*GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: FULL-SIZED PROJECT
TYPE OF TRUST FUND: GEF TRUST FUND

PART I: PROJECT INFORMATION

Project Title:	Strengthening the enabling framework for biodiversity mainstreaming nd mercury reduction in small-scale gold mining operations		
Country(ies):	Guyana	GEF Project ID:[1]	TBD
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5763
Other Executing Partner(s):	Environmental Protection Agency, Ministry of Natural Resources, Guyana Geology and Mines Comission	Submission Date:	August 5, 2016
GEF Focal Area(s):	Multi Focal Areas (BD+C&W)	Project Duration (Months)	84
Integrated Approach Pilot	IAP-Cities ☐ IAP-Commodities ☐ IAP-Food Security ☐	Corporate Program: SGP ☐	
Name of parent program:	n/a	Agency Fee ($)	431,618

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	**Trust Fund**	**(in $)**	
		GEF Project Financing	**Co-financing**
BD4: Mainstreaming Biodiversity Conservation and Sustainable Use into Production Landscapes/ Seascapes and Sectors, Program 9: Managing the Human Biodiversity Interface	GEFTF	3,650,593	23,859,812
Chemicals and Waste (CW2): Reduce the prevalence of harmful chemicals and waste and support the implementation of clean alternative technologies/ substances- Program 4: Reduction or elimination of anthropogenic emissions and releases of mercury to the environment	GEFTF	892,759	5,802,933
Total Project Cost		4,543,352	29,662,745

****Applying the STAR flexibility mechanism of GEF-6, a total of US$ 1,030,708 of LD STAR is being channelled to the BD focal area (including PPG).

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: Strengthen the regulatory framework and institutional capacity for the management of small -scale gold mining and promote greater adoption of environmentally-friendly mining techniques in Guyana in order to protect globally significant biodiversity, reduce mercury contamination, enhance local livelihoods and human health.

Project Components	**Financing Type**	**Project Outcomes**	**Project Outputs**	**Trust Fund**	**(in USD)**	
					GEF Project Financing	**Co-financing**
Component 1: Planning, policy and regulatory framework and institutional capacity strengthened for improved environmental management	TA	Outcome 1: Policy and regulatory framework strengthened for oversight of the environmental impacts of the small -scale gold mining sector as measured by: - Approved National Mining Policy	Output 1: Mining Policy approved, providing direction on how to balance mineral development, in all six mining districts totaling 6.5 million hectares, with other priorities such as biodiversity conservation, the protection of watersheds and freshwater, preservation of carbon stocks, and	GEF TF	1,390,081 BD: 1,241,418 C&W: 148,663	16,062,745

[1] Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

		- Approved regulations that increase the fines, fees, and/or environmental bond amount - Approved water quality standards for EPA Outcome 2: Increased institutional capacity and inter-institutional coordination to mitigate and manage the impacts of small -scale gold-mining, resulting in: - increased capacity of Ministry of Natural Resources, EPA and GGMC to manage small -scale gold mining (as measured by capacity index adapted from the UNDP Capacity Scorecard). - operation of an inter-institutional coordination mechanism for the efficient and sequenced allocation of concessions to maximize use of resources and consistency in application of standards -% of small -scale mining operations that are digitized and that are monitored at least once per year by GGMC or EPA - # of ha of high conservation value forests in the mining belt that are under effective management through regular monitoring using remote imaging and/or drone technologies and through the implementation of follow-up actions by GGMC/ EPA, with a	socioeconomic development, taking into consideration the Strategic Environmental Assessment to be carried out Output 1.2: Regulations approved to strengthen financial instruments available to promote compliance with regulations and to increase amount of funds available for reclamation/reclamation/restoration[3] work, which could include increased fines and an increased environmental bond, among others Output 1.3: Establishment of Mercury-Free Mining Development Fund supported to increase access of small and medium scale miners to adequate financing, leading to the phase-out of 10 metric tons of mercury. Output 1.4: Water quality standards adapted to the Guyanese context and other regulations that may be necessary promoted providing EPA with appropriate regulatory tools for monitoring Output 2.1: Institutional capacity of EPA and GGMC strengthened to enhance oversight and enforcement of small -scale mining operations and increase consideration of biodiversity aspects Output 2.2 Decision-making system and mechanism for inter-institutional cooperation defined and operationalized for the allocation of concessions among key agencies, including GGMC, GFC and GLSC, with inputs from EPA/PAC as well with regard to allocations in high biodiversity areas, including buffer zones of protected areas			

[3] Definitions of these respective terms will be discussed during project implementation to adapt them to the Guyanese context.

		special emphasis on the buffer zones of protected areas in the mining belt[2] (baseline and target to be established during PPG phase)	Output 2.3:Baseline and monitoring data on the impacts of mining on biodiversity, state of forests, soil quality and health (in terms of mercury) collected in the demonstration project sites feeding into an information system for institutional decision making			
Component 2: Increased adoption of environmentally sustainable practices among small- -scale gold miners	TA	Outcome 3: Adoption of more environmentally friendly gold mining practices increased as measured by: - % of small -scale miners implementing environmentally friendly mining practices (including geochemical or geophysical prospecting techniques, use of mercury retorts[45] and of mercury free technologies, construction of tailing ponds, backfilling and replanting, among others (baseline and targets to be established for demonstration sites during PPG phase through surveys and field verification) - # of ha with improved practices for biodiversity conservation in demonstration project sites - # ha of land restored/reclaimed/ rehabilitated in areas degraded by mining in demonstration project sites - # metric tons of reduced mercury release and use in demonstration project sites - level of awareness among communities of	Output 3.1: Environmentally-friendly prospecting, mining, and reclamation techniques showcased at two demonstration sites, and providing locally-adapted field-level training opportunities for small-scale gold miners, including training, peer-to-peer exchanges and preparation of educational material Output 3.2: Mining School and its Mining Stations strengthened for enhanced vocational training opportunities to promote more environmentally- friendly mining techniques in key mining transportation hubs through curricular development and equipment purchases Output 3.3: Tailored community awareness-raising campaign conducted, to increase understanding of negative environmental, health and social effects of current gold mining practices, including from mercury use, particularly on vulnerable groups Output 3.4: Stakeholder involvement in oversight and resource assessments increased to strengthen local governance and promote increased compliance and uptake of environmentally-friendly technologies through a	GEF TF	2,786,921 BD: 2,071,662 C&W: 715,259	11,500,000

[2] The mining belt of Guyana consistutes the greenstone belt with significant mining potential spanning the mountainous region of the country.

[4] Since the national intent is to phase out the use of mercury, the promotion of mercury retorts will be time limited.

		environmental impacts of small-scale gold mining (as measured by surveys) (*note- all targets to be confirmed during PPG phase*)	monitoring and enforcement network			
Component 3: Knowledge management monitoring and evaluation	TA	Outcome 4: Knowledge management, monitoring and evaluation implemented to support learning and upscaling	Output 4.1: Monitoring and evaluation facilitates adaptive management during project implementation Output 4.2: Knowledge management supports upscaling and replication of project lessons learned	GEF TF	150,000 BD: 115,166 C&W: 34,834	600,000
			Subtotal		4,327,002	28,162,745
			Project Management Cost (PMC)	GEF TF	216,350 BD: 171,412 C&W: 44,938	1,500,000
			Total Project Cost		4,543,352	29,662,745

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount ($)
Recipient Government	Environmental Protection Agency	Cash	6,862,745
Recipient Government	Ministry of Natural Resources	Cash	6,000,000
Recipient Government	Guyana Geology and Mines Commission	Cash	15,000,000
Recipient Government	Ministry of Indigenous Peoples' Affairs	Cash	1,000,000
CSO	World Wildlife Fund- Guianas	Cash	300,000
GEF Agency	UNDP Guyana Country Office	Cash	500,000
Total Co-financing			29,662,745

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY, COUNTRY AND THE PROGRAMMING OF FUNDS a)

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	(in $)		
					GEF Project Financing (a)	Agency Fee (b) b)	Total (c)=a+b
UNDP	GEF TF	Guyana	Biodiversity	n/a	3,650,593	346,806	3,997,399
UNDP	GEF TF	Guyana	Chemicals and Waste	Mercury	892,759	84,812	977,571
Total GEF Resources					4,543,352	431,618	4,974,970

a) Refer to the Fee Policy for GEF Partner Agencies.

