



# REQUEST FOR CEO APPROVAL<sup>1</sup>

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: GEF Trust Fund

## PART I: PROJECT INFORMATION

Project Title: Implementing integrated measures for minimizing mercury releases from artisanal gold mining			
Country(ies):	Ecuador, Peru	GEF Project ID: <sup>2</sup>	
GEF Agency(ies):	UNIDO (select) (select)	GEF Agency Project ID:	
Other Executing Partner(s):	National Geologic, Mining & Metallurgy Research Institute (INIGEMM), in Ecuador and the Ministry of Environment in Peru.	Submission Date:	
GEF Focal Area (s):	Multifocal Area	Project Duration(Months)	36 months
Name of Parent Program (if applicable): For SFM/REDD+ <input type="checkbox"/>		Agency Fee (\$):	99,990

### A. FOCAL AREA STRATEGY FRAMEWORK<sup>3</sup>

Focal Area Objectives	Expected FA Outcomes	Expected FA Outputs	Trust Fund	Grant Amount (\$)	Cofinancing (\$)
(select) CHEM-3	Outcome 3.1 Country capacity built to effectively manage mercury in priority sectors.	Output 3.1 Countries receiving GEF support for mercury management and reduction, on a pilot basis.	GEF TF	639,000	1,942,000
IW-1 (select)	Outcome 1.3 Innovative solutions implemented for reduced pollution, improved water use efficiency, sustainable fisheries with rights-based management, IWRM, water supply protection in SIDS, and aquifer and catchment protection.	Output 1.3 Types of technologies and measures implemented in local demonstrations and investments	GEF TF	270,000	500,000
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)			(select)		
(select) (select)	Others		(select)		
Subtotal				909,000	2,442,000
Project management cost <sup>4</sup>			GEF TF	90,900	234,764
<b>Total project costs</b>				<b>999,900</b>	<b>2,676,764</b>

<sup>1</sup> It is important to consult the GEF Preparation Guidelines when completing this template

<sup>2</sup> Project ID number will be assigned by GEFSEC.

<sup>3</sup> Refer to the [Focal Area/LDCF/SCCF Results Framework](#) when filling up the table in item A.

<sup>4</sup> This is the cost associated with the unit executing the project on the ground and could be financed out of trust fund or cofinancing sources.

## B. PROJECT FRAMEWORK

<b>Project Objective: To protect human health and the environment by implementing integrated measures aimed at minimizing mercury releases (&gt;40%) from artisanal gold mining activities affecting the Puyango River basin in Ecuador and the Tumbes River basin in Peru.</b>						
<b>Project Component</b>	<b>Grant Type</b>	<b>Expected Outcomes</b>	<b>Expected Outputs</b>	<b>Trust Fund</b>	<b>Grant Amount (\$)</b>	<b>Confirmed Cofinancing (\$)</b>
1. Design of strategies for minimization of mercury releases and enhancement of gold recovery and income	TA	1 Mercury minimization strategies and reduction targets endorsed by stakeholders in both countries	1.1 Design strategies for minimization of mercury releases and enhancement of gold recovery. 1.2 Develop a characterization and diagnostic analysis describing the baseline socio-economic, environmental and human health conditions, as well as the organizational and political structure of the ASGM communities. 1.3 Establish targets for release reductions, with the development of accompanying indicators of success.	GEFTF	40,000	290,000
2. Implementation of Mercury Releases Minimization Strategies in the Puyango-Tumbes River basins.	Inv	2. Reduction in mercury use and emissions in the targeted mining communities, through: i) local development and adoption of alternative mining technologies/ techniques; ii) increased awareness of mining communities, national & local authorities and the general public, particularly women and youth, on dangers of mercury; iii) adoption of policies or programmes that support the formalization of	2.1 Training of miners on improved technologies and best practices to reduce mercury use and emissions, while enhancing gold recovery and incomes. 2.2 Training of miners, national and local authorities, as well as the general public, particularly women and youth, on the dangers of mercury. 2.3 Develop programs to promote the use of financial tools for miners, policy/ legislative reforms and the formalization of the ASGM sector.	GEFTF	769,000	2,100,000

		miners and promote innovative financial mechanism.				
3. Implementation of Communication, Dissemination and Replication (CDR) Strategies	TA	3. Project objectives and results are communicated / disseminated to achieve replication at a national, regional and international level.	3.1 The communication strategy will successfully disseminate the project achievements, which in turn will lead to a replication of best practices at a national, regional and international level.	GEFTF	100,000	52,000
	(select)			(select)	0	
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
	(select)			(select)		
Subtotal					909,000	2,442,000
Project management Cost <sup>5</sup>				GEFTF	90,900	234,764
<b>Total project costs</b>					999900	2676764

**C. SOURCES OF CONFIRMED COFINANCING FOR THE PROJECT BY SOURCE AND BY NAME (\$)**

Sources of Co-financing	Name of Co-financier (source)	Type of Cofinancing	Cofinancing Amount (\$)
National Government	INIGEMM	Grant	540,000
National Government	INIGEMM	In-Kind	1,419,600
Others	University of Machala, Ecuador	In-Kind	150,000
National Government	US State Department	Grant	242,000
National Government	Ministry of Environment, Peru	In-Kind	275,164
GEF Agency	UNIDO	(select)	50,000
(select)		(select)	
<b>Total Co-financing</b>			2,676,764

**D. GEF/LDCF/SCCF RESOURCES REQUESTED BY AGENCY, FOCAL AREA AND COUNTRY<sup>1</sup>**

GEF Agency	Type of Trust Fund	Focal Area	Country Name/ Global	(in \$)		
				Grant Amount (a)	Agency Fee (b) <sup>2</sup>	Total c=a+b
UNIDO	GEF TF	Multi-focal Areas	Ecuador	749,900	74,990	824,890
UNIDO	GEF TF	Multi-focal Areas	Peru	250,000	25,000	275,000
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0

<sup>5</sup> Same as footnote #3.

(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
(select)	(select)	(select)				0
<b>Total Grant Resources</b>				999,900	99,990	1,099,890

**E. CONSULTANTS WORKING FOR TECHNICAL ASSISTANCE COMPONENTS:**

Component	Estimated Person Weeks	Grant Amount (\$)	Cofinancing (\$)	Project Total (\$)
Local consultants*	840.00	596,000	318,200	914,200
International consultants*	104	148,000	80,000	228,000
<b>Total</b>		744,000	398,200	1,142,200

\* Details to be provided in Annex C.

**F. PROJECT MANAGEMENT COST**

Cost Items	Total Estimated Person Weeks/Months	Grant Amount (\$)	Co-financing (\$)	Project Total (\$)
Local consultants*	411.00	90,900	24,764	115,664
International consultants*				0
Office facilities, equipment, vehicles and communications*			60,000	60,000
Travel*			150,000	150,000
Others**	Specify "Others" (1)	0		0
	Specify "Others" (2)			0
<b>Total</b>		90,900	234,764	325,664

\* Details to be provided in Annex C.

\*\* For others, to be clearly specified by overwriting fields \*(1) and \*(2).

**G. DOES THE PROJECT INCLUDE A “NON-GRANT” INSTRUMENT? No**

(If non-grant instruments are used, provide in Annex E an indicative calendar of expected reflows to your Agency and to the GEF/LDCF/SCCF Trust Fund).

**H. DESCRIBE THE BUDGETED M & E PLAN:**

The United Nations Industrial Development Organization (UNIDO) will be responsible for the overall monitoring and evaluation of the project, as well as reporting progress to the donor. A Project Coordination Unit (PCU) will be established in Ecuador, it will be comprised of a Regional Project Coordinator (RPC), national experts and administrative support personnel. In Peru, there will be a National Coordinator (NC) and national experts. The RPC will be responsible for the overall coordination of project activities, the day to day implementation of the project in Ecuador and will coordinate activities with the NC in Peru. The NC in Peru will be responsible for the day to day coordination of activities in Peru and will interact closely with the RPC in order to assure that activities are coordinated in an effective and efficient manner. There will be weekly communication between the RPCs, the NC and UNIDO to monitor the progress of the project and review project implementation as needed.

A detailed annual work plan for the first year will be developed at the inception of the project. This will be used to

evaluate whether implementation is advancing at the intended pace and achieving the desired results. During the first phase of the project a collection of existing data will be conducted in order to establish a baseline from which specific targets for the first year will be defined, along with corresponding indicators and means of verification. During this preliminary assessment the target mining communities will be defined, including number of beneficiaries per ASGM community. Indicators of success will include, but not be limited to: reduction in the quantity of mercury used in the mining communities; number of miners that eliminate the use of whole ore amalgamation; number of miners that adopt technologies such as retorts or fume hoods which reduce mercury emissions; increase in gold production using clean technologies; and participation of miners in training courses. Indicators of project goal, progress and performance will be continuously monitored and evaluated throughout the project, and will be adapted when necessary to achieve the best results. Targets and indicators for subsequent years will be reviewed annually based on the internal evaluation and planning process of the RPC, NC and UNIDO. The workplans for years two and three will be based upon results achieved in the previous year, agreed priorities and changes necessary due to adaptive management decisions (including associated budget allocations).

UNIDO will contribute 50,000 USD as co-financing to the project for the purposes of monitoring and evaluation; 20,000 USD to cover yearly monitoring visits and 30,000 USD for a final, independent evaluation. During the yearly visits UNIDO will meet with the RPC, NC and national counterparts of both countries to (i.) review and approve annual work plans; (ii) assess progress against M&E targets and (iii) assess any gaps or weaknesses and make necessary adaptive management decisions.

