountered during project implementation. Such risks may arise during mining and ore processing. In cases where mercury is still being used by project beneficiaries, occupational, health and safety (OHS) standards should be in place and a proper management of mercury wastes must be ensured.

Environmental Impacts

There are two groups that may be affected as a result of gold mining and processing and the use or handling of mercury and mercury-compounds and wastes: workers involved and communities around the areas. These people are exposed to physical, chemical or biological hazards of mining and processing. In areas where mercury is still being used prior to the conversion to mercury-free processing, exposure to mercury can be direct (skin contact, inhalation, ingestion) or indirect (intake of polluted water or contaminated food, inhalation of contaminated air).

More than the impacts mentioned, the project is expected to have positive long-term improvements in the environment. Soil, water and air pollution that may result from the mismanagement and improper disposal of the mercury and mercury compounds could be eliminated once the project is implemented.

Social and Economic Impacts

Negative social impacts are expected to be minimal and limited. Resettlement is not expected to happen. Direct effects on ecosystems, sites with archaeological, historical or cultural value are not likely to occur. In IP areas, the impact of the project to the socio and economic activities of the community must be carefully assessed.

Mitigation Measures

Proper mitigation measures must be developed to address the impacts identified. The objective is to reduce or minimize the effect of the impacts.

The environmental and social risks identified in the preparatory phase for the project *??GOLD+ Bolivia: Enhancing the formalization and mercury reduction in artisanal and small-scale gold mining in the Plurinational State of Bolivia??* (taking into account the location, regulatory framework and operational safeguards activated by UNIDO) can be found in Table 7.

Table. Identified Risks and Mitigation Measures

IDENTIFIED RISK	OPERATIONAL SAFEGUARD	MITIGATION MEASURE	TECHNICAL DETAILS	TIMELINE	RESPONSIBILITY
Workers? safety during mining and processing of ore	Labour and working conditions	Provision of work clothes and personal protective equipment (PPE). Occupational Risk Management in work areas. Storage of toxic and hazardous substances. Implementation of an emergency and first aid plan.	Apply the Occupational Safety and Health Program (PSST) approved by the Ministry of Labour. Refer to the General Law of Hygiene, Occupational Safety and Welfare 16998.	At all times	PEE Beneficiary mining cooperatives
Spread of COVID-19 among project beneficiaries/team	Labour and working conditions	Implementation of COVID19 biosafety protocol for the mining sector. Comply with Supreme Sanitary Decrees issued by the Ministry of Health. Promote control of COVID19 vaccination cards.	Refer to multi-ministerial resolution 01/2020 Ministry of Mining and Metallurgy - Ministry of Health.	At all times	PEE Beneficiary mining cooperatives
Presence of child labour in selected mining sites	Labour and working conditions	Monitor and ensure that children are not involved in mining activities in selected sites. Revision of child labour policy in Internal Regulations.	Refer to national legislation (Law 548).	At all times	PEE Beneficiary mining cooperatives

Displacement of women and vulnerable groups through technological changes	Labour and working conditions	Conduct a gender impact assessment and its corresponding mitigation measures to avoid risks of exclusion.	N/A	At project inception	PEE Beneficiary mining cooperatives
Generation of smoke and other air pollutants from mining operations, equipment, and vehicles	Efficiency and pollution prevention	Preventive maintenance of fuel-powered equipment and machinery. Promote the change to electric equipment and clean energy sources. Submit Environmental Monitoring Report for the AIR factor.	Refer to the Air Pollution Regulations Environmental Law 1333.	Whenever possible	PEE Beneficiary mining cooperatives
Generation of waste products from the use of mercury in ore processing	Efficiency and pollution prevention	Discourage the use of inappropriate mercury processing. Promote measures to eliminate the worst forms of mercury amalgamation. Ensure waste rocks and tailings and disposed in designated areas.	The project will promote mercury-free processing technologies; for residual activities which produce mercury wastes, the wastes must be handled according to the environmental license and international best practices.	Project inception	PEE Beneficiary mining cooperatives

Generation of solid waste from the mining operations	Efficiency and pollution prevention	Ensure mining and metallurgical waste management plan is implemented for handling mining and processing wastes.	Mining and metallurgical waste management plan will define storage, collection, segregation, recycling, reuse, and disposal procedures for all wastes generated in the area. Refer to Environmental Regulations for Mining Activities RAAM. Environmental Law 1333.	Project inception	PEE Beneficiary mining cooperatives
Uncontrolled use of ground and surface water	Health, safety, and community protection	Evaluate water availability in the selected sites with the help of data from the nearest meteorological station. Introduce technologies that involve recycling of process water and train miners in recycling practices such as hydraulic pumps driven by electric current.	Refer to national legislation (Law 1333, Law 535).	Whenever possible	PEE Beneficiary mining cooperatives