E. PROJECT PREPARATION GRANT (PPG)

Is Project Preparation Grant requested? Yes ☒ No ☐ If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY, TRUST FUND, COUNTRY AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: $136,986					PPG Agency Fee: 13,014		
GEF Agency	**Trust Fund**	**Country/ Regional/Global**	**Focal Area**	**Programming of Funds**	**(in $)**		
					PPG (a)	**Agency Fee[6]** (b)	**Total** c = a + b
UNDP	GEF TF	Guyana	Biodiversity	n/a	110,069	10,457	120,526
UNDP	GEF TF	Guyana	Chemicals and Waste	Mercury	26,917	2,557	29,474
Total PPG Amount					136,986	13,014	**150,000**

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	*6.5 million Hectares*[7]
2. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Reduction of 1000 tons of Mercury	*10 metric tons*[8]

PART II: PROJECT JUSTIFICATION

1. *Project Description.* Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

1) Global Environmental Problems, Root Causes and Barriers that need to be addressed

1. Guyana is a small English-speaking South American state with an area of approximately 215,000 km^2 and an estimated population of 795,369 inhabitants (2012 Census report). The country's GDP was estimated at 3.09 billion USD in 2014 and the per capita GDP was USD 1381 (USD 6541 GDP per capita PPP). The main economic sectors are services, agriculture, mining (10.9% of GDP), and manufacturing, in decreasing order of importance (Bank of Guyana Annual Report 2016). The Human Development Index for 2014 in Guyana was 0.636, which is below the average for LAC. While it is characterized as a medium human development country by UNDP, the proportion of people living below the poverty line was estimated to be 35 percent, and those in extreme poverty made up 19 percent of the population (Guyana Millennium Development Goals report for 2007) It is estimated that 8% of the population are multidimensionally poor and an additional 19% are close to being so, based on 2009 household survey data (UNDP Human Development Report 2010).

2. The country maintains high levels of forest with an estimated 87% forest cover or 18.4 million hectares (GFC 2012). The Guyana Highlands, which are defined as a mountainous tableland region of northern South America extending from southeast Venezuela into Guyana and northern Brazil, are considered one of the four largest contiguous and intact forested ecoregions, and form part of the Amazon forest, which is the largest remaining tropical rainforest on earth. Two globally important ecoregions are found in Guyana, namely the Guianan Moist Forests and Guianan Highland Forests (WWF). These forests contains high levels of biodiversity and provide important ecosystem services, such as water

[6] PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.
[7] The total area of the six mining districts that will be covered under this project.
[8] Based on Guyana's First National Inventory of Mercury Releases under the GEF EA Mercury Initial Assessment of Guyana, June 2016.

regulation, climate regulation, maintenance of soil quality, provision of organic material, and erosion control, in addition to products that are needed by the inhabitants of the interior, such as non-timber forest products, game and building materials.

3. Biodiversity levels in Guyana's forests are extremely high. It is estimated that the Guyana has an estimated 8,000 plant species, 467 fish,130 amphibians, 179 reptiles, 814 birds 225 mammals , 1673 arthropods, over 1200 fungi, 33 bacteria, 13 nematodes, 44 algae, 17 molluscs and an estimated 30 viruses (data from 2010 reported in Fifth National Report to UNCBD 2015).. Guyana has an estimated 1182 native tree species (FAO 2005). New species are regularly being discovered when organizations such as World Wildlife Fund, Global Wildlife Conservation, and Conservation International have carried out BD assessments in the interior, which demonstrates that true biodiversity levels are likely considerably higher than the documented figures, which are not regularly updated. For example, recent surveys have discovered new species such as the highly endangered frog species, *Allobates amissibilis*, the *Chironius challenger* snake species, and the *Gonatodes timidus* lizard. In Guyana, the areas with highest endemism rates are in the Pakaraima Mountains (high plant endemism), and the upper Mazaruni-Kako-Roraima area (Fifth National Report to UNCBD), both of which have mining activity. It is estimated that 5% of the flora species in Guyana are endemic. However, if the entire Guyana Highlands area is considered, the endemism rate is estimated to be 50%.

4. While forest cover remains high, deforestation and forest degradation rates have increased substantially since the 1990s. Satellite data confirm that mining is the principal driver of deforestation and forest degradation. The latest figures from 2014, which were submitted as part of the Monitoring and Verification Requirements associated with Guyana's agreement with the Government of Norway to support the implementation of the Low Carbon Development Strategy, show that 85% of the recorded deforestation can be attributed to mining (of which 5-7% of this deforestation is linked to the associated infrastructure and the rest to the actual mining activity) and 87% of forest degradation is due to mining.

5. Various types of mineral and non-mineral mining take place, including for gold, diamonds, bauxite and sand, among others, and the possibility of mining low-value minerals and rare earth is being explored. However, it is the gold mining sector that is leading to the most significant negative impacts on the country's forests, biodiversity, and health of its watersheds. Gold mining is primarily carried out by small -scale miners. There are over 16,000 small scale miners, and due to their location in the vast interior and institutional barriers, much of the activity is uncontrolled, unplanned and haphazard. Proper prospecting is minimal among the smaller scale miners, leading to high levels of digging and large amounts of land that is disturbed in the search for gold veins. The mining techniques generally rely on mercury which is inappropriately handled and which contributes to large amounts of this highly toxic element entering the ecosystems by water, air and soil. In addition, the practices employed (primarily the sluice box) are highly inefficient, capturing approximately 30% of the gold present, which means that miners will often reenter previously mined areas to the detriment of the natural regeneration of the forest. The use of heavy machinery including diggers/excavators among so-called small-scale miners also increases forest and land degradation levels and impacts on biodiversity. While two large-scale gold mining plants recently came into operation (Aurora and Guyana Gold Fields), the impacts are generally considered to be of less concern than small-scale gold mining, as a result of the fact that the operations have had to go through environmental and social impact assessment processes and the foreign companies have to adhere to the requirements of their home countries as well as to those of financing institutions.

6. The environmental impacts from small -scale mining are severe and include:

- Mercury contamination of water bodies and soil, with mercury entering the environment primarily through its use in the amalgamation process. The main use of mercury in Guyana is the small -scale gold mining sector;
- Negative impacts on biodiversity from mercury and other chemical contamination. Surveys have indicated that carnivorous fish have elevated levels of mercury as a result of its bioaccumulative nature. Pollution of water bodies from mercury, cyanide and other chemical wastes can have a significant impact on the high levels of freshwater biodiversity and endemism present in inland waters;
- Habitat loss from deforestation and forest degradation, reducing both floral and faunal biodiversity. Bulldozers and dredges lead to the removal of forest cover, vegetation and topsoil, which undermines forest regeneration. As a result, there may be insufficient habitat remaining for wide-ranging animals like jaguars;
- Deforestation can also lead to reduced infiltration of rainwater in the ground and higher risks of flash flooding and erosion.

- Contamination of local rivers, such as the Upper Mazaruni River, from other chemicals used or generated through mining activities, such as sulfuric oxide and metal oxides;
- Turbidity in streams through the untreated discharge of the slurry from the slurry box from hydraulic mining (land dredging) activities, which runs into rivers and creeks. Settling ponds are often not employed. Turbidity and siltation/sedimentation downstream of mined areas can negatively affect aquatic ecosystems, aquatic biodiversity as well as water supply and quality.
- Change in river channels/ water courses from tailing piles. Large volumes of tailings can alter river channels in terms of quality and river flow, can create artificial sandbars and sandbanks, and lead to the accumulation of large piles of mud that can affect the river surface and negatively impact freshwater biodiversity.
- Land degradation/ increased erosion. Deforestation can contribute to increased erosion of mercury-laden soils into rivers, which can lead to mercury exposure and poisoning as well as river turbidity. Removal of top soil for mining operations can also lead to high levels of erosion and increased stream turbidity.
- Ongoing noise pollution from mechanized mining operations, which drives away species from mining areas, such as large carnivores and nesting birds and therefore reduces biodiversity. This can lead to the migration of fauna to other areas, including agricultural areas, where there may greater potential for conflict with local inhabitants;
- Loss of biodiversity in mining camps due to hunting of fauna to supply miners with a source of protein;
- Reduced air quality as a result of dust from mining activities and associated roads;
- Increased greenhouse gas emissions from the clearing of trees. The impacts of uncontrolled mining on carbon stocks are believed to be comparable to the degradation of high forest to scrub/savannah, which is approximately 200 tonnes of carbon per hectare (Cedergren, 2009).

7. The surge in gold prices a few years back led to the expansion of roads into previously inaccessible and remote areas, facilitating continued mining, as well as other uses. It should also be noted that mining sometimes occurs in the buffer zones of protected areas (PAs), or even within PAs, which threatens the biodiversity and ecosystem services present. For example, there is increasing mining pressure near Kaiteur National Park, which is located within the mining belt, as well as mining near the Iwokrama Forests, which are under conservation management.

8. In addition to these environmental impacts, gold mining can contribute to several negative health impacts, such as high mercury levels in the blood (sometimes even requiring dialysis); skin rashes and diarrheal cases from upstream contaminated water; increased incidence of malaria and dengue fever with the creation of breeding grounds for mosquitoes when water accumulates in pits that have not been backfilled; increased levels of typhoid and tuberculosis; STDs, including HIV/AIDS; alcoholism; and violence against women. Some formal studies have been carried out on mercury exposure in mines and hinterland communities and there is also anecdotal evidence of various impacts on health from mercury toxicity.

9. The root causes of the environmental threats posed by gold mining include an underlying development model linked to mineral resource extraction in order to meet the country's economic and development needs and to service its foreign debt burden/ obtain foreign exchange. This model involves little added value. The government's stated strategic priority is the mineral mining sector and all other sectors need to support that priority. Other root causes include weak institutional capacities to minimize the associated environmental degradation; strong economic and political interests linked to mining; insufficient budgetary and human resource allocations to oversee mining activities; and corruption. Another important root cause that must be highlighted is relatively high poverty and unemployment levels, which drive uneducated and even high qualified Guyanese into the hinterland to try to seek their fortunes, without adequate consideration of the risks and impacts involved. In addition, the porous border with Brazil combined with the recent economic downturn in that country is linked with increasing pressures from illegal Brazilian miners, who often employ destructive mining techniques.