As part of the project implementation report UNIDO will submit yearly programmatic and financial reports to the donor. Progress of outputs and activities will be assessed annually using the indicators and means of verification for measurement of results against the project's Logical Framework. In addition, UNIDO will use the GEF IW Tracking Tool for reporting of results. Performance measurement will be carried out at three levels: activity, annual work plans and overall project. All project costs will be accounted for and documented. Financial reports will be required from the RPC and NC according to standard UNIDO accounting procedures. UNIDO will in turn provide financial reports to GEF on an annual basis. The final programmatic and financial reports will be submitted to the GEF within 90 days of the project end.

## **PART II: PROJECT JUSTIFICATION**

### **A. DESCRIPTION OF THE CONSISTENCY OF THE PROJECT WITH:**

#### A.1.1. The [GEF focal area/LDCF/SCCF strategies](#):

The project is in line with the overall goal of the Chemicals Focal Area to "promote the sound management of chemicals to lead to the minimization of adverse effects on human health and the environment", and in particular with Objective 3 to "Pilot sound chemicals management and mercury reduction". The project will strengthen the national capacity of both Ecuador and Peru to effectively manage mercury in the artisanal and small scale gold mining sector. An emphasis on reductions in the releases of mercury in combination with increases in gold recovery, income enhancement and other socio-economic measures will give sustainability to the interventions. The project is also consistent with the aim of the GEF-5 Chemicals focal area to support countries in preparation for the entry into force of the internationally legally binding agreement on mercury, currently being negotiated.

The International Waters (IW) focal area has traditionally had a pioneering role in support of action to combat releases of persistent toxic substances (PTS). The GEF 5 IW Strategy confirms the value of new information which shows the danger to human health and the environment from PTS that are released as air and water pollution. Objective 1 of the IW focal area seeks to "catalyze multi-state cooperation to balance conflicting water uses in transboundary surfaces and groundwater basins while considering climatic variability and change", and encourages cooperation with the Chemicals area to demonstrate the effectiveness of policies, innovative instruments, and technologies for reducing releases of PTS. The project is also consistent with Outcome 1.3 as it promotes innovative solutions for reduced pollution and improved water use efficiency. This project will bring together authorities and experts from both countries to prevent transboundary pollution arising from ASGM. On a political level it will help relieve tensions that could, and have in the past, risen from competing uses for water resources; and on an social and environmental level the project will help protect human health and the environment by reducing transboundary pollution.

a.1.2. For projects funded from LDCF/SCCF: the ldcf/sccf eligibility criteria and priorities:

n/a

A.2. National strategies and plans or reports and assessments under relevant conventions, if applicable, i.e. NAPAS, NAPs, NBSAPs, national communications, TNAs, NIPs, PRSPs, NPFE, etc.:

In 2011 the Ministry of Non-Renewable Natural Resources of Ecuador released the National Plan for Mining Sector Development for 2011-2015. Among its goals, the plan takes into account the formalization and management of the mining sector, strengthening the capacity of the miners to operate in an environmental sustainable manner and increase benefits from mining resources. Previously, in 2009 Ecuador took important steps to strengthen the legal framework regarding mining; including the Mining Law and its General Regulations; the Environmental Regulations for Mining Activities; and the Regulation for Special Oversight of Small-Scale Mining and Artisanal Mining.

In 2007 the Ministry of Environment of Ecuador, jointly with UNITAR prepared the "Pilot Project to Strengthen the Development of an Inventory and Risk Management plan in the decision making regarding mercury: a contribution towards a global alliance on mercury". The objective of the project was the preparation of a National Inventory on Mercury Emissions; the development of a national strategy to institutionalize the reporting of mercury emissions; and the preparation of a National Risk Management plan for Mercury. Since 2011 Ecuador has also been participating in the Intergovernmental Negotiating Committee (INC) to prepare a globally legally binding instrument on mercury.

Peru has developed a National Implementation Plan (NIP), within the Framework of the Stockholm Convention and has carried out various activities with the support of international cooperation and the active participation of various national entities in the public and private sector. Through the Ministry of Environment (MoE), Peru coordinates the national side of the Bi-national Peru-Ecuador Technical Group on Environmental Risk Management. Under SAICM's Quick Start Program, Peru is carrying out the Safe Chemicals Project, which is being executed by the Ministry of Health. One of the objectives is the participation of stakeholders from various sectors.

It should be noted that with the creating of the MoE in Peru in May 2008, it was decreed that the Ministry had the function of implementing international environmental agreements. Therefore, the Ministry's Rules of Organization and Functions establishes its role as Focal Point of international environmental agreements, in charge of supervising their compliance and preparing the corresponding national reports. In this regard, the MoE has been representing Peru in the sessions of the INC to prepare a treaty on mercury, as well as presiding the National Technical Group on Chemicals responsible for preparing the national position for each Regional Consultation and Negotiating Sessions.

In April 2010, through Supreme Decree No.045-2010-PCM, Peru emitted the National Plan to Formalize Artisanal Mining, which was developed by a Multisectoral Technical Commission. The objective of the plan is to formalize artisanal mining through the implementation of legal, technical, organizational and environmental management tools. Furthermore, with regard to mercury, Peru and Bolivia are jointly working to develop a strategy for the minimization of the use of mercury in artisanal and small scale gold mining with the aim of minimizing or eliminating the negative impacts on human health and the environment with the support of SAICM's Quick Start Program.

Ecuador and Peru have a longwithstanding cooperation in their border region through the Binational Plan, which was signed in 1998. Given its past success, the cooperation has recently been extended till 2014. The plan has several programs currently underway, including in the areas of environmental management. The plan demonstrates the countries willingness and ability to cooperate in the areas of mutual interest in order to strengthen the development of this region.

## **B. PROJECT OVERVIEW:**

B.1. Describe the baseline project and the problem that it seeks to address:

Mercury occurs naturally in the environment, and is generally bound in geological formations as a sulphide ore (cinnabar) or as a trace element in other naturally occurring ores (most notably coal). It is a heavy metal and a natural element of the earth. Elemental mercury is a shiny liquid at room temperature and has been commonly used

in a wide variety of products, including batteries, dental amalgams, thermometers and more recently in energy saving compact fluorescent light bulbs. Mercury can occur in a variety of states and even at room temperature, metallic mercury can evaporate to form gaseous mercury vapors. Once released into the environment, mercury most commonly occurs as elemental mercury in a gaseous form or as inorganic mercury (combined with another element). When bacteria in specific conditions combine it with carbon, it is transformed into organic mercury compounds, the most common of which is methylmercury. Once released into the environment, mercury behaves as a highly mobile and persistent environmental pollutant that is particularly toxic towards humans and wildlife at low levels. The toxicity of mercury is dependent on the form, amount and pathway of exposure and methylmercury is particularly harmful towards the developing nervous system. Depending on local mercury pollution load, substantial intake of total (elemental and inorganic mercury) can occur through air and water. Methylmercury in particular, is of major concern, as it is considerably more toxic than inorganic mercury and accumulates in organisms and biomagnifies up the food chain, particularly in the aquatic food chain. In terms of human health, consumption of freshwater or marine fish with high methylmercury levels (mostly higher trophic level fish) is the most common pathway of exposure. Consumption of fish contaminated with methylmercury poses significant health risks to humans – particularly to the developing fetus and young children. Methylmercury easily passes from the mother's bloodstream into that of the fetus and its neurotoxic properties can adversely affect the development of the brain. Effects on adults include disruption to the nervous system, cardiovascular disease, cancer incidence and genotoxicity. Commonly consumed marine fish with high levels of total mercury could potentially pose a health risk to people who frequently consume fish. While most of the focus is on human health, it should be noted that mammals, birds and other wildlife can also be affected by high levels of methylmercury in their food, and the risk is highest for fish-eating animals<sup>6</sup>.

Since mercury is able to exist in a variety of forms (including as a gas) it can easily be transported to and detected in atmospheric, terrestrial and aquatic environments. The most significant releases of mercury are to the atmosphere and to the water environment, which results in it being easily transported to regions and environments far from the original source. Similarly to other persistent toxic substances, high levels of mercury have been recorded in the environment and in wildlife, even in pristine environments, completely lacking in human (anthropogenic) activity (e.g. the Arctic).

Small-scale artisanal gold mining is a major cause of mercury (extraction chemical) releases and environmental pollution. The propensity for water transport of mercury, its chemical transformation and bioaccumulation, and its easy transport in often transboundary rivers and aquifers, makes it a threat not only to the health of miners and of ecosystems at the local level, but to the environmental health of the global community. Currently, artisanal and small scale gold mining (ASGM) is one of the largest anthropogenic sources of mercury emission to the environment. UNIDO<sup>7</sup> estimates that nearly 100% of all mercury used in ASGM is released into the environment. Total releases are estimated at 1,000 tonnes of mercury per year, which is equivalent to about 30% of total anthropogenic mercury emissions. This trend has been growing over the years and is anticipated to grow alongside the increasing price in gold. There is an estimated 12-15 million people working directly in ASGM, of which around 4.5 million are women and 600,000 are children. Moreover, children not directly involved in mining activities, but that live in ASGM communities are also at risk of exposure. In many cases they accompany their mothers who are working in the amalgam processing phase, where both mothers and children become exposed to the health risks.