Mining operations affect health of workers and surrounding communities	Health, safety, and community protection	Provision of appropriate measures to avoid negative impacts on the health of workers/communities: avoid noise and dust generation; avoid smoke and other gaseous pollutants; ensure chemicals are used and stored in an environmentally sound manner. .	Preferred use or purchase of equipment with silencers and emission reduction and ensure proper maintenance. If needed, provision of scrubbers, filters, and dust collectors. Limit working hours and operations of equipment > 80dB to lessen nuisance to community. Standards on hazardous and toxic chemicals. Refer to Water Pollution Regulation. Environmental Law 1333.	At all times	PEE Beneficiary mining cooperatives

Deforestation and biodiversity loss increase due to mining activities	Natural habitats and biodiversity protection	Development and implementation of progressive soil rehabilitation plans supported by the jurisdictional approach for sustainable landscape management. Implementation of biodiversity and ecosystem plan for mining operations. Ensure implementation of treatment systems for liquid discharges from processing plants. Submit Environmental Monitoring Report for WATER factor.	A restoration plan should be developed and contained in the environmental license for each mining operation. Refer to national legislation (Law 1333, Law 535).	At all times	PEE Beneficiary mining cooperatives
Potential impact to indigenous people (IP) who are directly or indirectly involved in the mining/processing	Indigenous People	Consultation with IP; potential development of ESIA.	N/A	Project inception	PEE Beneficiary mining cooperatives

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
Annex J - Environmental and Social Management Plan	**CEO Endorsement ESS**	

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

Project Strategy	KPIs/Indicator/ UNIDO IRFP Indicator	Baseline	Target mid-term	Target (for the entire project duration)	Means of Verification	Assumptions
Objective: To reduce the use of mercury and increase incomes in the ASGM sector in Bolivia through a holistic, multisectoral integrated formalization approach, and increasing access to finance leading to adoption of sustainable mercury free technologies and access to traceable gold supply chains	Number of anthropogenic tons of mercury from ASGM to the environment avoided [ENV.2] Number of direct beneficiaries reached	0 0	2 5,250	18 tons of mercury avoided 10,500 direct beneficiaries reached (50% women)	Inception report, mid-term review, and terminal evaluation	
	Component 1. Enhancing formalization in the ASGM sector					

Outcome 1. Increased formalization in the sector through multisectoral, integrated approaches and capacity building of actors engaged in ASGM formalization	Number of policies, policy instruments, or regulatory frameworks with contributions from the project to improve ASGM formalization at national/local level developed [POL.3]	0	2 policies, policy instruments or regulatory frameworks	At least 4 policies, policy instruments or regulatory frameworks with contributions from the project to improve ASGM formalization	Resolutions, decrees, ordinances, and other instruments of law and/or regulations submitted for enactment	There is political will to develop and approve the regulations required for a responsible ASGM sector in Bolivia
	Number of miners supported in their formalization process (including gender-disaggregated data) [KASA.2]	0	300 miners (120 women and 180 men)	At least 600 miners supported in their formalization process (240 women and 360 men)	Analysis report on formalization status and progress for the different cooperatives	Stakeholders are willing to engage in formalization processes
	Number of actors gaining awareness/knowledge on formalization [KASA.1]	0	835 actors (385 women and 450 men) gaining awareness/knowledge	1,670 actors (770 women and 900 men) gaining awareness/knowledge on formalization	Progress reports Training reports	
	Landscape area under improved practices (hectares)	0	0	135,900 hectares	Knowledge products on JA Progress reports	
Output 1.1. State actors from central, departmental, and municipal governments linked to the	Number of ASGM policy document drafted [PAO.1]	0	1 ASGM policy document drafted	1 ASGM policy document drafted and endorsed	Policy document prepared and endorsed by relevant authorities	Government officials are interested and able to promote formalization processes for ASGM

ASGM sector have improved capacities to promote policies, programmes, regulations, and actions aimed at a greater formalization of the sector	Number of capacity building events conducted for public sector officials [TCO.1]	0	4	At least 8 capacity building events conducted for public sector officials	Training reports, minutes, and training support material on formalization capacity building processes	
Output 1.2. Productive actors in the ASGM sector as well as the parent organizations and federations strengthened to promote formalization processes in the sector and its productive activities	Number of tools to measure formalization status and progress of mining cooperatives produced [TCO.3]	0	1	1 tool to measure formalization status and progress of mining cooperatives produced	Tool to measure formalization status and progress	Mining organizations are able and willing to undertake changes in relation to formalization
	Number of capacity building events conducted for ASGM leaders and cooperative members [TCO.1]	0	8	At least 16 capacity building events conducted for ASGM leaders/cooperative members	Training reports, minutes and training support material for technical assistance, and advisory processes	
Output 1.3. Jurisdictional Approach (JA) and multi-stakeholder approach piloted at selected ASGM area	Number of knowledge products developed on jurisdictional and landscape approaches to strengthen formalization in ASGM sector	0	2	3 knowledge products developed on jurisdictional and landscape approach to strengthen formalization in ASGM	Knowledge products elaborated and disseminated	A jurisdiction where all the pre-conditions are in place for a successful pilot is selected