10. The *long-term solution* is to have in place strong policies and regulations, including as they relate to financial instruments, combined with the necessary institutional capacity and inter-institutional coordination ability to adequately enforce this framework as well as the continual monitoring of the impacts of mining on different environmental parameters. This solution would also entail substantial training opportunities for miners in the interior to be able to put in

place best practices that are adapted to their needs. There are several important *barriers* that are undermining the achievement of this solution, namely:

a) Significant gaps in the planning, policy and regulatory framework as it relates to gold mining:

11. Guyana does not have a Mining Policy to provide guidance on mining and to improve planning. Furthermore, a Strategic Environmental Assessment of the impact of the mining sector as a whole has not been carried out since 2006 and no assessment of current mining policies has been undertaken. As such, the cumulative impacts of mining operations in general or of small-scale gold mining operations in particular, have not been assessed, despite the fact that the Environmental Protection Act mandates that this occur when the cumulative impact of an activity may be significant. It should also be noted that biodiversity assessments are not required by law before small-scale mining permits are granted. Large-scale mining operations must undertake Environmental Social and Impact Assessments (ESIA), which would necessitate the collection of baseline biodiversity data. In some cases, landlords with large pieces of land allow smaller blocks to be worked by small-scale miners, which can lead to a situation where the impacts are on a large scale but the ESIA requirements are circumvented through the issuance of permits for many smaller blocks.

12. Guyana approved its first national land use plan in September 2013, which is a non-prescriptive document at this point that does not carry legal weight in the absence of an approved land use policy to guide implementation of the plan. As a result, there is no overarching guidance to inform the allocation of mining plots. At the moment, all lands that are not already designated as protected areas are open for mining, without consideration of the possible presence of biodiversity hotspots, high conservation value forests, or key ecosystem services. There is also a situation of overlapping land uses and claims for the same pieces of land, and in such cases, mining is given precedence over other activities, such as forestry.

13. In terms of the regulatory framework to guide mining practices on the ground, Guyana has established Mining Codes of Practice, but these are not mandatory regulations and therefore lack teeth. Monitoring and enforcement regulations for Environmental Protection Agency (EPA) have been drafted but have not yet been gazetted; these would allow EPA to implement civil penalties rather than only having recourse to the criminal system, which is often unfeasible to pursue in terms of the associated human and financial resource implications. There are other deficiencies in the regulations as well, such as the lack of specific regulations to promote planning for reclamation during mining operations, such as by storing topsoil. There are also no regulations to require landlords to undertake proper planning and management of rented lands, in terms of water management, reclamation, and other issues. Furthermore, the country lacks approved guidelines for the careful use and disposal of hazardous chemical waste.

14. One of the most important weaknesses in the existing regulatory framework relates to financial instruments to promote compliance and to manage the environmental impacts of mining. The penalties for non-compliance are extremely low in the event that miners who do not admit to wrongdoing are actually charged and proven guilty. As a result, regulatory agencies may not even charge miners as the staff time and court costs do not warrant the potential fine that could be recouped. Moreover, the current reclamation bond is also very low (approximately USD 122 for small-scale mines) and does not correspond at all with the actual costs of reclamation. These amounts are not serving as a disincentive for miners who usually forgo the bond amount and do not carry out backfilling or any reclamation activities.

b) Insufficient institutional capacity and inter-institutional coordination:

15. EPA is tasked with a broad non-sector specific mandate on environmental issues, as per the Environmental Protection Act. However, due to institutional weaknesses, limited staffing and no real field presence, it is challenged to be able to carry out all its functions, including as they relate to monitoring and enforcement of small-scale mining activities. As a result, it has an MOU in place for the Guyana Geology and Mines Commission (GGMC) to take on these oversight functions with small -scale miners, however, this is outdated and needs to be revised. In some instances, EPA officers do follow up on reports of contamination, but they do not have powers of prosecution. EPA has recently established an Enforcement and Compliance Division, which requires further staffing, training and equipment to be able to effectively fulfill its mandate. Moreover, EPA does not currently have the dedicated resources for monitoring of mining impacts on biodiversity or ecosystem functionality. Both within EPA and GGMC, field officers require further strengthening of knowledge on biodiversity and ecosystem service values and have few biodiversity specialists on staff. Frequent staff turnover is also an issue that must be addressed at the root.

16. GGMC, in turn, has limited mines officers tasked with carrying out field inspections to monitor activities and enforce the mining regulations and does not generally request small -scale miners to provide prospecting plans or to submit environmental management reports. GGMC's enforcement work is especially challenging given the large number of small-scale prospecting licenses and mining concessions, the inaccessibility of many of the mining operations due to poor road conditions, and the itinerant nature of the operations. Furthermore, GGMC has the dual and competing responsibilities of promoting sectoral growth while also regulating the sector and carrying out enforcement.

17. Inter-institutional coordination requires strengthening, including in terms of planning, monitoring and enforcing mining activities. As such, there is insufficient integrated planning of activities among GGMC, EPA, Guyana Forestry Commission and Guyana Lands and Surveys Commission due to sectoral institutional mandates, which enable GFC to lease areas with state forests, GL&SC to lease areas that are state lands and GGMC to lease areas with minerals. Overlapping jurisdiction on public lands with forests and minerals is undermined by insufficient exchange of information and coordination for no-objection responses as required. This applies also to the allocation of permits, which leads to a situation whereby concessions may be given for the same plot of land without coordination, leading to the inefficient use of natural resources (for example, an area is cleared for mining before the forestry resources can be extracted). It should be noted that the Ministry of Natural Resources (MRN) is a relatively new multi-agency institution that was established in 2011, so the agencies do not have many years of experience of working together in a coordinated way and of rationalizing the system.

c) Insufficient demonstration and training on best practices and technologies that small -scale miners consider to be affordable and suited to the local context combined with inadequate incentives to promote their uptake:

18. While there has been some work over the years to promote best practices and to reduce mercury use in small -scale mining operations, such as through mercury retorts, this has not translated into high levels of uptake and as such most small -scale gold miners do not handle mercury appropriately or implement other best practices such as establishment of tailings ponds, backfilling or replanting. This may be because there has been insufficient showcasing of technologies and best practices (in terms of prospecting, mining and reclamation) that have been field tested and specifically adapted to the local context and to miner preferences. Issues such as the cost of equipment versus reward, and time to employ the equipment must be taken into consideration; for example, mercury retorts are often deemed to be too time consuming by miners and other mercury free equipment may be considered too expensive. Furthermore, an individualistic approach predominates and there is little experience among miners of working cooperatively to share use of mercury free equipment. Mercury-free technologies such as Goldkatchas and the GoldFix technology have had very limited field/ empirical testing to assess their feasibility in terms of the amount of volume they can process, ease of use, gold recovery efficiency rates, and overall costs versus benefits.

19. Formal education for miners is not yet compulsory, though a draft regulation for Mine-pit Managers to mandate their attendance at the Mining School has been prepared. This Mining School, which was established in 2012, is still in the initial stages of establishment and does not have a fixed annual budget with adequate staffing or equipment. The courses that have been offered so far have been limited to the issue of prospecting. Moreover, there is no structured plan of action to give support to the training needs of miners and the training that has been provided by agencies such as GGMC is not standardized.

20. Linked with the limited uptake of best practices is the fact that there are inadequate financial incentives available to encourage miners to adopt more environmentally-friendly technologies and best practices, such as mercury-free equipment and reclamation (which can be very costly). While there had been previous commitments related to a USD 5 million mercury fund to help miners shoulder the cost of mercury-free equipment, no funds have been disbursed yet.

d) Inadequate understanding of the environmental, health and social impacts of small-scale mining among communities:

21. Despite some campaigns that have been carried out over the years in the hinterland, there is still widespread lack of understanding of all the different negative environmental, health and social impacts of gold mining as it is currently carried out. For example, indigenous communities are not all familiar with the upper trophic level fish species that are likely to have high mercury levels and that should therefore not be consumed. Regulatory agencies are limited in terms of what they are able to offer in terms of awareness raising due to the high costs of going into the interior coupled with

budgetary restrictions. The idea that mining is a temporary endeavour or use of land and as such that the impacts are temporary as well is also a commonly held view.

e) Very little baseline information and monitoring of the impacts of mining on biodiversity (BD), land degradation, mercury levels and on health:

22. A comprehensive BD inventory has not been carried out for Guyana. Limited baseline data, combined with the lack of application of monitoring protocols or monitoring requirements for BD in mining areas, means that the impacts of small-scale gold mining on BD are poorly understood. This lack of information therefore undermines the implementation of appropriate measures to safeguard BD. Although there is a non-scientific estimate of the total amoung of degraded land in the country, there is no accurate estimate of this and limited data on soil quality in mining areas nor sufficient information on levels of mercury in specific mining hotspots. Finally, there are also very few data using reliable sample sizes on the health impacts being experienced in the interior as a result of mining and mercury use to help inform policy decisions.