### ***The project***

This project will be implemented in the Puyango-Tumbes river basin located in the south of Ecuador and north of Peru. The Amarillo, Calera and Pindo rivers are tributaries of the Puyango river. They originate in the mountains of south west Ecuador, in the Province of El Oro; more specifically in the Portovelo-Zaruma mining area. These rivers are the main receptors of discharges from mining activities in Portovelo-Zaruma. They eventually combine to form the Puyango River, which in turn empties into the Tumbes River in Peru. The Tumbes river basin is targeted as it is the direct receptor of any contaminating activities upstream; however, the primary technology transfer, training and awareness raising activities would be conducted in the department of Piura, also in the north of Peru, as ASGM is practiced in this area, whereas the Tumbes area does not mine gold.

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<sup>6</sup> Global Mercury Assessment, UNEP 2002

<sup>7</sup> Global Mercury Project Final Report, 2007

In the past tensions have arisen in this region due to contamination of the river detected in Peru which has been attributed to ASGM activities upstream in Ecuadorian territory. This project will prove that substantial (>40%) mercury releases reductions and more cost-effective gold recovery and income enhancement can be achieved by applying an integrated series of measures including capacity building, technology transfer and policy/legal reforms. By achieving a reduction in the releases of mercury and strengthening capacities for the implementation of vigilance and monitoring programs, the project will have a beneficial impact on easing tension in the region; and the benefits from increased gold recovery and income enhancement will give sustainability to the initiative. Both countries have a strong tradition in gold mining and have demonstrated a strong commitment to action, including legislative, to respond to the environmental issues raised by ASGM.

A large part of the technology transfer activities will be focused in Ecuador, as this is where the mercury emissions affecting the transboundary water system originate. Special attention will be given to working with the communities in the Puyango River water basin in order to promote the adoption of clean techniques and technologies which reduce mercury use and emissions. However, lessons learned from the techniques and technologies that are developed and transferred will also be shared with the mining communities in Peru. Both countries will receive extensive training and awareness raising.

### *The Project Countries*

#### Ecuador

Artisanal and small-scale mining is well established in Ecuador. There are 92,000 workers directly employed in artisanal and small-scale mining in Ecuador, 65% of which work specifically in gold mining (60,000). Of the total ASGM work force, 7% are women and 5% are children. ASGM primarily occurs in four regions in southwestern Ecuador: Portovelo-Zaruma, Nambija, Ponce Enriquez and Santa Rosa.

Portovelo-Zaruma is Ecuador's most important mining region. Mining is done in the Puyango river catchment, which comprises three main tributaries, the Calera, Amarillo, and Pindo. The South American Development Company (SADCO) gained control of the area in 1897 and successfully mined the region for 53 years. In 1950 the company collapsed and was handed over to the Ecuadorian government. The government eventually suffered a similar fate and abandoned the SADCO mines. In its place, artisanal and small-scale miners moved into the abandoned pits. Today, the region supports roughly 10,000 miners and produces up to 6 tons of gold annually.

Gold mining activity also remains high in Ponce Enriquez. Mining began in the mid-1980s and primarily affects the nearby Siete, Chico and Tenguel rivers. The Santa Rosa and Nambija regions no longer sustain much mining activity, although Nambija produced the majority of Ecuador's gold in the early 1980's before it was depleted.

Gold is primarily found in sulfide rich ores, manually extracted using hard-rock mining methods and gravity concentrated after crushing and grinding in different (ball, rod) mills. Most processing centers use Chilean mills and sluice boxes to concentrate the ore and by panning it to amalgamate the concentrates, although there are several centers that use large steel amalgamation barrels locally referred to as "chanchas". Chanchas conduct primarily whole ore amalgamation, which is a much less efficient process. Concentrates are most often amalgamated using mercury, although some cyanidation appeared in the 1990s.

The primary environmental impact of ASGM in Ecuador is due to the discharge of mining and processing wastes into nearby rivers and mercury emitted to the atmosphere during amalgamation. This damage is influenced by two factors: 1) artisanal miners do not have enough money to build adequate tailing dams or to invest in more sophisticated methods of gold retrieval and 2) artisanal mining operations have no legal status making it impossible for the government to monitor environmental compliance.

The annual mercury emissions from ASGM operations in Ecuador are estimated to be around 50 tons; although, in 2009 UNEP reported that ASGM in Ecuador consumed only 15 tons of mercury. In most cases, the only attempt to recover mercury is done by squeezing the amalgam in a piece of cloth before it is burned in an open-air pan. Retorts are rarely used. In Portovelo-Zaruma alone, it is estimated that 1.5 tons of mercury is released annually through the various amalgamation processes (70% as air emissions and 30% leached from tailings)<sup>8</sup>. A household survey in the Puyango River Basin found a mean blood and urine mercury level of 5.5 ug/l and 12 ug/l respectively. Blood concentrations exceeded WHO safety limits in 10% of the study population, while urine levels exceeded

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<sup>8</sup> Velasquez-Lopez et. al. "Mercury balance in amalgamation in artisanal and small scale gold mining: identifying strategies for reducing environmental pollution in Portovelo-Zaruma Ecuador." Journal of Cleaner Production, 2010.

safety standards in 66.5% of the population. Mercury has also been shown to bioaccumulate in wildlife in many of the rivers adjacent to ASGM sites (Table 1).

	Portovelo-Zaruma	Ponce Enriques			Santa Rosa	Nambija	
	Amarillo	Pijili	Gala	Chico-Gala	de los Ingleses	Buena Vista	Nambija
Raspa Balsa (mg/kg)	-	-	<0.06	0.74	-	-	-
Dobson Fly Larvae (mg/kg)	2.3	<0.1	0.12	-	0.35	0.1	0.68

The Government of Ecuador, through the Ministry of Nonrenewable Natural Resources and its National Research Institute for Geology, Mining and Metallurgy (INIGEMM) have ongoing efforts to work with ASGM activities. In 2011 INIGEMM completed a consultancy to develop a National Project for the Improvement of Working Conditions of Small Scale and Artesanal Mining. The consultancy provided extensive baseline data and a framework from which the full fledge project will be developed. The objective of the project is to strengthen the working environment of artisanal and small scale gold miners through training and technical assistance for the application of clean technologies and best practices; components include awareness raising, land planning, formalization of the ASGM sector, transfer of technology, occupational safety and health, environmental management and social programmes which address gender issues, child labor and introduction of alternative livelihoods. Although the full fledge project has not yet been approved, the Government of Ecuador has demonstrated a strong commitment to address ASGM issues through the development of the project and the strengthening of INIGEMM, which would be the executing institution. The project will have a duration of 5 years.

In addition, as part of the upcoming projects foreseen by INIGEMM is the establishment of the International Training Center for Artisanal Miners (ITCAM) with support of the University of British Columbia - Norman B. Keevil Institute of Mining Engineering (UBC-NBK), the Technical University of Machala, Ecuador and the Department of Mining Engineering of the University of São Paulo, Brazil. The UBC-NBK was involved in UNIDO's Global Mercury Project from 2002-2008 and has been working with the University of Machala since 2004. The Center would be established in Portovelo, Ecuador. Portovelo and its surroundings have extensive artisanal gold mining activities and therefore it is in a position to provide hands on experience regarding the most challenging of circumstances, as well as best practices.

### Peru

Peru has an area of 1,285,000 km<sup>2</sup>. In 2010, it had a population of 29.5 million and a GDP of US\$ 153 billion. Peru has a mining tradition that dates back to Pre-Hispanic times. Currently, it is considered the largest producer of gold in Latin America. Most of the metals are mined from the Andes mountain range.

In 2002, the mining industry generated 23% of Peru's total exports, 47% of which was from gold. In 2003 the gold production in Peru grew by 9% and reached 171.5 tonnes. Exports were estimated at US\$ 2.05 billion, a 38% increase compared to 2002; informal miners contributed 17% of the production. In 2005 the gold production grew another 20%.

Artisanal mining in Peru takes place all over the country, producing a great variety of minerals and construction materials. However, artisanal mining of gold is the most significant and has been growing over the years with the increase in gold prices. Artisanal gold mining is concentrated mainly in 4 regions: Madre Dios (15.5 tonnes), Puno (2.9 tonnes), Ica-Arequipa-Ayacucho (2.6 tonnes) and La Libertad (0.6 tonnes). Although less significant in terms of quantity of extraction, gold mining activities are also conducted in the Department of Piura to the north of the country.

In 2002 a law was passed to integrate artisanal miners into the existing mining law. The law demonstrates that there is some level of support in the ASGM sector within the government. The law defines qualitative and quantitative parameters for artisanal miners, defining rights and obligations within the general framework of mining. The National Plan for the Formalization of Artisanal Mining (Supreme Decree No. 045-2010-PCM) is a recent effort from the Peruvian Government to support ASGM communities. The Plan has two main components, the formalization of the artisanal mining sector and the promotion of sustainable mining practices. As part of the plan

the Government will define the roles of the public sector entities relevant to ASGM activities and develop land planning and social programmes in the ASGM communities.

Deforestation is described as being one of the main environmental concerns associated with the artisanal mining activities; in addition, siltation of rivers also has significant environmental impact as a result of ASGM. This has occurred in alluvial mining operations in Madre de Dios and also in Ananea/Puno. Mercury pollution from artisanal mining is an issue of growing concern. In fact, mercury losses in Peruvian artisanal mines using “quimbaletes” for amalgamation (in Sur-Medio and Puno) reach levels well above permissible levels. Flowered mercury is visible in quimbalete-tailings, reaching levels of up to 1.5 kg of mercury per tonne of tailings, with 0.5 kg/tonne on average. Although part of these losses may be recovered in cyanidation plants by re-processing the amalgamated tailings, mercury losses due to open-air roasting of amalgam are unrecoverable without adequate techniques. Estimated mercury losses are in the range of 200 tonnes per year.