Output 1.4. Women capacities to exert their rights are strengthened and a public policy agenda is generated towards formalization, gender equality and women empowerment	Socioeconomic baseline of women in ASGM in the selected areas [PAO.2]	0	1	1 socioeconomic baseline on women in ASGM in the selected areas	Questionnaires, surveys, interviews Socioeconomic baseline report	Data allows for informed decision-making for gender-related issues Women are able and willing to participate in the activities
	Number of capacity building events conducted for women miners [TCO.1]	0	6	At least 9 capacity building events conducted for women miners	Training reports, minutes and training support material for technical assistance, and advisory processes	
	Component 2. Access to finance enhanced by financial inclusion and responsible supply chains					
Outcome 2. Increase in finance options through the attainment of better gold prices facilitated by transparent and responsible supply chains	Number of actors gaining awareness/knowledge on access to finance and responsible supply chains [KASA.1]	0	1,375 actors (670 women and 705 men) gaining awareness/knowledge	2,750 actors (1,340 women and 1,410 men)) gaining awareness/knowledge on access to finance and responsible supply chains	Progress reports	Stakeholders are able and willing to participate in awareness raising/capacity building on access to finance
	Number of financial mechanisms developed, influenced, or supported [INV.1]	0	1	At least 2 financial mechanisms developed, influenced, or supported	Inception report, mid-term review, and terminal evaluation Reports submitted by financial entities working in the sector in coordination with the project	Financial institutions are interested in developing and implementing adequate financial mechanisms for ASGM
	Amount of funds (in USD) made available to ASGM through financial mechanisms (disaggregated by gender and indigenous people) [INV.3]	0	USD 1,500,000	USD 4,000,000		

	Amount of mercury-free/ responsible gold sold to formal market (Kg)	0	80 Kg	240 Kg of gold sold to formal market	Progress reports	Miners and traders are willing to share information on gold supply chains
Output 2.1. Public and private funding bodies strengthened to increase support to ASGM, and complementary financial mechanism implemented	Number of capacity building events conducted for public sector officials [TCO.1]	0	4	At least 8 capacity building events conducted for public sector officials	Training reports, minutes and training support material for technical assistance, and advisory processes	The Government maintains political, economic, and social stability The Government prioritizes economic reactivation, boosting the take-off of ASGM
	Number of capacity building events conducted for financial entities [TCO.1]	0	2	At least 4 capacity building events conducted for financial entities	Training reports, minutes and training support material for technical assistance, and advisory processes	
Output 2.2. Individual and institutional capacities of ASGM actors improved in areas of overall management, entrepreneurship, and financial education	Number of capacity building events conducted on financing and accounting for miners and cooperatives [TCO.1]	0	25	At least 50 capacity building events conducted on financing and accounting	Training reports and lists of attendance	There is interest in the ASGM sector to articulate with the financial sector
	Number of capacity building events on alternative livelihoods conducted for women miners [TCO.1]	0	5	At least 10 capacity building events conducted for women miners on alternative livelihoods entrepreneurship	Training reports and lists of attendance	

Output 2.3. Efficiency, control and monitoring of gold commercialization processes increased to build transparent, traceable and responsible gold supply chains	Number of analytical reports on gold supply chain produced [PAO.1]	0	1	1 analytical report on the gold supply chain in Bolivia produced	Analytical report based on primary and secondary data	Supply chain regulations and mechanisms in the country are favorable
	Number of initiatives to promote responsible gold supply chains with increased transparency designed [NOO.1]	0	1	At least 2 initiatives and/or incentives developed and implemented, both public and private sector, for responsible gold sourcing with increased transparency	Progress reports	
	Component 3. Enhancing uptake of mercury-free technologies					
Outcome 3. Reduced mercury use in ASGM enabled by the increased uptake of mercury-free technologies by miners	Number of pilot projects implemented and operationalized in the selected mining sites [TEC.3]	0	2	8 pilot projects implemented and operationalized in the selected mining sites to reduce and/or eliminate mercury	Progress reports	ASGM cooperatives/individual miners are willing and able to implement changes in gold recovery technology
	GHG mitigated	0	77,184 metric tons of CO_2eq mitigated	154,368 metric tons of CO_2eq mitigated	Progress reports	
	Number of miners trained in mercury-free processes (disaggregated by gender) [KASA.2]	0	400 miners (150 women and 250 men) trained	800 miners (300 women and 500 men) trained in gold recovery technologies where mercury is reduced or eliminated	Training reports, minutes and training support material for technical assistance and advisory processes	