23. It should be noted that the estimated 13,000 existing small mining claims have not been digitized, which makes it difficult for GGMC to monitor them without knowing their exact location. Thus the tracking of miners poses a significant challenge, which must be addressed if environmental considerations are to be taken into account effectively.

2) Baseline scenario or any associated baseline projects

24. Under the baseline scenario, small and medium-scale prospecting and mining will continue to be carried out and large-scale mining is expected to expand with various new large-scale companies set to begin operations. The Ministry of Natural Resources (MNR) is planning to support the reorientation of the Environmental Protection Agency (EPA) to strengthen its ability to carry out its functions and responsibilities, including as they relate to the enforcement of mining regulations, in line with MNR's Strategic Plan for 2013-2018. Funding has been obtained for this reorientation in the amount of USD 240,000, which will also be supported by the recent acquisition of a new building to be equipped with a lab to permit water analyses. EPA is also receiving some support from a UNDP/GEF Medium-Sized Project to Mainstream Biodiversity in Mining in terms of training and development of a checklist for mining infractions. EPA is expected to invest USD 6,862,745 in baseline funding during the project. However, EPA's effectiveness will continue to be undermined by significant gaps in the regulatory framework, as well as insufficient training and resources.

25. The baseline will see GGMC continuing to issue small -scale permits and carry out enforcement activities in the field related to the existing Mining Codes of Practice. The Mining Codes are being updated under the baseline with support from WWF (with respect to mercury) and in coordination with EPA. It should be noted, however, that these are still voluntary rather than being mandatory. In addition, fines for infractions related to mining remain very low. Some training will be provided to the Guyana Geology and Mines Commission (GGMC) to strengthen its enforcement capacity under the aforementioned UNDP/GEF mining project in Guyana. In the baseline scenario, the issuance of small-scale mining permits will not be guided by an overarching Mining Policy to help direct the sector's development. Furthermore, in the absence of a cumulative assessment, the environmental impacts of all the different mining operations taking place at different scales will be poorly understood.

26. In order to promote uptake of less environmentally harmful technologies, GGMC has done some work to promote mercury-free technologies through demonstration projects involving mobile trailers and is planning to continue to do so. To provide incentives for the uptake of mercury-free technologies, a USD 5 million mercury fund was to be set up to support miners in the acquisition of mercury free technologies. However, to date, no funds have been disbursed and it is not clear whether this will happen. To promote greater land reclamation post-mining, the Land Reclamation Committee, which included multiple agencies and institutes, identified three priority sites and initiated some reclamation work in Mazaruni Mining District 3. This includes backfilling in one site, and leveling and replanting in a second site. The lessons learned from this experience are currently being documented in terms of the field techniques employed, the stakeholder engagement strategy, enforcement, etc.. Challenges faced include weak inter-agency coordination, site accessibility, cultural buy-in and the current lack of champions to continue with this work. GGMC baseline estimates over the period of project implementation are estimated at USD 15,000,000.

27. MNR is planning to provide some learning opportunities for miners, such as through a Medium-Scale Miners Conference planned for later in 2016. The Mining School will continue to offer prospecting courses to miners and will integrate the issue of biodiversity into its curriculum through the UNDP/GEF mainstreaming biodiversity into mining project. The School has been assigned two technical officers (a geologist and mining engineer) from GGMC to provide training. However, it requires a fixed budgetary allocation, further support for curriculum development on environmental issues, as well as the development of mechanisms to mandate or encourage attendance by mine operation managers and other mining staff. The baseline includes some public awareness raising activities, including through the UNDP/GEF Medium Sized Mainstreaming Biodiversity in Mining project, with USD 45,000 allocated. However, communities will likely continue to have relatively low levels of awareness of the gamut of impacts of current mining practices, including environmental, health and social impacts. The total expected baseline investments over the course of the project by MNR amount to USD 6,000,000.

28. WWF is likely to continue with its three main areas of action: working with stakeholders to improve mining practices in the small- scale gold sector, especially in mercury free mining; biodiversity assessments; and collecting baseline on certain environmental parameters. Baseline spending by WWF over the period of the project is estimated at USD 300,000. Together with the EPA and GGMC, it is also preparing best practices guidelines to reduce post mining impacts (such as sedimentation) in line with the Codes of Practices, based on the recognition that full physical restoration and replanting may be too costly. The draft best practices guide for miners will soon be piloted with miners within the Konawaruk, to ensure that they are implementable.WWF is preparing to implement a project which will support the national platforms for mercury phase out, a regional mercury observatory, and develop and pilot a mercury-free model best fitting for small miners' social organisation in two sites, next year. These will serve as useful tools to promote best practices upon which the proposed UNDP/GEF Full Sized Project can build. Some work is being carried out to assess biodiversity levels in mining sites in order to strengthen baseline data and understand mining impacts. In addition, the National Protected Areas Commission is developing biodiversity monitoring protocols in the context of ecological threat monitoring but these have not been applied at this point to mining areas. In terms of data on other parameters besides biodiversity, UNDP/GEF support is permitting a mercury inventory to be carried out as part of the country's Minamata Enabling Activities, which also includes the development of a National Action Plan- supported by WWF. As part of Guyana's engagement with green and low carbon development and with the REDD+ initiative, data will continue to be collected annually on levels of deforestation and causes, as well as on forest degradation as part of the Monitoring, Reporting and Verification System (MRVS). Data on land degradation and on soil quality, however, are not expected to be collected under the baseline in the mining districts. Moreover, there will be limited consolidation of different types of data under the baseline to facilitate their use and access by key stakeholders to inform mining-related decisions.

3) The proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project:

29. The project will strengthen the regulatory framework and institutional capacity for the management of small - scale gold mining and promote greater adoption of environmentally-friendly mining techniques in Guyana in order to reduce negative impacts on biodiversity, reduce mercury contamination, enhance local livelihoods and human health. There are substantial opportunities for South-South cooperation given that UNDP is also implementing a project on gold mining in Suriname. Furthermore, this project builds on advances made during the UNDP/GEF Medium Sized project in Guyana, entitled: "Enhancing Biodiversity Protection through Strengthened Monitoring, Enforcement and Uptake of Environmental Regulations in Guyana's Gold Mining Sector".

30. The project objective will be achieved through two main and interconnected Components.

Component 1: Planning, policy and regulatory framework and institutional capacity strengthened for improved environmental management

31. The project will support a much-needed Strategic Environmental Assessment (SEA) of the gold mining sector, building on the one carried out in 2006. This will go beyond project-by-project Environmental Impact Assessments (EIAs) to look at a more strategic level on the estimated environmental and other impacts of gold mining and may also

include an ecological carrying capacity study of key mining areas. An SEA will require assessment of the cumulative impacts of past, ongoing, and foreseeable small, medium-scale and large-scale mining activities. This will address the current shortcoming in being able to understand the impacts of thousands of small -scale claims in conjunction with several large operations on the country's forests, biodiversity, levels of land degradation, and other factors. MNRE's strategic plan for 2013-2018 cites the need to carry out an SEA as a planning tool as part of its strategic priority of achieving integrated and holistic planning . This strategic assessment will serve as an input for the development of a Mining Policy with project funding to direct the development of this sector in a sustainable manner in coordination with other sectors affecting the forested hinterland, such as forestry and protected areas. In the absence of an approved National Land Use Policy, which is currently being revised by the Guyana Lands and Surveys Commission , and given that mining is now considered the key sector upon which the national economy will be based, the development of a Mining Policy is very important to trigger the types of difficult discussions that need to be made in order to build consensus on which areas should be developed for mining and which areas should be set aside for conservation (maintenance of carbon stocks, biodiversity, ecosystem services), agriculture, forestry and other land uses and how coordination among different uses can be achieved in the same areas. As such, the Mining Policy will need to define high conservation value forests where further mining should not take place. This task can be supported by previous work carried out by the National Protected Areas Commission in terms of mapping the sites that could be included in the national protected areas system at least cost and other areas that could comprise biological corridors. The gap analysis that was undertaken took into consideration levels of biodiversity, importance of sectoral activities and other factors in order to identify additional priorities for conservation to meet ecological representativeness targets while minimizing impacts on important sectoral activities such as mining.

32. One key aspect of this Component will be the strengthening of the financial instruments available to enforce compliance with regulations and to promote reclamation. These financial tools could include increased fines for infringements. In addition, the possibility of substantially raising the environmental bond will be assessed or other means of providing a sustainable source of funds to carry out the type of work necessary for reclamation and to reduce negative impacts on forests and on waterways. In addition, the project will help support the establishment (and potentially management) of a 'Mercury-Free Mining Development Fund' to ensure its objectives are met, in coordination with CI as required. This will increase access of small -scale miners to adequate financing for the adoption and implementation of mercury-free mining gold extraction technologies and to adopt technologies that enhance the gold recovery process. Potential beneficiaries of this revolving fund would be identified by GGMC and a Financing Institution.