In 2004, a specific need for data on mercury use in South America was indicated by the United Nations Environmental Programme-Chemicals (UNEP-Chemicals) at a workshop on regional mercury pollution that took place in Buenos Aires, Argentina. Mercury has long been used in South America for artisanal gold mining and imported for chlor-alkali production, dental amalgam, and other uses.

The U.S. Geological Survey (USGS) provides information on domestic and international mercury production, trade, prices, sources, and recycling in its annual Minerals Yearbook mercury chapter. Therefore, in response to UNEP-Chemicals, the USGS, in collaboration with the Economic Section of the U.S. Embassy in Lima, developed the “Peru Mercury Inventory 2006” and compiled data on Peru’s exports, imports, and byproduct production of mercury. Peru was selected for this inventory because it has a 2000-year history of mercury production and use, and continues today as an important source of mercury for the global market, as a byproduct from its gold mines. Peru is a regional distributor of imported mercury and user of mercury for artisanal gold mining and chlor-alkali production.

Peruvian customs data showed that 22 metric tons (t) of byproduct mercury was exported to the United States in 2006. Transshipped mercury was exported to Brazil (1 t), Colombia (1 t), and Guyana (1 t). Mercury was imported from the United States (54 t), Spain (19 t), and Kyrgyzstan (8 t) in 2006 and was used for artisanal gold mining, chlor-alkali production, dental amalgam, or transshipment to other countries in the region. Site visits and interviews provided information on the use and applications of mercury in artisanal gold mining and other uses.

The water quality of the Puyango-Tumbes river is vital to the population living downstream of the ASGM activities. The Tumbes river is used as a drinking water supply in the City of Tumbes and other towns in the basin. From the source to the catchment at EPS Aguas S.A., it is defined as a Category 1 “Population and recreation, sub-category A2 – Water that can be made potable with convention treatment” and from the catchment to the discharge into the Pacific Ocean the water is used for irrigation and is therefore defined as Category 3: Irrigation of vegetables and drinking water for animals. The estuaries also hold important value for the local market, as they are used for breeding of hydrological species which are sold for consumption; the estuaries are defined as Category 4: Conservation of aquatic environment for estuaries, in accordance with D.S. N° 002-2008-MINAM.

The US Department of State (DoS) is currently implementing the project "Reducing Mercury Use and Release in Andean Artisanal and Small-Scale Gold Mining" in Piura, Peru; with the UBC Norman B. Keevil Institute of Mining Engineering as executing partner. The project seeks to reduce mercury use and release from ASGM activities through awareness raising activities, training and transfer of technology. UNIDO, the RPC and in particular the NC in Peru, will work closely with the DoS project in order to ensure synergies and avoid overlaps in efforts.

B. 2. [Incremental /Additional cost reasoning](#): describe the incremental (GEF Trust Fund) or additional (LDCF/SCCF) activities requested for GEF/LDCF/SCCF financing and the associated [global environmental benefits](#) (GEF Trust Fund) or associated adaptation benefits (LDCF/SCCF) to be delivered by the project:

The request of grant financing support from GEF in the form of a cooperative effort of the International Waters (IW) and Chemicals areas is fully justified by the demonstration nature of the project addressing a persistent toxic substance (PTS) that is coming to the forefront of global attention and has strong links with the water environment.

With respect to a baseline represented by a business as usual scenario, GEF co-funding will help to introduce

innovative ASGM practices in both Ecuador and Peru that will (i) minimize environmental and health hazards posed by mercury use locally and reduce impacts at the regional and global level, (ii) enhance incomes of mining communities, (iii) help formalize the ASGM sector and improve social conditions, and (iv) establish an operational link with the water environment by promoting the adoption of a basin approach to releases reduction strategies. Although both countries have demonstrated a commitment to improving conditions at ASGM communities, the efforts have not been able to fully tackle the problems and mitigate the negative health and environmental impacts this activity presents. In many cases, local and national governments find it difficult to control activities outside of the formal sector and far from the government offices. A concerted approach is therefore necessary in order to maximize existing efforts and have a true impact on both national and regional ASGM communities.

By building upon ongoing efforts being conducted in both countries the project assures the cost effectiveness of the planned activities. The activities of INIGEMM in Ecuador and the DoS/UBC-NBK project in northern Peru (as well as MINAM activities throughout Peru) already work towards the formalization and capacity building of miners, educating the local communities and strengthening the legal framework; therefore the GEF funded project will provide incremental funding for activities that will help assure sustainability of these efforts. The project will also benefit from UNIDO's experience acquired during the Global Mercury Project and from access to the pool of expertise and information sharing through the Global Mercury Partnership (namely the ASGM priority area). By building upon the existing foundations laid by the countries and utilizing UNIDO's expertise the project will maximize use of resources to assure that mercury no longer presents a threat to this area. Furthermore the experience in Ecuador and Peru can serve other countries dealing with environmental and health hazards presented by the ASGM sector.

### ***Methodological Approach***

The methodology applied in the project will be a basin approach. In the basin approach the river basin is taken as the project target implementation area, so that the activities are oriented towards reducing the negative impacts of ASGM activities, namely mercury emissions, within a well defined area. The basin approach is key to having measurable impact on the transboundary water system affecting both countries; it facilitates a measurement of the reduction in mercury emissions, as well as monitoring water quality in the bodies of water present in the basin.

The project will be implemented in the Puyango-Tumbes river basins located in the south of Ecuador and north of Peru. The "basin approach" is dictated by the significant amounts of ASGM related mercury lost in the aquatic systems and their negative health effects on living freshwater and marine resources, and through them, to humans. It is also expected that by adopting the basin as the system within which measures will be applied, monitoring of results will become feasible and more effective in the medium to long term. The Puyango-Tumbes river basins will be the object of a detailed diagnostic analysis conducted with the contribution of local expertise and stakeholders consultations, which describes the existing socio-economic baseline, including policy and legislative framework, the organizational and political structure of the ASGM community, and the environmental and human health conditions associated with the use and release of mercury by artisanal miners.

In order to ensure resources are used effectively and efficiently project activities will be focused on two communities in Ecuador and one in Peru. A final selection will be made during the inception of the project, based on existing baseline data. However, given its prominence, one of the target mining groups in Ecuador will be in the Portovelo-Zaruma area, the exact group or association will be determined at the inception of the project. In Peru the project will work with the mining community in Piura, in cooperation with the DoS / UBC-NBK Institute project and the Government of Piura. Although training and technology transfer will be focused on these communities, the awareness raising campaigns will be oriented towards a larger audience and monitoring of water quality will be carried out in the Tumbes River.

The many lessons learned through previous efforts, including the Global Mercury Project (UNIDO-GEF), have indicated that no single, simple solution exists. As with many environmental problems, the way ahead lies in adopting an integrated harmonized approach addressing the various facets of the issue using technological, financial/market and policy tools, and promoting behaviors that will improve overall efficiency, reduce mercury releases and enhance gold recovery and miners income<sup>9</sup>.

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<sup>9</sup> Income enhancement can come from better gold recovery or higher volumes processed with the same gold recovery, or reagent/energy conservation (like mercury conservation or CN conservation).

## **Outcome 1: Determination of minimization strategies and reduction targets**

The strategies for minimization of mercury releases will be determined in the initial phase of the project. As part of this component a characterization and diagnostic analysis will be prepared to provide a thorough socio-economic, environmental and human health baseline. This will be prepared through the collection of existing information that is available from previous initiatives undertaken by both countries and through consultation with the national counterparts, local authorities and ASGM experts. The baseline study will also include an analysis of the existing organizational and political structure of the ASGM communities and the information collected will be used to identify the target populations for the demonstration of the minimization strategies.

## **Outcome 2: Reduction in mercury use and emissions**

Component two is designed to ensure the adoption of alternative processing methods which utilize less or no mercury. In addition to the introduction of alternative technologies and practices this component will also include (1) capacity building and awareness raising, (2) a monitoring programme for mercury levels in both humans and the environment, (3) the introduction of innovative financial tools to promote better practices and improved incomes, and (4) the development of policy solutions.

Technical solutions: The technical solutions to be introduced are: (i) miners adopt mercury-recycling measures, including the use of fume hoods and retorts, and learn how to reactivate used mercury; both of which could reduce global mercury consumption to up to 25%; and (ii) miners adopt elimination of whole ore amalgamation. The latter could reduce mercury consumption by 45% or more but is more complicated to apply as it requires more capital, organization and more sophisticated processing methods. If appropriate, the project will also introduce mercury-free mining practices, particularly ore concentration techniques that preclude mercury use. If this approach is feasible it will be linked with the efforts to introduce innovative financial mechanisms to the ASGM miners, such as green gold or fair trade gold.

Capacity building programs: Activities such as training of trainers or horizontal sharing between mining communities, are an integral part of the project. In addition to training on the new processing methods, both the mining community and local authorities will receive training regarding the hazards mercury presents to both human health and the environment. An awareness raising campaign will be delivered by the project's communications team; part of the campaign will target miners, however the campaign will also target the surrounding community on the dangers of mercury.

Monitoring programme: Both Ecuador and Peru have monitored mercury levels in the environment in the Puyango-Tumbes river basin, this will serve as a baseline, however further monitoring will be conducted at the beginning of the project (to establish a baseline) and throughout the project in order to assess the reduction in mercury emissions. The monitoring program will also include the measurement of mercury levels in miners in order to assess the exposure to mercury of the miners. The monitoring of mercury levels in miners will be done in collaboration with the local health authorities and will be linked to the awareness raising activities so that the miners can better appreciate the relationship between their use and exposure to mercury and possible side effects.