	Number of actors gaining awareness/knowledge on mercury-free technologies [KASA.1]	0	835 actors (500 women and 335 men) gaining awareness/knowledge	1,670 actors (1,000 women and 670 men) gaining awareness/knowledge on mercury-free technologies	Progress reports	
	Number of training institutions in clean technologies for gold recovery strengthened [KASA.2]	0	1	1 training institutions in clean technologies for gold recovery strengthened to include responsible gold in its curricula	Progress report	
Output 3.1. Productive actors in ASGM are strengthened to implement technologies that use less or no mercury for more profitable and/or environmentally cleaner gold recovery	Number of plans to improve processing technologies developed [TCO.4]	0	4	8 plans to improve processing technologies developed	Progress reports	ASGM cooperatives/individual miners are willing and able to implement changes in gold recovery technology
	Number of capacity building events for miners [TCO.1]	0	15	30 capacity building events will be conducted for miners in hg-free and OHS	Training reports, minutes and training support material for technical assistance and advisory processes	
Output 3.2. ASGM productive actors? awareness on supply of mercury-free equipment increased and linkages with technology providers created	Number of events on equipment for cleaner technologies for gold recovery organized [CPO.1]	0	1	2 events on equipment for cleaner technologies for gold recovery	Event reports	There is interest from the private sector and supply is available in the country/region

Output 3.3. Academic centers, universities and institutes strengthened to include responsible gold production as part of the training curricula	Number of diploma courses developed in academic units [TCO.3]	0	3	6 diploma courses developed in academic units	Diploma courses reports	Academic and educational conditions are created to implement qualification programmes at professional level
	Number of capacity building events based on diploma courses organized [TCO.1]	0	3	4 capacity building events based on diploma courses organized	Capacity building report List of participants on diploma courses	
	Component 4. Knowledge sharing, communication and local capacity building support					
Outcome 4. Knowledge sharing and communication strategies targeted at all ASGM stakeholders to support and increase formalization and mercury reduction efforts	Number of actors gaining awareness/knowledge on the dangers of mercury and ways to avoid/eliminate its use in ASGM [KASA.1]	0	1,505 actors (800 women and 705 men) gaining awareness/knowledge	3,010 actors (1,600 women and 1,410 men) gaining awareness/knowledge on the dangers of mercury and ways to avoid/eliminate its use in ASGM	Progress reports	
	Number of people reached with awareness raising materials, by mode of communication (e.g. online, in-person, via SMS, WhatsApp, etc) and by gender [REA.1]	0	50,000 (25,000 women and 25,000 men) reached with awareness raising materials	100,000 (50,000 women and 50,000 men) reached with awareness raising materials	Metrics on communication outreach	There is interest, participation and involvement of the different stakeholders
	Number of original publications (blogs, news articles, events, photo essays, videos, etc) on planetgold.org or on other planetGOLD digital communication platforms	0	4	10 original publications (blogs, news articles, events, etc.) on planetgold.org or other planetGOLD digital communication platforms	Blogs, news articles, events or other publications available on planetGOLD website	

Output 4.1. Inter-institutional mechanism where different stakeholders exchange, disseminate and share information related to ASGM in Bolivia established.	Number of plans to develop a sustainable exchange mechanism for the ASGM sector hosted by a local partner developed [TCO.4]	0	1	1 plan to develop a sustainable exchange mechanism for the ASGM sector hosted by a local partner developed	Progress reports	There is sufficient technical and financial support to build the sustainable exchange mechanism
Output 4.2. Information, knowledge and lessons learned on key ASGM topics generated and disseminated at the national and international levels	Number of events[1] related to responsible ASGM at national and jurisdiction level organized [CPO.1]	0	15	30 events carried out	Meeting reports systematized in a knowledge management platform	Pilot experiences generate relevant lessons learned to be disseminated and replicated Links with the media are generated
	Number of ASGM technical formation with government approved competency-based certification [TCO.3]	0	2	At least 4 technical formation have approved competency-based certification	Documents approved by the Ministry of Education	
Output 4.3. Women?s capacities in leadership are strengthened and regional exchanges among Andean women miners are promoted to increase visibility of gender in ASGM	Number of capacity building events on leadership organized [TCO.1]	0	5	10 capacity building events on leadership organized	Training reports	Women miners are engaged General public has an interest on gender aspects in ASGM
	Number of physical/virtual regional events for women miners organized [CPO.1]	0	3	At least 5 physical/virtual regional events for women miners organized	Meetings reports	

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

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

The GOLD+ Bolivia project did not receive specific comments at the concept stage.