33. Through the project, water effluent standards will be developed for EPA as turbidity levels are a key concern. These need to be adapted to the local environmental context, rather than simply applying international standards to Guyana. The project will provide support for the formal approval of the Mining Codes of Practice (dealing with mercury, tailings management, occupational health and safety, etc.), which are currently being updated, and which have never been entrenched in law to make them mandatory. The project will also support the formal approval of the draft regulation that would mandate attendance of mine managers at the Mining School, as well as the draft regulation for GPS tracking of dredges, if these have not yet passed by the time project implementation begins; project support will include raising the awareness of decision makers of the importance of such regulations to the country's Green Development Plan. Other possible regulatory measures that will be promoted by the project will be explored in further detail during the PPG phase, such as the possibility of establishing regulations for landlords to adequately plan and manage smaller blocks of rented land to minimize environmental degradation.

34. To support the changes in the policy and regulatory environment, training will be provided to ensure that the relevant institutional stakeholders are aware of the details of the regulations they need to enforce and to more generally strengthen enforcement capacity. Institutional capacity building will also include training for EPA on how to conduct investigations into infringements and on how to collect the necessary evidence. In addition, training for EPA officers on rapid biodiversity assessments will be provided by specialists in different fields in the context of ecological threat monitoring, building on what will be carried out through the UNDP/GEF Medium Sized project on Mainstreaming Biodiversity in Mining, and focusing on indicator species. Necessary equipment such as water quality testing kits and mercury testing equipment for EPA for the lab it will be responsible for will be funded by the project. Training for GGMC officers will also be given to strengthen the monitoring of small-scale mining concessions. Institutions will also be trained in the technologies to be promoted with miners under Component 2, including effective prospecting techniques, mercury

retorts, mercury free mining technologies and reclamation, as will officers of the Mining School who would be the main trainers.

35. Institutional capacity for monitoring and enforcement of small -scale gold mining activities will be enhanced through project support for the strengthening of the Compliance, Occupational Health and Safety Unit (the Enforcement Arm) of the Ministry of Natural Resources. This is a key element of the project design as enforcement of existing legislation must be significantly strengthened. In particular, the possibility of supporting the purchase and piloting of drone equipment and providing training to MNR on this technology will be explored. Drone technology can be particularly useful in high biodiversity areas where mining is occurring below the canopy and is therefore not easy to pick up using standard satellite imagery. Moreover, it can provide real time information. In addition, possible project support for the acquisition of more regular satellite image data to facilitate more real-time information for decision-making will be further explored during the PPG phase.

36. Capacity building will go beyond training for individual agencies to include the promotion of strengthened inter-institutional coordination and to the establishment of an integrated approach to working together as there is a strong need for greater coherence in environmental management across sectors. As such, the work of the MSP to strengthen such coordination will be built upon in order to put in place a more structured, sequenced and integrated approach to planning and exploiting different resources that may be present in the same concession. Proper sequencing of operations will enhance planning and ensure efficient utilization of the forest and mineral resources that may be present in the same pieces of land. Similarly, a coordinated approach needs to be achieved with regard to the setting aside of biodiversity reserves with the granting of forestry concessions, to ensure that these are not subsequently cleared by mining operations. A Minamata Coordination Consultation Mechanism (MCM) has been designed but not yet implemented, and includes representatives of MoSP (Ministry of Social Protection) GGMC, WWF, GWMO, EPA and MNR. Through this project, the responsibilities of this structure will be expanded and it will serve as a mechanism for inter-institutional cooperation/ decision-making in the allocation of concessions among key agencies (by expanding the scope of its work). This will help ensure that BD considerations are taken into account.

37. One of the weaknesses that continues to undermine decision making to protect the environmental resources of Guyana's interior in mining areas is lack of adequate data on biodiversity, land degradation and mercury levels, despite various interventions described in the baseline section and the coordination with other initiatives section The project will support the rolling out of one or more[9] biodiversity monitoring protocols for mining areas that are feasible to apply and that cover both freshwater and terrestrial areas. Such monitoring will take place in the context of ecological threat monitoring and can build on the work being carried out by the National Protected Areas Commission in this regard. The protocol(s) will be tested in priority sites within the project's demonstration areas and/or in the buffer zones of protected areas being threatened by mining, such as Kaiteur National Park, thus enabling baseline data on BD to be collected. Given the high costs of biodiversity monitoring in tropical forest ecosystems, the focus will be on indicator species and on monitoring in prioritized areas. The protocols will be applied again at the end of the project to assess any changes in key BD values as a result of the promotion of better prospecting, mining and reclamation techniques over the course of the project.

38. Existing data on mercury levels will be consolidated and if necessary, additional sample data collected in specific demonstration sites at the beginning of the project. Possible support from the University of Guyana will be explored.In addition, surveys will be carried out in these areas to document health impacts of mercury use by small -scale miners on mining communities, including among indigenous populations. Data on land degradation in or near mining areas, particularly on state lands, will also be collected using the LADA methodology and soil testing will be carried out in demonstration projects located within mining areas on state lands; Guyana Lands and Surveys Commission, the UNCCD focal point, would be involved in this activity. The project will support the consolidation of this information on biodiversity, mercury levels, soil quality, and health to ensure ready access in an information system, which will serve as a vital tool to strengthen institutional decision making capacity and transparency and will continue to be populated with information post project. In this respect, the project will incorporate mining-related data in the Environmental Information

[9] Different protocols may be developed for different ecosystems.

Management and Monitoring System (EIMMS) that is being established under the responsibility of MNR (through the GEF Cross-Cutting Capacity Development (CCCD) project- 2016-2020).

Component 2: Increased adoption of environmentally sustainable practices among small -scale gold miners

39. Demonstration projects will be implemented in key mining areas to provide grassroots training opportunities by showcasing and testing best mining practices. Possible areas include Konawaruk/Mowasi (40,000 ha), Marudi Mountains (5,777 ha), and Puruni (30,000 ha). The specific areas and sizes will be delineated and confirmed using the hotspot consultancy report recommendations, taken into consideration areas of high conservation value[10]. These will need to be cost effective for small-scale miners and adapted to the Guyanese context to maximize voluntary uptake. This is particularly important given the context that mining is taking place in remote areas, which means that enforcement can never be the full solution but must be coupled with promotion of feasible alternatives that are financially viable, that increase gold recovery rates and that simultaneously reduce natural capital losses. Training will be provided on practices related to prospecting, use of mercury free technologies and mercury retorts, establishment of tailing ponds, and backfilling and replanting, among other topics. The model that has started to be utilized by GGMC in terms of mobile trailers that are equipped with the technologies to be promoted may be adopted (e.g., prospecting equipment, use of flocculants to improve water quality, higher gold recovery technologies, etc.). The project will also support one or more demonstration projects in which more costly technologies that enhance gold recovery rates, such as shaking tables, will be set up using a cooperative-based approach to offset these costs. This is based on the recognition that increased gold recovery goes hand in hand with reduced likelihood of miners reentering and disturbing areas. The best mining practices handbook being developed by WWF for implementation by EPA with GGMC may be used or built upon and its dissemination could be promoted with this project. In addition, the work that WWF is currently carrying out to identify feasible practices to restore waterways will be taken into consideration in the refinement of a methodology of best practices for reclamation and/or to reduce impacts on terrestrial and aquatic areas. The idea is to develop standard operating procedures and guidelines that could be enforced by GGMC on the ground. The project will also provide training to medium-scale operators so that they can better plan and provide more structured supervision to the small-scale operators that often operate within their concessions.

40. To maximize the impact and uptake of the messages of the training activities, peer to peer exchanges will be carried out. Seminars will include visual aids and translators where necessary. Written materials such as flyers and oral commercials will be distributed prior to seminars to maximize attendance. DVDs will be prepared and left with dredge owners, trained miners, associations, community leaders, shop owners and local airline carriers, to support further capacity building and awareness raising after the project ends. In addition to the training seminars, best practices will be shared through exchanges, case studies and dissemination of documents. While the UNDP/GEF MSP on mining in Guyana will include some targeted information sessions for miners and awareness raising, there is a huge need to change the existing mindsets among miners, which will require more regular reinforcement of messages through a longer training and awareness raising program, which can be achieved with this seven-year project.

41. The idea of using incentives to promote compliance and uptake of these technologies will be further explored during the PPG stage to determine if this is feasible as miners will require support for the transition toward mercury free technologies in order to meet Guyana's obligations under the Minamata Convention. In addition, the possible use of funds to distribute the technologies to miners will also be assessed.

42. The location of the in-situ training and demonstration projects will be informed by a consultancy currently being carried out under the UNDP/GEF Mainstreaming of Biodiversity in Mining MSP, which will prioritize monitoring hotspots. They could include areas such as Puruni, Konawaruk, and Isseneru, for example, where there are high levels of mining, significant pressures on ecosystems, presence or proximity of important biodiversity sites, and where the results of previous initiatives can be built upon. The final selection of the demonstration project areas will be made during the PPG phase.

[10] A consultancy being carried out through the UNDP/GEF Medium Sized Project in Guyana on biodiversity mainstreaming.

43. In addition to the establishment of the demonstration projects, the project will support the formal education of miners through the Mining School by funding equipment and curricular strengthening. For example, low-cost prospecting equipment for small- scale miners may be purchased for the school's Mining Stations. These could include XRF devices for geochemical prospecting or ground conductivity meters and magnometers for geophysical prospecting (to be confirmed during the PPG phase). Curricular strengthening will be undertaken to incorporate issues such as mercury free technologies.