Financial solutions: In addition to the introduction of new technologies and best practices the project will promote innovative financial mechanisms to ASGM miners and authorities; these may include but are not limited to: the use of gold market to induce change (e.g.: Fair Mined, Fair Trade brands); facilitate access to credit for investments in technology; using tax incentives (exemptions, innovation credits), etc. By having an economic approach the project seeks to facilitate the contact between artisanal miners and investors. Investments are necessary to transform informal operations into responsible small mines, and it is expected that the technological progress and training obtained through other areas of the project will provide the confidence needed by investors to become involved with the mining communities.

Policy solutions<sup>10</sup>: Needed policy reforms will be identified and evaluated based on the results in the field. This will lead to more effective final outcomes because they will be informed by the reality in the field. The early focus can

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<sup>10</sup> Policy Example: Supply Restriction / Export Bans - Restricting supply (export bans from major suppliers / reducing primary mining) will cause a rise in mercury price. This will represent an incentive for mercury conservation to occur. It has to be noted that: Recycling/ reuse has already been embraced by some ASGM communities as profitable; this will be amplified if mercury prices increase; scarcity will make miners more receptive to information on how mercury can be sustainably reduced; treaty under negotiation will allow global coordination of supply restriction actions.

be educating policy makers on the realities of the field. Eventually, other policy tools might consist of introduction of trade policy reforms (export bans / reducing primary mining to reduce supply and increase price – gold import/export liberalization to enable market incentives); introduction of mining policy reforms, to recognize / incorporate / formalize ASGM systems, to enable education and assistance to miners; information sharing to help prioritize action where it is needed and measure progress; preparation of guidelines for the environmentally sound management (ESM) of ASGM activities to reduce the negative impact on the environment. The project will build upon existing national plans in both countries to develop and strengthen ASGM policies; for example both Peru's National Plan for the Formalization of Artisanal Mining and Ecuador's National Plan for Mining Sector Development are ongoing efforts which have prioritized the formalization of artisanal miners. The project would collaborate with the counterparts in both countries in order to develop the tools necessary to organize and formalize the artisanal miners.

**Outcome 3: Delivery of the Communication, Dissemination and Replication strategies at the national, regional and international level**

GEF resources would be directed to co-fund a broad dissemination of the project's achievements on a national, regional and global level, in order to enhance replication of good practices and to support and inform the INC process. The project, by promoting new, more sustainable practices in the ASGM sector, and by relying on the proven catalytic role of GEF funding to gather international support and consensus for environmental policy development, fully responds to the requirements for incrementality that are at the core of the GEF philosophy.

The entire project will be communication oriented. The success of the project in terms of national, regional and global impact and replication will largely depend upon the ability of the project itself to effectively communicate its key achievements and messages, reaching out beyond pilot basins, to mining communities, leaders in government, the private sector and civil society, and to involve regional organizations, development agencies, IFIs and major NGOs, and strengthening and informing the ongoing INC process.

Consultation and participation: The integrated approach that the project intends to follow will require the full commitment of the ASGM communities and their local governments, as well as the involvement of multiple national government stakeholders and the gold industry from bottom to top (producers, traders, buyers, nations heavily involved in gold mining, jewellers and luxury goods market operators).

B.3. Describe the socioeconomic benefits to be delivered by the Project at the national and local levels, including consideration of gender dimensions, and how these will support the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF). As a background information, read [Mainstreaming Gender at the GEF.](#)":

UNIDO estimates that 1,000 tons of mercury – 1/3 of total anthropogenic releases - are released into the atmosphere and to waterbodies (rivers, lakes, aquifers and eventually coastal seas) each year from this sector of growing importance. Every year approximately 330 tons of gold (12-15% of total production) are produced in 70 countries across the globe by artisanal small scale mining, providing a revenue of 10 billion USD (900\$/otz) to an estimated 12-15 million miners, out of which around 5 million are women and children. It is also estimated that 50 million people are involved in secondary economic activities for a gross product of around 50 billion USD. ASGM has been defined “a superb development opportunity” given its ability to transfer wealth from rich to poor countries, and to the high percentage (70%) of the international price going to miners (not true for any other product). ASGM does on the other hand involve mercury use. Hence, reducing mercury use is key to fully capture ASGM’s development potential, as well as to reducing global mercury pollution.

Because ASGM is based in rural areas where little alternative for income exist, women (and sometimes children) constitute a large portion of the mining force. Extracting the ore requires more strength, therefore this task is usually men’s responsibility, leaving the women in charge of ore grinding and processing. While most of the safety risks are in the extractive part, most of the exposure risks are at the grinding and

processing stages as it is where workers are exposed to dust and mercury.

The project will put particular emphasis in raising awareness of women workers and transferring safe processing methods which reduce/eliminate the need for mercury and avoids direct contact. Moreover, training in innovative alternative income generation based around the mining sector will be introduced. These could include the development of fair-trade / clean gold products and jewelry for the local and tourism markets.

Artisanal gold miners are often socially and economically marginalized populations who practice ASGM either as the only option for income or as complimentary to their traditional subsistence activities. In order to ensure that the project has a beneficial social impact on the ASGM community, developmental issues related to socially and economically marginalized populations will be incorporated; for example the development of policies for the formalization of ASGM miners will facilitate their integration into the formal sector, the introduction of financial tools to present alternative income generation options, monitoring the exposure of the miners to mercury to address their health risks, and capacity building and awareness raising programmes to inform the community on the dangers of mercury and how to minimize these risks.

B.4 Indicate risks, including climate change risks that might prevent the project objectives from being achieved, and if possible, propose measures that address these risks to be further developed during the project design:

Possible Risks	Mitigation Measures	Rating
Lack of sustained political support in the pilot countries	<p>The project has been developed in close cooperation with both Governments, in order to assure that it responds to the country and regional needs.</p> <p>Both Peru and Ecuador have demonstrated throughout the various processes that have led to UNEP's GC 25/5 decision, full commitment to the objective of an environmentally sustainable ASGM, and willingness to participate and substantially co-fund the project.</p>	Low

Climate Change	<p>Climate Change will have limited impact on the project's likelihood of success. However, climate change and increased climatic fluctuations will be taken into consideration as part of the diagnostic analysis, so that future ASGM management will include measures and provisions to face this new challenge to sustainability. Indeed, the sector is heavily dependent on water for the processing of the ore. As climate change has impact on rain patterns and water availability, the project will ensure that the techniques and technology transferred ensure:</p> <ul style="list-style-type: none"> <li>• water efficiency in the process through the introduction of concentration prior to chemical processing, thereby reducing the amount of water needed, and by processing in covered cemented pools to eliminate losses through soil infiltration and evaporation;</li> <li>• water recycling through the use of dedicated processing pools and recycling of the water needed for concentration;</li> <li>• treatment of tailings sludge prior to the release to the environment.</li> </ul> <p>The combination of the above will ensure reduced water consumption, leaving more of the precious resource to other sectors, such as irrigation and human consumption, and ensure that the effluents of the mining activity are safe to downstream users.</p>	Low
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**B.5. Identify key stakeholders involved in the project including the private sector, civil society organizations, local and indigenous communities, and their respective roles, as applicable:**

The integrated approach of the project will require the full commitment of the ASGM communities and the local governments in both the Puyango and Tumbes river basins region, as well as the involvement of:

(i) Multiple national government stakeholders such as: National Government (Ministries of Foreign Affairs, Energy and Mines, Environment, Health, Trade and Tourism, Education, Economy and Finance) and Regional Governments within the jurisdiction of the Puyango Tumbes river basins region; (ii) the gold industry from bottom to top (producers, traders, buyers, etc.), and jewelers and luxury goods market operators; (iii) local NGOs and civil society organizations, as their local presence will help assure the sustainability of the technology transfer and awareness raising activities; and (iv) academia, which conduct research in the field and can assist with both transfer of technology and training activities.

The project will also benefit from past studies which have been conducted in the field of ASGM and mercury, for example the baseline developed by INIGEMM in the project "Improvement of the Working Conditions in Small Scale and Artisanal Mining", the Mercury Inventory developed by the USGS in Peru in 2006 and studies of mercury levels in the environment and mining population.

**B.6. Outline the coordination with other related initiatives:**

To support the development of the forthcoming legally binding instrument on mercury, UNEP set up a Global Mercury Partnership with 7 areas of interest. One of these areas specifically tackles Artisanal and Small-Scale Gold Mining. Thanks to its mandate and past experiences, UNIDO is the co-lead agency for this area, lead that it shares with the Natural Resource Defense Council, a US-based NGO. The aim of the partnership is to bring together all the actors of the sector and share experience on past and current projects in order to eliminate duplication and improve efficiency of the various projects. This project will fully benefit from the partnership through information sharing and exchange of experience with projects operating all over the world. Moreover, the partnership represents a large

pool of experts, many from developing countries, which will benefit the project.

**C. GEF AGENCY INFORMATION:**

C.1 Confirm the co-financing amount the GEF agency brings to the project:

UNIDO will contribute 50,000 USD in cash as co-financing; 20,000 USD will be used for yearly visits of the project manager for monitoring and coordination of activities, and 30,000 USD will be used for the final evaluation of the project.