However, the project has taken into account the comments received by the GOLD+ programme as per the table below:

Addressed comments from STAP, Minamata Convention on Mercury, Germany, Switzerland, and the United States	Response	Reference
Comments from the STAP		
STAP Comment • This project will involve the convening multi-stakeholders with the associated challenges (see World Bank, 2014, page 5-7 for examples of these challenges – https://www.wiltonpark.org.uk/wp-content/uploads/WP1314-Report1.pdf). For example, the proposed landscape/jurisdiction approach will involve engaging different actors, such as governments, communities, the private sector, and civil societies. STAP wishes to refer the project proponent to its latest publication on "multi-stakeholder dialogue for transformational change" (https://stapgef.org/publications), which presents principles of multi-stakeholder dialogue (MSD), analyses the context of MSD, and highlights the process of designing an effective MSD.	Refer to Stakeholder Engagement Plan of the GOLD+ Bolivia project.	Annex I – Stakeholder Engagement Plan
STAP Comment • The project will adopt the jurisdictional approach (JA) as a framework for structuring interventions. The second paragraph on page 28, however, highlights some of the challenges associated with the JA, including unrealistic expectations, political turnover, limited public sector capacity, and lack of broader support and incentives. Yet, the PIF is silent on how the project will overcome these challenges to ensure success. STAP recommends that this should be done.	Refer to assessment of jurisdictional approach for the GOLD+ Bolivia project and output 1.3 of the logical framework.	CEO Endorsement document
STAP Comment • Component 4 will support capacity building, knowledge sharing, and communication, including "using online education and digital marketing tools to support the traditional participatory workshop and training model to help institutionalize sustainable mining methods at the community level." It is, however, unclear how online education and digital marketing tools will be used given the remoteness of ASGM operations (as noted in the last paragraph of page 19). Does this project intend to provide digital access to ASGM miners? The details of how this component will be achieved need to be elaborated.	Incorporated under component 4 of the GOLD+ Bolivia project.	CEO Endorsement document
STAP Comment • As rightly noted in the risk section of the PIF, the introduction of new technologies or ensuring mercury-free gold mining may inadvertently result in loss of livelihood. In such cases, alternative livelihood strategies may be required to achieve the project objectives. This is particularly important because mercury-based ASGM may be more profitable than other alternative sources of livelihoods in the targeted communities. Hence, a well-considered strategy may be needed to wean miners from their current practices. The proposal, however, seems not to put enough emphasis on interventions for addressing this issue.	Incorporated under component 3 of the GOLD+ Bolivia project.	CEO Endorsement document
STAP Comment • It is good that the PIF acknowledged that the project would contribute to other GEF core indicators, including the area of land restored, area of landscapes under improved practices, and greenhouse gas emission reduction. The PIF did not, however, present clearly how the interventions will lead to these benefits. We encourage that the project proponent elaborates further on this and provide a detailed estimation of all expected GEBs at the PPG stage (as promised in the PIF).	Refer to GEB core indicators of the GOLD+ Bolivia projects for co-benefits.	CEO Endorsement document