44. The building of capacity among miners will be complemented by an awareness campaign with communities and key stakeholders so they better understand the impacts and help to mitigate them. This campaign will be targeted at people living in mining areas, those in communities affected by mining, as well as the general public in the coastal area (including Georgetown and major towns). Besides specific environmental topics, issues such as the health impacts of mercury and appropriate fish species for human consumption will also be included in the campaign. In order to maximize impact, the campaign messaging will be tailored to particular communities and stakeholders.

45. This Full-Sized Project will build on the work to be carried out during the UNDP/GEF Medium Sized Project on Mainstreaming Biodiversity in Mining in order to engage communities in a monitoring and enforcement network in the context of limited state resources available for enforcement of mining policies. As such, this project will strengthen and expand this network further through meetings and training, and will explore the possibility of engaging communities even further by involving them in the assessment of the state of resources and ecosystems.

Component 3: Knowledge management, monitoring and evaluation in place to support learning, upscaling and adaptive management

46. As part of this Component, ongoing monitoring including through preparation of annual PIRs, among other activities, will take place to assess the extent to which the project is achieving its desired impacts and to take adaptive management measures as necessary. A Mid-Term Review will be carried to determine progress by project mid point and to highlight recommendations to be implemented to ensure achievement of project results. A Final Evaluation will also be undertaken to assess final project impact. To support knowledge management, a project website will be established to house key project-related outputs and to facilitate access by stakeholders, and links will be made to other relevant sites. Opportunities to disseminate project learning and achievements will be identified on an ongoing basis during project implementation but will include information sharing among the various UNDP projects in the region that have a mining focus. Prior to project completion, a summary document will be produced to highlight lessons learned and project achievements and this will be disseminated to participating government agencies and to relevant civil society and private sector organizations, such as miners' associations and environmental NGOs.

Contribution to GEF Focal Areas

47. The project will contribute to *Biodiversity Objective 4: Mainstreaming Biodiversity Conservation and Sustainable Use into Production Landscapes/ Seascapes and Sectors, specifically Program 9: Managing the Human Biodiversity Interface*. Mining is the most important sector contributing to the loss and degradation of Guyana's extensive forests, which harbour high levels of biodiversity. The project will strengthen the mining-related regulatory framework to enhance biodiversity conservation, enhance institutional capacity, promote best practices among miners, and raise awareness. In addition, the project will collect baseline BD information in demonstration project sites and monitor impacts on BD so that this data can support improved decision making to reduce the negative impacts associated with the human-biodiversity interface. The different project elements to strengthen biodiversity protection will contribute to the integration of Guyana in a connectivity corridor with the rest of the Guyana Shield. The project will support the achievement in the short and medium to long-term of the following *Aichi Biodiversity Targets* (Strategic Plan for Biodiversity 2011-2020):

- Target 4: By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

- Target 5: By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation are significantly reduced.
- Target 8: By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.

48. The project will contribute directly to *Chemicals and Waste (CW2): Reduce the prevalence of harmful chemicals and waste and support the implementation of clean alternative technologies/substances, Program 4: Reduction or elimination of anthropogenic emissions and releases of mercury to the environment*. Please note that Guyana has provided the required notification on the Minamata Convention, Article 7, which covers mercury use in artisanal and small-scale mining. This will be achieved by putting in place demonstration projects in the field to showcase mercury free technologies (as well as mercury retorts) in the small -scale mining sector, combined with in-depth training for miners. In addition, the feasibility of using incentives to promote uptake will be explored. The project will also support the strengthening of the Mining School program to incorporate curricular content related to the reduction and elimination of mercury in mining. An awareness raising program with community members and stakeholders will be carried out to increase understanding of the negative health and environmental impacts of mercury. Through the project, data will be gathered to document the health impacts of mercury mining. The project will be supported by a knowledge management program to enhance the exchange of information and experiences among countries of the region as they relate to mercury reduction and phase-out.

4. Incremental reasoning and the contribution of the baseline and co-financing

49. The baseline actions described in sub-section 2 will enable some institutional strengthening to take place, particularly for EPA. GGMC will continue to carry out enforcement actions for the small -scale gold mining sector and may receive greater support from MNR's Compliance Arm and from EPA. Continued work by WWF is expected to lead to the development of ground-tested guides for best practices that can serve as inputs to this project. However, the scale and pace of action under the baseline scenario is not expected to lead to the kind of systemic changes that are required to significantly strengthen the management of small -scale gold mining nor to have substantial impacts to reduce the ongoing negative impacts on biodiversity and forests, ecosystem services, soil quality and mercury levels.

50. Funding from GEF will lead to significant strengthening of the planning and regulatory framework, including financial instruments that can increase the resources available for enforcement. The GEF increment will also lead to greatly enhanced capacity for enforcement of regulations and for informed decision-making through capacity building, funding of tools to monitor forest degradation and deforestation, and collection of monitoring data. Substantial investments in training on the ground through demonstration projects and support for the Mining School will promote compliance and adoption of best practices by showcasing the benefits of locally-adapted techniques and technologies. Targeted awareness raising with communities will enhanced local governance and involvement in monitoring compliance and in promoting best practices. The scale of action that can be achieved with over 7 million USD GEF funding over a period of seven years will enable substantial global environmental benefits to be reaped (as described in the next section) and will provide sufficient time to put in place a strong plan for sustainability.

51. Co-financing will complement and increase the impact of GEF funding.

5) Global Environmental Benefits

Current Practice	Alternatives to be promoted by the project	Expected Global Benefits
Limited to no planning before issuance of mining permits leading to uncontrolled mining expansion, and failure to take into consideration biodiversity aspects	- Collection of baseline biodiversity data in demonstration projects located within key mining districts, as well as follow-up monitoring - Development of BD monitoring protocol - Training for EPA in rapid biodiversity assessments	- increased conservation of 6.5 million hectares of high-conservation value forests. - greater conservation of terrestrial and aquatic biodiversity

	- Development of Mining Policy, which would provide greater direction on mining areas and issuance of mining permits and should consider different environmental, social and economic criteria (including biodiversity hotspots and high conservation value forests)	- measures to protect endangered or endemic species, including Jaguars, Puma, Giant River Otters, Harpy Eagle, Arapaima, and keystone fish spp
Limited use of prospecting techniques by small -scale miners	Promotion of geophysical methods (magnetism and electromagnetism) as well as geochemical methods such as XRF devices.	- reduced deforestation and forest degradation - reduced habitat loss and concomitant biodiversity loss - increased carbon storage Estimated National area of Intact Forest Landscape (IFL) - 7,604,314 hectares to be sustainably managed avoiding significant forest cover change from mining degradation.
Use of mercury in small -scale gold mining operations, without adoption of adequate practices to minimize mercury release into the atmosphere and to water bodies	- promotion of mercury-free equipment such as centrifugal equipment and shaking tables, as well as of mercury retorts (the latter will be promoted for a limited time period given the government plan to phase out mercury by 2020)	- phase out of 10 metric tonnes of mercury thus reducing mercury contamination of high trophic value species/ protection of biodiversity - reduced atmospheric and water contamination - national health benefits
Use of inefficient gold recovery techniques	Promotion of techniques that lead to greater gold recovery which could lead to an intensification of mining activity in certain areas	- Increased natural regeneration rates and thus vegetation cover - Greater land reclamation practices because miners unlikely to reenter the same area - Increased biodiversity conservation in buffer zones of protected areas that are located in gold mining districts: Kaieteur National Park – 61,088 ha Iwokrama International Centre – 349,836 ha Kanuku Mountains – 610,206 ha Konashen CCA – 620,804 ha
Inadequate management of tailings and other mines effluents due to incompliance with existing codes of practice	- Construction and operation of appropriate stable tailings ponds/dams	- reduced loss of aquatic biodiversity, including endemic species - reduced water turbidity, siltation, channel alteration and changes to stream bottom characteristics - reduced mercury mobilization
Inappropriate management of waste rock dumps, overburden, topso il piles, household wastes, construction wastes and hazardous wastes	-Restoration and stabilization of waste piles - Adoption of waste management practices for other wastes	- increased natural regeneration of mined out areas with concomitant biodiversity benefits - reduced water contamination - reduced acid rock drainage
Absence of land reclamation practices among small -scale miners	-Promotion of better practices during mine planning and mining activity to reduce post-mining impacts - Adoption of restoration and land reclamation practices where feasible - For larger operations, promotion of progressive rehabilitation during the life of the mine, taking into consideration local biodiversity	-Increased vegetation cover/reforestation benefiting terrestrial biodiversity as well as increasing carbon storage - Reduced soil erosion and subsequent benefits for aquatic BD - enhanced ecosystem functionality and preservation of ecosystem services. Work started in 2014 on a US$2.4 million land reclamation project in mined out areas.

		Possible areas for demonstration projects include: Konawaruk/Mowasi (40,000 ha), Marudi Mountains (5,777 ha), and Puruni (30,000 ha).