C.2 How does the project fit into the GEF agency's program (reflected in documents such as UNDAF, CAS, etc.) and staff capacity in the country to follow up project implementation:

UNIDO is the UN agency in charge of industrial development with the ultimate aim of reducing poverty through productive activities. Developing the ASGM sector aligns exactly with its goal, as UNIDO's projects in the sector contribute to reduce the human health and environmental damages of the activity while increasing the productivity of the workers. Moreover, ASGM typically occurs in very remote areas and the projects help provide mining populations with a more sustainable income source, thereby empowering the rural population.

UNIDO's thematic priorities center on poverty reduction through trade capacity building and environmental and energy management. The organization is committed to introducing technological solutions in an integrated manner to issues that impact human health and the environment. UNIDO has demonstrated past experience in the area of ASGM. UNIDO has been working in this sector for more than 15 years and in 17 countries. The Global Mercury Project (GMP), a UNIDO initiative, was launched in 2002 with financial support from the GEF under the international water focal area, and was co-financed by partner countries and civil society. Several countries participated in the GMP, including Brazil, Indonesia, Lao People's Democratic Republic, Sudan, Tanzania and Zimbabwe.

UNIDO has an on the ground presence in Ecuador through its field office. The field office has been involved in Montreal Protocol and GEF (in the area of industrial energy efficiency) projects being implemented by UNIDO. Although there is not a UNIDO field office in Peru, UNIDO does have experience implementing GEF projects in the country, also in the Chemicals focal area, through the Environmentally Sound Management and Disposal of PCBs project. Both Ecuador and Peru are covered by the UNIDO regional office in Colombia. UNIDO has experience implementing mercury projects in the region through the Colombia office, which has an ongoing ASGM project funded by local Governments.

**PART III: INSTITUTIONAL COORDINATION AND SUPPORT**

**A. INSTITUTIONAL ARRANGEMENT:**

This project will be implemented by only one GEF agency, UNIDO. However, UNIDO will liaise with UNEP through the Global Mercury Partnership, primarily on issues such as the development of policies, basin level action plans and national strategic action plans.

**B. PROJECT IMPLEMENTATION ARRANGEMENT:**

UNIDO will be the GEF implementing agency. There will be one executing partner in each country; in Ecuador it will be the National Research Institute for Geology, Mining and Metallurgy (INIGEMM), which is part of the Ministry of Nonrenewable Natural Resources, and in Peru it will be General Directorate of Environmental Quality under the Ministry of Environment.

It is expected that each set of activities to be implemented in the target countries will be governed by the provisions of the Standard Basic Cooperation Agreement concluded between the Government of the recipient country concerned and UNIDO or, in absence of such a agreement, by one of the following: (i) the Standard Basic Assistance Agreements concluded between the recipient country and UNDP, (ii) the Technical Assistance Agreements concluded between the recipient country and the United Nations and specialized agencies, or (iii) the Basic Terms and Conditions Governing UNIDO projects."

**PART IV: EXPLAIN THE ALIGNMENT OF PROJECT DESIGN WITH THE ORIGINAL PIF**

Not applicable

**PART V: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)**

**A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT(S) ON BEHALF OF THE GOVERNMENT(S):**  
 (Please attach the [Operational Focal Point endorsement letter\(s\)](#) with this template. For SGP, use this [OPF endorsement letter](#)).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
Marcela Aguiñaga Vallejo	Minister of Environment	MINISTRY OF ENVIRONMENT	11/25/2011
Jose Antonio GONZALEZ NORRIS	Director of the International Cooperation and Negotiations Directorate	MINISTRY OF ENVIRONMENT, PERU	02/21/2012

**B. GEF AGENCY(IES) CERTIFICATION**

This request has been prepared in accordance with GEF/LDCF/SCCF policies and procedures and meets the GEF/LDCF/SCCF criteria for CEO endorsement/approval of project.

Agency Coordinator, Agency Name	Signature	Date (Month, day, year)	Project Contact Person	Telephone	Email Address
Dmitri Piskounov Managing Director, Programme Development and Technical Cooperation Division & Focal Point of GEF, UNIDO		20.12.2011	Heinz Leuenberger, Director, Environmental Management Branch	+43 26026 5177	H.Leuenberger@unido.org 

## ANNEX A: PROJECT RESULTS FRAMEWORK

### Logframe

	Intervention logic	Objectively verifiable indicators	Sources of verification	Assumptions
<b>Development goal/impact</b> <i>What the target group achieves (benefit)</i>	Protect human health and the environment by implementing integrated measures aimed at minimizing mercury releases from artisanal gold mining activities affecting the Puyango River basin in Ecuador and the Tumbes River basin in Peru.	- 40% reduction in levels of mercury released into the Puyango -Tumbes river basin		
<b>Outcome(s)/ immediate objective(s)</b> <i>What the target group does differently (change in behaviour)</i>	1. Mercury minimization strategies and reduction targets endorsed by stakeholders in both countries	Strategies and reduction targets endorsed	Project progress report	- Continued Government commitment
	2. Reduction in mercury use and emissions in the targeted mining communities, through: i) local development and adoption of mining alternative technologies/ techniques; ii) increased awareness of mining communities, national & local authorities and general public, particularly women and youth, of dangers of mercury use; iii) adoption of policies or programmes that support the formalization of miners and promote innovative financial mechanism.	- % reduction in mercury levels in rivers - % reduction in mercury levels among targeted miners - % of stakeholders report increased awareness of mercury danger after training - % of miners that adopt alternative techniques - No. of miners formalized - No. of miners that undertake new financial mechanisms	- Laboratory results of the monitoring programme - Survey of stakeholders - Training assessment - Final evaluation	- The ASGM community is open to adopting new technologies/ techniques
	3. Project objectives and results are communicated / disseminated to achieve replication at a national, regional and international level.	- Project presents results at Intergovernmental Negotiating Committee (INC) - Project results are shared with other mining communities in each country.	- Project progress report - Minutes of the INC meeting(s)	- Other mining communities are receptive to results from demonstration ASGM communities.

<b>Outputs (results)</b> <i>What the project achieves (create a potential)</i>	<p>1.1 Design strategies for minimization of mercury releases and enhancement of gold recovery</p> <p>1.2 Develop a characterization and diagnostic analysis describing the baseline socio-economic, environmental and human health conditions, as well as the organizational and political structure of the ASGM communities</p> <p>1.3 Establish targets for release reductions, with the development of accompanying indicators of success.</p>	<ul style="list-style-type: none"> <li>- Preparation of strategies and targets for mercury reductions</li> <li>- Preparation of baseline analysis</li> </ul>	<ul style="list-style-type: none"> <li>- Project progress report</li> </ul>	<ul style="list-style-type: none"> <li>- Sufficient information is available for baseline and relevant stakeholders share the information.</li> </ul>
	<p>2.1 Training of miners on improved technologies and best practices to reduce mercury use and emissions, while enhancing gold recovery and incomes.</p> <p>2.2 Training of miners, national and local authorities, as well as the general public, particularly women and youth, on the dangers of mercury</p> <p>2.3 Develop programs to promote the use of financial tools for miners, policy/ legislative reforms and the formalization of the ASGM sector.</p>	<ul style="list-style-type: none"> <li>- % reduction in mercury levels in miners and environment by end of project</li> <li>- Results from evaluations conducted after training sessions</li> <li>- Number of policies / guidance documents developed to promote formalization of sector</li> <li>- Number of miners that adopt new financial mechanisms by end of project</li> </ul>	<ul style="list-style-type: none"> <li>- Results of the monitoring programme</li> <li>- Final report</li> <li>- Final evaluation</li> </ul>	<ul style="list-style-type: none"> <li>- Miners are receptive to new technologies and practices</li> <li>- Miners have the capacity to adopt new financial tools</li> <li>- Continued Gov. support to formalize ASGM sector.</li> </ul>
	<p>3.1 The communication strategy will successfully disseminate the project achievements, which in turn will lead to a replication of best practices at a national, regional and international level</p>	<ul style="list-style-type: none"> <li>- Active participation of both countries in the INC meetings</li> <li>- Number of awareness raising events held or promotional material distributed.</li> <li>- Number of participatory workshops /demonstration events conducted</li> </ul>	<ul style="list-style-type: none"> <li>- Minutes of the INC (reflecting presentation of project, stand or number of interventions)</li> <li>- Promotional material</li> <li>- Final report</li> </ul>	<ul style="list-style-type: none"> <li>- Government support of INC and dissemination of results</li> </ul>

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

**ANNEX C: CONSULTANTS TO BE HIRED FOR THE PROJECT USING GEF/LDCF/SCCF RESOURCES**

<i>Position Titles</i>	<i>\$/ Person Week*</i>	<i>Estimated Person Weeks**</i>	<i>Tasks To Be Performed</i>
<b>For Project Management</b>			
Local			
Regional coordinator	600	151.5	The regional coordinator will be based in Ecuador and will be responsible for the overall coordination of activities between the two countries and of the day to day activities in Ecuador, as well as reporting on progress of implementation.
International			
Justification for travel, if any: Both the regional and national coordinators will need to make regular visits to the project site in the Puyango-Tumbes river basin and have coordination meetings with the national counterparts and local authorities. The regional and national coordinators will also have to have coordination meetings and conduct visits to the project sites in the neighboring country to assure an efficient coordination of activities.			
<b>For Technical Assistance</b>			
Local			
Technical experts	750	600	Will provide technical expertise and support throughout the project and in the development/implementation of the national ASGM strategic plan. Experts from both countries will coordinate with each other to assure synergies in the activities.
Environmental health specialists	650	100	Will conduct the projects health training workshops and provide inputs on health related aspects to the Communications team.
Policy expert	700	50	Review of national, regional and international policy on mining, and development of policies to sustain pilot basin level actions.
Communication specialists	600	150	Will develop communication, dissemination and replication strategies, as well as develop awareness raising material.
Socio-economic specialist	650	80	Will conduct characterization and diagnostic analysis of the socio-economic conditions of the ASGM community.
International			

Senior advisor	3,000	12	Will be consulted on a need-be basis to provide guidance for the overall project, particularly in regard to the development and implementation of the national strategic plans.
Fair Trade expert	1000	12	Will provide technical expertise and support for the fair trade component.
Mining expert	1250	80	Will provide training and technical support on state of the art mining techniques.
Justification for travel, if any: The national experts will need to visit the project site to collect information and work with the mining community in their area of expertise. They will also have to visit the project site to collect data and conduct training or awareness raising activities. All international experts will also visit the project site, as needed.			