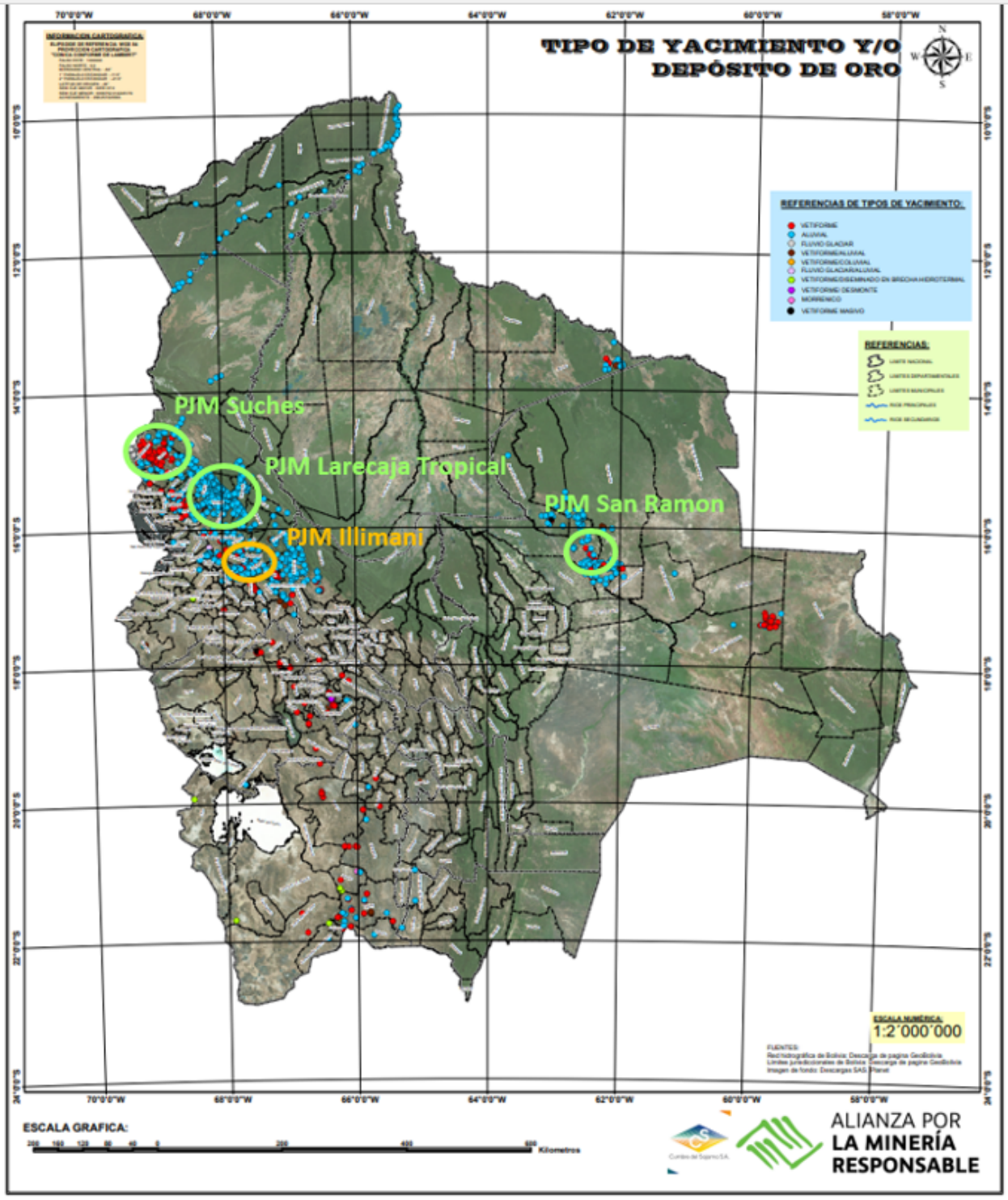
STAP Comment • For a project that will depend on significant multi-stakeholder engagement for its success, the stakeholder section of the PIF is inadequate. Please provide a detailed analysis of stakeholders expected to be engaged in the project in the participating countries. Please, also highlight how they will be engaged, their expected role in the project, and whether they have been engaged already or if this is ongoing.	Refer to Stakeholder Engagement Plan of the GOLD+ Bolivia project.	Annex I – Stakeholder Engagement Plan
STAP Comment • It is good that the PIF acknowledges the potential impacts of projected climate change, for example, desertification on achieving project objectives. The effects of climate change may also influence decisions on ASGM sites? We recommend that a detailed analysis of climate risk and management strategy should be presented for the project.	Refer to climate change-related risks included in the Environmental and Social Management Plan (ESMP) for the GOLD+ Bolivia project.	Annex J – Environmental and Social Management Plan
Comments from the United States		
US Comment • Overall, for Program component 6, Global coordination, knowledge management and outreach, there seems to be a lack of focus on the private sector gold buyers and users. Large companies (refiners, jewellers, electronics) can benefit from GOLD+ data and other insights as they increase implementation of gold sourcing due diligence programs. If this program can better consider and be sensitive to ongoing private sector due diligence policies and programs, then the program's sustainability can be greatly amplified. Eventually, funding for these types of projects, and demand for responsible mercury free gold, will come from the downstream supply chain.	Incorporated in the private sector section of GOLD+ Bolivia project.	CEO Endorsement document
US Comment • A related supply chain concern is that in our view, the current program potentially hides supply chain issues under the "lack of access to finance" heading. While they are related, lack of access to finance is not completely a supply chain question, and vice versa. Critical supply chain issues that should be considered include transparency, customs and trade, consumer demand (how do we mainstream responsible gold for the final consumer), responsible production, and coordination with company due diligence measures (OECD DDG). To couple these supply chain issues with another large issue like access to finance dilutes the importance of both of these barriers.	These aspects are considered under output 2.3 of the GOLD + Bolivia project.	CEO Endorsement document
Comments from Switzerland		
Switzerland Comment • Page 17, Para 44: the access to finance for the transition to mercury free practices in the ASGM sector is a key challenge in particular in the informal sector, but it is unclear to us how GEF GOLD+ will tackle this challenge after the GEF GOLD program has already addressed this challenge and was not fully successful.	These aspects are included under component 2 of the GOLD+ Bolivia project.	CEO Endorsement document
Switzerland Comment • Could you clarify what will happen with the mercury still in use at this stage and the various mercury waste stocks in the ASGM areas of the recipient countries of the program? Where will the mercury waste be treated and by whom? Who will transport it? The treatment of the waste is key to ensure that the mercury intake to the environment will be avoided / limited as much as possible.	Environmentally sound management of tailings is foreseen under component 3 of GOLD+ Bolivia project.	CEO Endorsement document