6) Potential for Innovation, Sustainability and Scaling Up

Innovation

52. The technologies to be promoted will be tailored to the needs and interests of small -scale miners in order to ensure uptake and may include technologies that have not previously been adopted by miners. In addition, the possible use of incentives to promote voluntary uptake will be further explored, rather than relying purely on a regulatory approach. A cooperative model to share the use of more costly mercury free techniques will be established on a pilot basis in order to determine the conditions and possible incentives required for such a model to work. This has not yet been successfully implemented in the Guyanese context and therefore represents one of the innovative aspects of this project. The awareness raising campaign will be designed to be much more specific than is typical of such campaigns and will take into consideration the particular idiosyncrasies of different mining areas. Another innovative element in the regional context will be the work to refine and pilot one or more biodiversity monitoring protocols to be applied in mining areas to enhance understanding of the impacts of mining on species and ecosystems and to provide the data required to strengthen decision-making so as to minimize these impacts.

Sustainability

53. Building on the country's Low Carbon Development Strategy, the current administration has signalled its commitment to finalize and implement a Green Development Plan. In recognition of the critical role of mining to the country's economic development, the government is carrying out various baseline initiatives to strengthen the safeguards within the sector, which will be built upon with the project. Project support for significant policy and regulatory reform and for capacity building in terms of monitoring and enforcement will ensure that the governance framework and capacity are in place to support increased environmental sustainability. The development of stronger financial instruments in terms of increased bond amounts and fine amounts to promote compliance will enhance financial sustainability. Social sustainability will be achieved as a result of a substantial investment in on-the-ground training that is adapted to the local context and a broad awareness raising campaign. The strengthening of the Mining School in terms of equipment and curriculum will contribute significantly to long-term impact in that stakeholders have indicated that attendance at this School will soon become mandatory for mine managers.

Potential for scaling up

54. Project support for systemic changes related to the mining-related policy and regulatory framework will promote impacts at the national scale. The on-the-ground interventions will take place in areas that will be selected to be representative of typical gold mining areas and that are experiencing the characteristic associated environmental threats (as well as social and health issues). As such, the demonstration projects will facilitate the sharing of lessons learned and experiences and upscaling to other mining areas. A broad knowledge management strategy will also play an important role in ensuring that the project lessons are shared and contribute to greater uptake across mining regions in Guyana (*see knowledge management section*).

2. Stakeholders. Will project design include the participation of relevant stakeholders from civil society organizations (yes ☒ /no☐) and indigenous peoples (yes ☒ /no☐)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

Stakeholder	Involvement in project preparation
Guyana Women Miners Organisation (GWMO)	This Organisation founded in 2012 is dedicated to improving the conditions of women in the mining sector in terms of health, security, education, training, capacity building, and advocacy. It has 400 members and a national network of regional and community representatives. In consultations carried out during the PIF scoping mission, the Guyana Women Miners Organisation offered to provide support to the project design team at the PPG phase in terms of convening community members for project design workshops. GWMO has extensive experience and connections in the hinterland, which will facilitate high turnout in key locations at such workshops.

World Wide Fund for Nature - also known as World Wildlife Fund (WWF)	WWF has been working to reduce the environmental impacts of mining in the Guianas for at least a decade on activities such as promotion of mercury retorts and training of miners, development of an action plan on mercury, awareness raising, and biodiversity research and more recently an increasing focuson mercury phaseout and mercury free models. The project design team will seek to coordinate with ongoing WWF programmes, review all previous work to glean lessons learned and utilize products such as the handbook on best practices for mining in Guyana that WWF is currently preparing. In addition, the possibility of engaging WWF as an implementing partner for some aspects of the project will be explored during the PPG phase.
Conservation International	Conservation International has prepared a white policy paper together with WWF to make recommendations as to how the extractive sector can support the Low Carbon Development Strategy and sustainable development in general. They have also signed an MOU with the Guyana Gold and Diamond Miners Association (GGDMA) to build the latter's capacity to promote best practices for increased efficiency in the sector and have supported resource mapping by local inhabitants. CI is preparing a proposal to GEF for Guyana, as part of the Gold Program Framework. This will be highly complementary to this project, by developing markets for mercury-free gold and providing financing for mercury free technologies, among other aspects, based on a supply chain approach. The project design team will consult with CI during project preparation to maximize synergies between the two projects, promote sharing of learnings and together promote impacts at scale.
Indigenous and hinterland communities of the interior	The PPG phase will involve consultations with Amerindian populations that are involved in mining activities in the main mining districts or that are affected by mining through impacts on health, food sources, potable water, land encroachment, community structure, etc. There are nine indigenous tribes living in Guyana, namely the Arawak, Macushi, Wapishanas, Warrau, Patamuna, Akawaio, the Carib, Arekuna, and the Waiwai. All consultations will be based on the principle of Free, Prior and Informed Consent (FPIC) and will take into consideration limited English literacy levels in some areas and the possible need for translation services. The project design team will liaise with the Ministry of Indigenous Peoples' Affairs as this agency would need to approve of any activities or studies taking place with indigenous peoples. This Ministry can also provide support to convene meetings and secure input into the selection of facilitators, following the established rules of local governance and engagement of different Amerindian villages.

3. Gender Equality and Women's Empowerment. Are issues on gender equality and women's empowerment taken into account? (yes ☒ /no☐). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

55. A detailed gender analysis will be carried out during the PPG phase to assess the different impacts, needs, roles and priorities of women and men. Women work in different capacities in small -scale mining areas, primarily as support staff, miners and prostitutes, and are suffering disproportionately from some of the negative impacts. In some cases, they are not paid for their mining or support work, and there is an issue of inequitable access to mining lands. Violence against women in hinterland communities, the trafficking of girls and women, lack of security, HIV/AIDS and other STDs are some of the serious problems being experienced. Female-headed households is a reality in mining areas, and the labour force available for agricultural activities in hinterland communities is affected by the departure of men to take up mining elsewhere. Health vulnerabilities and impacts from mercury exposure through freshwater fish and water may also differ for women, men and youth. The project will work closely with the Guyana Women Miners Organisation to help mainstream women's issues into project design. This Organisation of over 400 members has a thorough understanding of the particular problems facing girls, women and men in the interior, and has the ability to mobilize people from communities to assist in gender mainstreaming to ensure that relevant issues are addressed. In addition, the project will ensure representation of women on its Steering Committee, and will promote the participation of women in training activities. If feasible, one or more project indicators will be disaggregated by gender.

4 Risks. Indicate risks, including climate change, potential social and environmental 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 (table format acceptable).

Risk	**Level**	**Mitigation measure**
Capacity limitations and limited clout/power within executing agency	Medium	The Medium Sized project that is currently being executed with GEF includes funding for several activities to strengthen EPA's ability to carry out monitoring

(Environmental Protection Agency), which could lead to delays in project execution		and enforcement and to strengthen coordination with other key agencies. Furthermore, MNR has obtained funding to support the reorientation of EPA and a building equipped with a lab will be provided to the agency. The Full Sized Project will build on these activities and support further institutional capacity building through training on conducting investigations of mining infringements, rapid biodiversity assessments, and provision of necessary equipment such as water quality testing instruments.
Powerful mining lobby (represented primarily by the GGDMA) could oppose proposed project actions to strengthen the regulatory framework and to enhance institutional capacity to enforce regulations	Medium	It could be argued that this is already an issue in terms of baseline attempts to strengthen the regulatory framework as there are currently about 33 regulations that have been drafted but not gazetted. This is related to the key economic importance of mining to the country's development. The project has been designed based on an understanding that mining will continue to play a vital role in the country's economic development. Broad consultations and negotiations will be carried out to ensure there is understanding and buy-in for any proposed regulatory strengthening. It should also be noted that under the proposed EPA restructuring, there is a plan to excise the Environmental Division from GGMC and subsume it under EPA. Finally, the government has indicated its commitments to following a green development pathway, which will require serious actions to ensure that mining is carried out in a planned way and that there is adherence to environmental requirements.
Insufficient interest among miners and concession holders to learn from demonstration projects and implement more environmentally-friendly practices, including mercury free technologies, among others.	Medium	All training material will be developed to ensure that it is easy to understand and readily accessible to miners from different backgrounds. The promotion of mercury-free technologies will go hand in hand with information on the increased gold recovery rates that can be obtained by using these methods. Possible use of incentives to promote uptake of different technologies will be explored during the PPG phase. Finally, it should be noted that a regulation has been drafted that would mandate mine managers to attend the Mining School; if passed, this would also help increase the level of motivation to learn about more environmentally- friendly practices and technologies.
Climate change, which could reduce the viability of coastal agricultural activities and thereby cause demographic shifts from coast to hinterland, increasing mining in the hinterland, which could also increase pressures on different species	Low	Expected climate change impacts include sea level rise, increased flooding and droughts, among others. These could reduce the productiveness of agricultural activities in the coastal belt and increase the level of mining in the interior. In addition, climate change could affect species populations. The project includes a monitoring component which will develop a biodiversity monitoring protocol and which will enable the impacts of mining activities on biodiversity in the context of a changing climate to be better understood. In recognition of likely increased mining activities in the interior, the project will strive to promote better prospecting techniques and improved gold recovery rates so that production may increase without a concurrent need to increase the areas that are cleared. The project will also support institutional capacity building and strengthened regulations (including as they relate to financial instruments) to improve monitoring and enforcement and capacity building with miners to promote compliance, and in this way reduce impacts on biodiversity, forests and ecosystem services in the interior.