\* Provide dollar rate per person week. \*\* Total person weeks needed to carry out the tasks.

**ANNEX D: STATUS OF IMPLEMENTATION OF PROJECT PREPARATION ACTIVITIES AND THE USE OF FUNDS**

- A. EXPLAIN IF THE PPG OBJECTIVE HAS BEEN ACHIEVED THROUGH THE PPG ACTIVITIES UNDERTAKEN.
- B. DESCRIBE FINDINGS THAT MIGHT AFFECT THE PROJECT DESIGN OR ANY CONCERNS ON PROJECT IMPLEMENTATION, IF ANY:
- C. PROVIDE DETAILED FUNDING AMOUNT OF THE PPG ACTIVITIES AND THEIR IMPLEMENTATION STATUS IN THE TABLE BELOW:

<i>Project Preparation Activities Approved</i>	<i>Implementation Status</i>	<i>GEF/LDCF/SCCF Amount (\$)</i>				<i>Cofinancing (\$)</i>
		<i>Amount Approved</i>	<i>Amount Spent To date</i>	<i>Amount Committed</i>	<i>Uncommitted Amount*</i>	
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
	(Select)					
<b>Total</b>		0	0	0	0	0

\* Any uncommitted amounts should be returned to the GEF Trust Fund. This is not a physical transfer of money, but achieved through reporting and netting out from disbursement request to Trustee. Please indicate expected date of refund transaction to Trustee.

**ANNEX E: CALENDAR OF EXPECTED REFLAWS (if non-grant instrument is used)**

Provide a calendar of expected reflaws to the GEF/LDCF/SCCF Trust Fund or to your Agency (and/or revolving fund that will be set up):

N/A

**ANNEX F: BREAKDOWN OF ECUADOR AND PERU CO-FINANCING****ECUADOR:**

ITEMS	RMU	1 Year	3 Year
<b>Human Resources</b>			
3 Professionals	\$ 50,400.00	\$ 50,400.00	\$ 151,200.00
1 Secretary	\$ 8,400.00	\$ 8,400.00	\$ 25,200.00
2 Drivers	\$ 15,400.00	\$ 15,400.00	\$ 46,200.00
SUBTOTAL			\$ 222,600.00
<b>Vehicles</b>			
3 Pick-up Truck 4*4	\$ 30,000.00	\$ 90,000.00	\$ 270,000.00
SUBTOTAL			\$ 270,000.00
<b>Infrastructure</b>			
Office	\$ 18,000.00	\$ 18,000.00	\$ 54,000.00
SUBTOTAL			\$ 54,000.00
<b>Laboratory</b>			
Equipment ICP,DRX,FRX	\$ 201,000.00	\$ 201,000.00	\$ 603,000.00
Materials and preparation of samples	\$ 90,000.00	\$ 90,000.00	\$ 270,000.00
SUBTOTAL			\$ 873,000.00
<b>TOTAL of In-Kind Co-Financing</b>			<b>\$ 1,419,600.00</b>

In- Cash INIGEMM for field work	\$ 180,000.00	\$ 180,000.00	\$ 540,000.00
In- Cash U. MACHALA	\$ 50,000.00	\$ 50,000.00	\$ 150,000.00
<b>TOTAL In-Cash and In-Kind</b>			<b>\$ 2,109,600.00</b>

PERU

<b>MINAM COUNTERPART FOR THE PROJECT</b>			
<b>"Implementing integrated measures for minimizing mercury releases from artisanal gold mining"</b>			
<b>Institutional Operational Plan General Directorate of Environmental Quality MINAM</b>		Budget 2012 - 2014	
		S/.	US \$
Program		<b>738,481</b>	<b>274,121</b>
Product	ZONAS CRITICAS AMBIENTALMENTE RECUPERADAS TOTAL	<b>738,481</b>	<b>274,121</b>
Operative Objective	Design and implementation of plans to recover/rehabilitate environmental quality	<b>738,481</b>	<b>274,121</b>
<b>Activity</b>	Establishment of criteria for the selection of implementation areas	<b>492,000</b>	<b>182,629</b>
Task	Collection and analysis of data	292,000	108,389
Task	Meetings	200,000	74,239
<b>Activity</b>	Validation and approval of plans by stakeholders in affected areas	<b>246,481</b>	<b>91,493</b>
Task	Technical meetings/workshops	246,481	91,493
<b>Operational Plan Office of International Cooperation</b>			
Program		<b>2,809</b>	<b>1,043</b>
Product	International Cooperation and Negotiation Office Management	<b>2,809</b>	<b>1,043</b>
Objective	Strengthen processes of international cooperation and negotiation policy	<b>2,809</b>	<b>1,043</b>
<b>Activity</b>	Project management	<b>2,809</b>	<b>1,043</b>
Task	Presentation of project	2,809	1,043
<b>TOTAL COUNTERPART COFINANCING</b>		<b>741,290</b>	<b>275,164</b>

**ANNEX G: PROJECT TIMELINE**

	2012											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Component 1: Design of strategies for minimization of mercury releases and enhancement of gold recovery and income</b>												
<b>Output 1.1 Design strategies for minimization of mercury releases and enhancement of gold recovery strategies</b>												
Activity 1.1.1: Compilation of data and analysis of current gold mining practices and emission rates based on existing documentation and ongoing projects												
Activity 1.1.2: Consensus by main stakeholders on strategies for mercury release minimization and gold recovery/income enhancement												
Activity 1.1.3: Validation workshop for strategies												
<b>Output 1.2 Develop a characterization and diagnostic analysis describing the baseline socio-economic, environmental and human health conditions, as well as the organizational and political structure of the ASGM communities</b>												
Activity 1.2.1: Compilation of baseline data												
Activity 1.2.2: Field visits to demonstration sites to assess socio-economic, environmental and health conditions												
<b>Output 1.3 Establish targets for release reductions, with the development of accompanying indicators of success</b>												
Activity 1.3.1: Development of targets and indicators based on characterization and diagnostic analysis												
Activity 1.3.2: Meetings held with main stakeholders to validate targets and indicators												
<b>Component 2: Implementation of Mercury Releases Minimization Strategies in the Puyango-Tumbes River basins</b>												
<b>Output 2.1 ASGM communities systematically adopt improved technologies and best practices to reduce mercury use and emissions, while enhancing gold recovery and incomes</b>												
Activity 2.1.1: Site visits from project team to observe status of current practices and share project objectives with miners												
Activity 2.1.2: Development of new or improved mining techniques/technologies in cooperation with local communities												
Activity 2.1.3: Training of ASGM miners regarding new or improved mining techniques/technologies												
<b>Output 2.2 Increased awareness of ASGM community and relevant authorities</b>												
Activity 2.2.1: Awareness Raising Campaign												
Activity 2.2.2: Leaders from the mining communities visit best practices in the region for horizontal sharing												
<b>Output 2.3 Conduct monitoring programme</b>												
Activity 2.3.1: Develop the monitoring programme												
Activity 2.3.2: Monitor mercury levels in the mining community												
Activity 2.3.3: Monitor mercury levels in the environment												
Activity 2.3.4: Monitoring levels of mercury use and release, as well as quantity of gold production												
Activity 2.3.5: Training of health care personnel in ASGM communities on dangers of mercury												
<b>Output 2.4 Develop programs to promote the use of financial tools for miners, policy/ legislative reforms and the formalization of the ASGM sector</b>												
Activity 2.4.1: Assessment of financial tools available to the mining communities, including fair trade or green gold												
Activity 2.4.2: Capacity building of mining communities on options and use of financial tools												
Activity 2.3.3: Liaising of potential investors with leading miners/associations												
Activity 2.4.4: Capacity building for local authorities and decision makers on ESM of mercury												