Comments from the Minamata Secretariat		
Minamata Secretariat Comment • While this project clearly advances implementation of the Minamata Convention, the program description provides limited attention to the Convention requirements, and we are concerned that the various governmental and non-governmental partners going forward will therefore not gain sufficient understanding and advancement of their Convention obligations. We would like to ensure that the child projects clearly focus on Article 7 and Annex C requirements and finalization and implementation of NAPs.	Coordination between the NAP Bolivia and the GOLD+ Bolivia project is expected to take place.	CEO Endorsement document
Minamata Secretariat Comment • Gender - Is the gender distribution noted here a widely used metric when very specific community-based data is not available? Or is it simply a placeholder? We note that gender impacts will be more thoroughly evaluated in the child projects. It would also be useful to ensure good estimates of populations "directly" involved (working in ASGM) as well as impacted by ASGM.	Refer to the Gender Analysis and Action Plan of the GOLD+ Bolivia project.	Annex K – Gender Analysis and Action Plan
Minamata Secretariat Comment • Component 1: all the participating countries will already be party to the Convention so not clear what the phrase about ratification refers to – we assume implementation of their MC obligations. Regional cooperation was referred to earlier in challenges description and should be a more prominent part of the project, e.g., enhancing ECOWAS or UEMOA actions.	Regional cooperation with other countries in the LAC region will be explored.	CEO Endorsement document
Minamata Secretariat Comment • Component 2: The activities on collaborating with local financial institutions should also involve linkages with the formalization efforts, such that formalization schemes and financial products are mutually reinforcing.	Interlinkages between formalization and mercury-free technologies and access to finance have been considered in the GOLD+ Bolivia project. Refer to component 2.	CEO Endorsement document
Minamata Secretariat Comment • Component 3: In section on enhancing uptake of mercury-free technologies, we note that cyanide is appropriately listed as one of the technologies in the chart. However, no mention is made of the Convention's requirement that ASGM National Action Plans elaborate actions to eliminate "cyanide leaching in sediment, ore or tailings to which mercury has been added without first removing the mercury." This requirement should be prominently featured such that any support for cyanide operations focuses on this critical need.	These actions have been considered under component 3 of the GOLD+ Bolivia project.	CEO Endorsement document
Comments from Germany		
Germany Comment • To include the international multi-stakeholder working group on Women and Mining (www.womenandmining.org) as a global knowledge-sharing partner on gender aspects of the proposal.	The GOLD+ Bolivia project has considered Women and Mining as one of the partners in its Stakeholder Engagement Plan and Gender Analysis and Action Plan for gender-related aspects.	Annex I – Stakeholder Engagement Plan Annex K – Gender Analysis and Action Plan