	2014											
	1	2	3	4	5	6	7	8	9	10	11	12
<b>Component 1: Design of strategies for minimization of mercury releases and enhancement of gold recovery and income</b>												
<b>Output 1.1 Develop strategies for minimization of mercury releases and enhancement of gold recovery</b>												
Activity 1.1.1: Compilation of data and analysis of current gold mining practices and emission rates based on existing documentation and ongoing projects												
Activity 1.1.2: Consensus by main stakeholders on strategies for mercury release minimization and gold recovery/income enhancement												
Activity 1.1.3: Validation workshop for strategies												
<b>Output 1.2 Develop a characterization and diagnostic analysis describing the baseline socio-economic, environmental and human health conditions, as well as the organizational and political structure of the ASGM communities</b>												
Activity 1.2.1: Compilation of baseline data												
Activity 1.2.2: Field visits to demonstration sites to assess socio-economic, environmental and health conditions												
<b>Output 1.3 Establish targets for release reductions, with the development of accompanying indicators of success</b>												
Activity 1.3.1: Development of targets and indicators based on characterization and diagnostic analysis												
Activity 1.3.2: Meetings held with main stakeholders to validate targets and indicators												
<b>Component 2: Implementation of Mercury Releases Minimization Strategies in the Puyango-Tumbes River basins</b>												
<b>Output 2.1 ASGM communities systematically adopt improved technologies and best practices to reduce mercury use and emissions, while enhancing gold recovery and incomes</b>												
Activity 2.1.1: Site visits from project team to observe status of current practices and share project objectives with miners												
Activity 2.1.2: Development of new or improved mining techniques/technologies in cooperation with local communities												
Activity 2.1.3: Training of ASGM miners regarding new or improved mining techniques/technologies												
<b>Output 2.2 Increased awareness of ASGM community and relevant authorities</b>												
Activity 2.2.1: Awareness Raising Campaign												
Activity 2.2.2: Leaders from the mining communities visit best practices in the region for horizontal sharing												
<b>Output 2.3 Conduct monitoring programme</b>												
Activity 2.3.1: Develop monitoring programme												
Activity 2.3.2: Monitor mercury levels in the mining community												
Activity 2.3.3: Monitor mercury levels in the environment												
Activity 2.3.4: Monitoring levels of mercury use and release, as well as quantity of gold production												
Activity 2.3.5: Training of health care personnel in ASGM communities on dangers of mercury												
<b>Output 2.4 Develop programs to promote the use of financial tools for miners, policy/ legislative reforms and the formalization of the ASGM sector</b>												
Activity 2.4.1: Assessment of financial tools available to the mining communities, including fair trade or green gold												
Activity 2.4.2: Capacity building of mining communities on options and use of financial tools												
Activity 2.3.3: Liaising of potential investors with leading miners/associations												
Activity 2.4.4: Capacity building for local authorities and decision makers on ESM of mercury												
Activity 2.4.5: Assessment of existing regulatory/policy framework, with a focus on trade of mercury and formalization of ASGM sector												
Activity 2.4.6: Discussion and validation of potential reforms												

<b>Component 3. Implementation of Communication, Dissemination and Replication Strategies at the national and regional levels</b>												
<b>Output 3.1 Disseminate project achievements</b>												
Activity 3.1.1: Develop a national level CDR strategy to best convey the dangers of mercury, alternatives in technologies/techniques and project results												
Activity 3.2.1: Preparation of awareness raising material, including audiovisual, media, publications, educational material, etc.												
Activity 3.2.2: Hold CDR events to disseminate project objectives and results												
Activity 3.2.3: Establish project management information system (MIS), including a project website to disseminate information to stakeholders.												
<b>Component 4: Project Management and Monitoring and Evaluation</b>												
<b>Output 4.1: Establish a Project Coordination Structure</b>												
Activity 4.1.1: Recruit a Project Regional Coordinator (Ecuador), a National Project Coordinator (Peru), support staff and technical experts												
Activity 4.1.2: Establish a Project Steering Committee												
Activity 4.1.3: Hold regional project coordination meetings												
<b>Output 4.2: Project Monitoring and Evaluation</b>												
Activity 4.2.1: Organize an Inception Workshop												
Activity 4.2.2: Carry out annual project financial audits												
Activity 4.2.3: Prepare Annual Project Reports, Project Implementation Reviews and Tracking Tools												
Activity 4.2.4: Carry out final evaluation												
Activity 4.2.5: Complete Project Terminal Reports												

**ANNEX H: PROJECT BUDGET**

	Budget		
	CHEM	IW	Co-fin
<b>Component 1: Design of strategies for minimization of mercury releases and enhancement of gold recovery and income</b>	<b>30,000</b>	<b>5,000</b>	<b>290,000</b>
<b>Output 1.1 Design strategies for minimization of mercury releases and enhancement of gold recovery strategies</b>	<b>10,000</b>	<b>2,000</b>	<b>130,000</b>
Activity 1.1.1: Compilation of data and analysis of current gold mining practices and emission rates based on existing documentation and ongoing projects	5,000	2,000	50,000
Activity 1.1.2: Consensus by main stakeholders on strategies for mercury release minimization and gold recovery/income enhancement			30,000
Activity 1.1.3: Validation workshop for strategies	5,000		50,000
<b>Output 1.2 Develop a characterization and diagnostic analysis describing the baseline</b>	<b>14,000</b>	<b>2,000</b>	<b>100,000</b>
Activity 1.2.1: Compilation of baseline data	5,000	2,000	50,000
Activity 1.2.2: Field visits to demonstration sites to assess socio-economic, environmental and health conditions	9,000		50,000
<b>Output 1.3 Establish targets for release reductions, with the development of accompanying indicators of success</b>	<b>6,000</b>	<b>1,000</b>	<b>60,000</b>
Activity 1.3.1: Development of targets and indicators based on characterization and diagnostic analysis	1,000	1,000	20,000
Activity 1.3.2: Meetings held with main stakeholders to validate targets and indicators	5,000		40,000
<b>Component 2: Implementation of Mercury Releases Minimization Strategies in the Puyango-Tumbes River basins</b>	<b>419,000</b>	<b>240,000</b>	<b>2,100,000</b>
<b>Output 2.1 ASGM communities systematically adopt improved technologies and best practices to reduce mercury use and emissions, while enhancing gold recovery and incomes</b>	<b>304,000</b>	<b>130,000</b>	<b>1,900,000</b>
Activity 2.1.1: Site visits from project team to observe status of current practices and share project objectives with miners	15,000	5,000	50,000
Activity 2.1.2: Development of new or improved mining techniques/technologies in cooperation with local communities	259,000	100,000	1,750,000
Activity 2.1.3: Training of ASGM miners regarding new or improved mining techniques/technologies	30,000	25,000	100,000
<b>Output 2.2 Increased awareness of ASGM community and relevant authorities</b>	<b>35,000</b>	<b>5,000</b>	<b>80,000</b>
Activity 2.2.1: Awareness Raising Campaign	25,000	5,000	50,000
Activity 2.2.2: Leaders from the mining communities visit best practices in the region for horizontal sharing	10,000		30,000
<b>Output 2.3 Conduct monitoring programme</b>	<b>0</b>	<b>90,000</b>	<b>60,000</b>
Activity 2.3.1: Develop the monitoring programme		20,000	10,000
Activity 2.3.2: Monitor mercury levels in the mining community		20,000	10,000
Activity 2.3.3: Monitor mercury levels in the environment		20,000	10,000
Activity 2.3.4: Monitoring levels of mercury use and release, as well as quantity of gold production		20,000	10,000
Activity 2.3.5: Training of health care personnel in ASGM communities on dangers of mercury		10,000	20,000
<b>Output 2.4 Develop programs to promote the use of financial tools for miners, policy/ legislative reforms and the formalization of the ASGM sector</b>	<b>80,000</b>	<b>15,000</b>	<b>60,000</b>
Activity 2.4.1: Assessment of financial tools available to the mining communities, including fair trade or green gold	15,000		
Activity 2.4.2: Capacity building of mining communities on options and use of financial tools	10,000		
Activity 2.3.3: Liaising of potential investors with leading miners/associations	10,000		
Activity 2.4.4: Capacity building for local authorities and decision makers on ESM of mercury	15,000	15,000	50,000
Activity 2.4.5: Assessment of existing regulatory/policy framework, with a focus on trade of mercury and formalization of ASGM sector	20,000		5,000
Activity 2.3.6: Discussion and validation of potential reforms	10,000		5,000

<b>Component 3. Implementation of Communication, Dissemination and Replication Strategies at the national and regional levels</b>	<b>70,000</b>	<b>20,000</b>	<b>52,000</b>
<b>Output 3.1 Disseminate the project achievements</b>	<b>70,000</b>	<b>20,000</b>	<b>52,000</b>
Activity 3.1.1: Develop a national level CDR strategy to best convey the dangers of mercury, alternatives in technologies/techniques and project results	20,000	5,000	15,000
Activity 3.2.1: Preparation of awareness raising material, including audiovisual, media, publications, educational material, etc.	10,000	5,000	10,000
Activity 3.2.2: Hold CDR events or attend global mercury events to disseminate project objectives and results	30,000	10,000	22,000
Activity 3.2.3: Establish project management information system (MIS), including a project website to disseminate information to stakeholders.	10,000		5,000
<b>Component 4: Project Management and Monitoring and Evaluation</b>	<b>120,000</b>	<b>5,000</b>	<b>234,700</b>
<b>Output 4.1: Establish a Project Coordination Structure</b>	<b>100,000</b>	<b>0</b>	<b>165,700</b>
Activity 4.1.1: Establish coordination office, including recruitment of Project Regional Coord. (Ecuador), a National Project Coord. (Peru) and admin. support staff	90,000		85,764
Activity 4.1.2: Establish a Project Steering Committee			30,000
Activity 4.1.3: Hold regional project coordination meetings	10,000		50,000
<b>Output 4.2: Project Monitoring and Evaluation</b>	<b>20,000</b>	<b>5,000</b>	<b>69,000</b>
Activity 4.2.1: Organize an Inception Workshop	8,000	3,000	5,000
Activity 4.2.2: Carry out annual project financial audits	8,000		5,000
Activity 4.2.3: Prepare Annual Project Reports, Project Implementation Reviews and Tracking Tools	2,000	1,000	9,000
Activity 4.2.4: Carry out final evaluation			45,000
Activity 4.2.5: Complete Project Terminal Reports	2,000	1,000	5,000