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

Project Preparation Activities Implemented	*GETF/LDCF/SCCF Amount ($)*		
	Budgeted Amount	*Amount Spent To date*	*Amount Committed*
Inception workshop	10,000	6,151.56	
Stakeholder engagement activities		12,000	5,000
Preparation of Stakeholder Engagement Plan		12,000	
Baseline data collection	60,000	16,000	
Study on financial mechanisms	20,000	22,250	
ESMP development	10,000	17,000	
Gender assessment	10,000	15,000	
Follow-up on co-financing letters	10,000	12,000	5,000
PEE assessment	20,000	10,000	
Validation workshop	10,000	5,000	
TOR for execution preparation	10,000	6,000	
Development of project workplan and project document		25,000	
Finalization of prodoc	40,000	28,000	3,848.44
Total	200,000	186,151.56	13,848.44

ANNEX D: Project Map(s) and Coordinates

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



ANNEX E: Project Budget Table

Please attach a project budget table.

A summary of the budget has been included below. For the detailed budget please refer to Annex E - Project Budget Table.

Summary Budget	Component (USD)								
Cost Categories	Detailed Description	Component 1 Total Component 1	Component 2 Total Component 2	Component 3 Total Component 3	Component 4 Total Component 4	Sub-total	M&E	PMC	Total GEF	Responsible Entity
Consultants										
Local consultants	Lead Mining / Mineral Processing Expert	140.000	0	145.000	0	285.000	0		**285.000**	PEE (Projekt Consult)
	Monitoring Specialist	0	0	0	0	0	170.000		**170.000**	PEE (Projekt Consult)
	Project Assistant	0	0	0	0	0	0	125.000	**125.000**	PEE (Projekt Consult)
	Gender Expert	45.000	45.000	45.000	45.000	180.000	0		**180.000**	PEE (Projekt Consult)
	Communications Specialist	45.000	45.000	45.000	45.000	180.000	0		**180.000**	PEE (Projekt Consult)
	Financial Specialist	0	168.000	0	0	168.000	0		**168.000**	PEE (Projekt Consult)
	Sub-total Local Consultants	**230.000**	**258.000**	**235.000**	**90.000**	**813.000**	**170.000**	**125.000**	**1.108.000**	
International consultancy / Event Organization	Chief Technical Advisor	230.000	235.000	235.000	110.000	810.000	0	170.000	**980.000**	PEE (Projekt Consult)
	Principal Technical Backstopper	62.500	62.500	62.500	62.500	250.000	0		**250.000**	PEE (Projekt Consult)
	Senior Technical Backstopper	18.750	18.750	18.750	18.750	75.000	0		**75.000**	PEE (Projekt Consult)
	Mid-Term Review consultant	0	0	0	0	0	40.000		**40.000**	UNIDO
	Terminal Evaluation consultant	0	0	0	0	0	50.000		**50.000**	UNIDO
	Sub-total International Consultants	**311.250**	**316.250**	**316.250**	**191.250**	**1.135.000**	**90.000**	**170.000**	**1.395.000**	
Contractual Services – Company	Drafting ASGM policy document (1.1)	83.500	0	0	0	83.500	0		**83.500**	PEE (Cumbre del Sajama)
	Applying formalization tool to mining cooperatives (1.2)	112.500	0	0	0	112.500	0		**112.500**	PEE (Cumbre del Sajama)
	Producing knowledge products on JA/SLA (1.3)	182.500	0	0	0	182.500	0		**182.500**	PEE (Cumbre del Sajama)
	Preparing socioeconomic baseline women ASGM (1.4)	105.250	0	0	0	105.250	0		**105.250**	PEE (Cumbre del Sajama)
	Designing financial mechanism(s) for ASGM (2.1)	0	284.000	0	0	284.000	0		**284.000**	PEE (Fundación PROFIN)
	Producing analytical report on gold supply chain (2.3)	0	120.000	0	0	120.000	0		**120.000**	PEE (Fundación PROFIN)
	Designing initiatives to promote responsible gold supply chains (2.3)	0	118.000	0	0	118.000	0		**118.000**	PEE (Fundación PROFIN)
	Developing plans to improve processing technologies (3.1)	0	0	555.000	0	555.000	0		**555.000**	PEE (Fundación MEDMIN)
	Developing diploma courses in academic units (3.3)	0	0	175.000	0	175.000	0		**175.000**	PEE (Fundación MEDMIN)
	Developing plans for a knowledge management platform in ASGM (4.1)	0	0	0	38.000	38.000	0		**38.000**	PEE (WCS/Fundación MEDMIN)
	Preparing ASGM technical formation competency based certification (4.2)	0	0	0	46.750	46.750	0		**46.750**	PEE (WCS/Fundación MEDMIN)
	Sub-total Contractual Services –	**483.750**	**522.000**	**730.000**	**84.750**	**1.820.500**	**0**	**0**	**1.820.500**	
Travel	International travel	40.000	37.500	37.500	75.000	190.000	0		**190.000**	
	Local travel	80.000	75.000	75.000	60.000	290.000	0		**290.000**	
	Sub-total Travel	**120.000**	**112.500**	**112.500**	**135.000**	**480.000**	**0**	**0**	**480.000**	
Office Supplies	Office supplies	0	0	0	0	0	0	18.500	**18.500**	PEE (Projekt Consult)
	Sub-total Office supplies	**0**	**0**	**0**	**0**	**0**	**0**	**18.500**	**18.500**	
Training / workshop / Web portal related / Meeting	Meetings PSC	0	0	0	0	0	10.000		**10.000**	PEE (Projekt Consult)
	Capacity building for public sector officials (1.1)	165.000				165.000	0		**165.000**	PEE (Cumbre del Sajama)
	Capacity building for ASGM cooperatives (1.2)	165.000	0	0	0	165.000	0		**165.000**	PEE (Cumbre del Sajama)
	Capacity building for women miners (1.4)	165.000	0	0	0	165.000	0		**165.000**	PEE (Cumbre del Sajama)
	Capacity building for public sector officials (2.1)	165.000	161.250	0	0	326.250	0		**326.250**	PEE (Cumbre del Sajama)
	Capacity building for financial entities (2.1)	0	152.000	0	0	152.000	0		**152.000**	PEE (Fundación PROFIN)
	Capacity building for miners (2.2)	0	160.000	0	0	160.000	0		**160.000**	PEE (Fundación PROFIN)
	Capacity building for women miners (2.2)	0	163.000	0	0	163.000	0		**163.000**	PEE (Fundación PROFIN)
	Capacity building for miners (3.1)	0	0	139.000	0	139.000	0		**139.000**	PEE (Fundación MEDMIN)
	Events on equipment for cleaner technologies for gold recovery (3.2)	0	0	103.000	0	103.000	0		**103.000**	PEE (Fundación MEDMIN)
	Capacity building on diploma courses (3.3)	0	0	114.250	0	114.250	0		**114.250**	PEE (Fundación MEDMIN)
	Events on responsible ASGM (4.2)	0	0	0	45.000	45.000	0		**45.000**	PEE (WCS/Fundación MEDMIN)
	Capacity building on leadership (4.3)	0	0	0	30.000	30.000	0		**30.000**	PEE (WCS/Fundación MEDMIN)
	Events for regional exchanges with women miners (4.3)	0	0	0	24.000	24.000	0		**24.000**	PEE (WCS/Fundación MEDMIN)
	Sub-total Training/workshop/meeting	**660.000**	**636.250**	**356.250**	**99.000**	**1.751.500**	**10.000**	**0**	**1.761.500**	
	TOTAL YEARS 1-6	**1.805.000**	**1.845.000**	**1.750.000**	**600.000**	**6.000.000**	**270.000**	**313.500**	**6.583.500**	

ANNEX F: (For NGI only) Termsheet

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

Not applicable.

ANNEX G: (For NGI only) Reflows

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

Not applicable.

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

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

Not applicable.