5. Coordination. Outline the coordination with other relevant GEF-financed and other initiatives.

56. The project will build on the achievements and lessons that are being learned from the Medium-Sized UNDP/GEF project, "Enhancing Biodiversity Protection through Strengthened Monitoring, Enforcement and Uptake of Environmental Regulations in Guyana's Gold Mining Sector", which will be completed or nearing completion by the time this FSP begins execution. The MSP will produce several key outputs that will contribute to the successful implementation of this FSP, including the identification of hotspot areas for enforcement of mining regulations, which will form the basis for the selection of demonstration project sites for the FSP during the PPG phase. In addition, the MSP will provide some training to EPA and other agencies such as GGMC, support enhanced inter-institutional coordination, integrate biodiversity considerations in the Mining School curriculum, and perhaps most importantly, increase enforcement capacity among key agencies. The FSP will build on this work by strengthening the regulatory environment and the financial instruments available, and by providing in-depth training in situ to miners.

57. Guyana has been an active participant in the REDD+ initiative; it was one of the first three countries with an approved Readiness Preparation Proposal and is carrying out the necessary steps to begin implementation of capacity building activities through the Forest Carbon Partnership Facility Readiness Fund (under the MNRE). It has benefitted from a bilateral agreement with the Government of Norway, which has led to significant payments to support implementation of the country's Low Carbon Development Strategy, in exchange for forest conservation (through the Guyana REDD+ Investment Fund). This agreement is currently being renegotiated with Norway and would provide further momentum for the country to engage in activities to reduce the impacts of mining on deforestation and forest degradation, including through land reclamation. The project will coordinate closely with REDD+ to benefit from the latest MRV data and to ensure complementarity with any activities funded to support forest conservation and reduce the impacts of mining. UNDP is also the implementing agency for the GRIF (Guyana REDD+ Investment Fund) Amerindian Land Titling project, which is funding the issuance of land titles and the completion of demarcation processes. Through greater land tenure security, the GRIF project hopes to expand the asset base of Amerindians and promote long-term planning for sustainable social and economic development. The FSP will benefit from the Land Titling project, which is expected to reduce land titling disputes between Amerindian communities and miners and enable Amerindians to "opt in" to the REDD+ process if they wish to do so to benefit from these opportunities. In addition, the Norad/NICFI project, "Addressing the drivers of deforestation in Guyana and Peru" will begin implementation in 2016 and will support the establishment of a Technical Services Center in the GGDMA in order to provide technical support to miners on options for alternative technologies, best practices, and accessing financing. There will be close liaison with this Norad/ NICFI project since this Technical Services Centre complements the institutional capacity building, miner demonstration sites and mining curricular strengthening that will be achieved through this UNDP/GEF FSP.

58. CI plans to implement a GEF Chemicals and Waste project on gold mining in Guyana as part of the Gold Program Framework, which will focus on developing markets for mercury-free gold, providing financing for mercury free technologies, and promoting mercury free technologies, based on a supply chain approach. The two projects are highly complementary as the UNDP/GEF project will include a more substantial focus on institutional strengthening, monitoring and enforcement, regulatory improvements, mining demonstration sites and curricular development, among others, while the CI project will be more specifically focused on markets and financing for mercury free technologies and promotion of mercury free technologies. Actions by the two project to promote mercury-free technologies will be also be complementary in that we will work in different areas and coordinate our efforts at the national level in terms of supporting upscaling and replication efforts. The project design team will consult with CI during project preparation to maximize synergies between the two projects, promote sharing of learnings and together promote impacts at scale. With UNDP/GEF support, Guyana has prepared a draft National Action Plan (NAP) for mercury reduction and eventual phase-out as part of its enabling activities, which is expected to be finalized by September 2016. This will help to guide project activities to reduce and eliminate the use of mercury in small -scale mining. In addition, a second enabling activity, the development of a mercury inventory, is underway and should also be completed in the coming months of 2016, which will provide the project with important baseline information on mercury levels.

59. The project will maintain regular communication with the UNDP/GEF Small Grants Program (SGP) in Guyana, which began funding projects in 2013. SGP has not yet implemented any mining-related projects and is not currently funding any projects near mining areas. However, there is an opportunity for the FSP project outputs to be shared with communities affected by mining activities that may become involved in SGP projects in the future (it is estimated that SGP will be allocating 30% of its funds to these areas once its Country Program Strategy is finalized). It should also be noted that the SGP has funded some projects related to biodiversity monitoring and the lessons learned from these will be explored during the PPG phase to help inform the FSP Component related to BD monitoring in mining areas. The UNDP/GEF Caribbean Large Marine Ecosystem (CLME) in which Guyana is participating has requested that the Guyana Shield Facility carry out a study to assess the impact of land-based pollutants, including mercury, on marine biodiversity. There are clear linkages with this FSP, which will strive to reduce mercury use in mining. The Japan-Caribbean Climate Change Partnership project (JCCCP) being implemented by UNDP will address integrated freshwater management in Region 9, a fragile area with high biodiversity in which mining is taking place. Given that mining is both dependent on freshwater resources and can have a significant impact on them, there are important links with the proposed project as well.

6. Consistency with National Priorities. Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes ☒ /no☐). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, etc.

60. This project will contribute to the achievement of national priorities as expressed in various strategic documents. The previous government began implementation of a Low Carbon Development Strategy and the new administration has indicated that it will continue with a similar approach through the implementation of a Green Development Plan. Guyana is negotiating with the Government of Norway to extend an agreement in which the country receives funds to support low carbon development and forest conservation and is implementing REDD+ enabling activities (see Coordination with other projects section). The 2013-2018 Strategy for the Ministry of Natural Resources commits to strengthening coordination among the agencies of the MNR, to using strategic environmental impact assessments to improve planning, and to enhanced monitoring of extractive industries, all of which are in line with the proposed actions for this FSP. MNR has indicated that it has secured funding for the reorientation of the EPA to strengthen its ability to carry out its mandate. This project also contributes to the National Biodiversity Strategic Action Plan (NPSAP) for 2012-2020.

61. This FSP is fully consistent with reports under different relevant Conventions. The Fifth Report to the UNCBD (2015) notes the important contribution of mining to land degradation and deforestation. The National Biodiversity Strategy and Action Plan (NBSAP) was updated for the 2012-2020 period and promotes the mainstreaming of biodiversity in key productive sectors, such as mining. The draft NAP for mercury reduction and phase-out outlines specific actions that need to be carried out in the small -scale mining sector, some of which will be addressed with this FSP. Baseline data is currently being gathered through a GEF Enabling Activity Minimata Initial Assesssment with the support of UNDP.In terms of climate change mitigation, the Intended Nationally Determined Contributions for Guyana to 2025 that were submitted at the recent UNFCCC Conference of the Parties include a commitment to implement an Emission Reduction Programme (ERP) for Forests, which would focus on making the mining and logging industries "more efficient and compliant with our targets" as these sectors account for the majority of the country's emissions. Specifically the ERP commits to mineral mapping to reduce deforestation in non-profitable areas with marginal mineral deposits, implementing awareness and incentive initiatives to increase the efficiency of technologies and practices in mining, including by replacing inefficient mercury-based technology, and policies to put in place mandatory, nation-wide land reclamation and reforestation of mined areas. Guyana's 2012 Second National Communication to UNFCCC highlights the need to put in place small-scale demonstration projects for locally adapted technologies and to increase the institutional capacity for enforcement of mining regulations. The Aligned National Action Plan to Combat Land Degradation, which was approved by Cabinet in 2016, also underscores the role of mining in land degradation. Guyana is currently preparing its Second State of the Environment Report 2016, which highlights key environmental challenges to be addressed.

62. This project will help Guyana with the achievement of several of the *Sustainable Development Goals* (SDGs), namely:

- SDG3: Ensure healthy lives and promote well-being for all at all ages. The project will promote better mining practices, which will reduce the number of illnesses from hazardous chemicals and from air, water and soil pollution and contamination, as well as reducing the expansion of malaria.
- SDG4: Ensure inclusive and quality education for all and promote lifelong learning. The FSP will provide some support to the Mining School, in order to strengthen the vocational opportunities available for miners.
- SDG 5: Achieve gender equality and empower all women and girls. The project will promote the participation of women in training activities and raise awareness of the impacts of mining as it is currently practiced on women, including violence against women, and trafficking in women and girls, among others.
- SDG6: Ensure availability and sustainable management of water and sanitation for all. Project actions will promote improved water quality by reducing the release of hazardous chemicals and materials from mining, and by supporting the protection of watersheds through a strategic environmental assessment of mining, heightened enforcement and promotion of best practices.
- SDG9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation. The project will support the transition to a more sustainable mining industry through the increased adoption of environmentally-sound technologies and greater resource use efficiency.
- SDG12: Ensure sustainable consumption and production patterns. The project will promote the more sustainable management of mineral resources and a reduction in the release of mercury to the air, water and soil to reduce health and environmental impacts through the promotion of mercury-free mining technologies.

- SDG13: Take urgent action to combat climate change and its impacts. The project will promote best practices in mining to reduce deforestation and forest degradation, which in turn will support climate change mitigation.
- SDG15: Sustainably manage forests, combat desertification, halt and reverse land degradation, halt biodiversity loss. The project will strengthen mining-related planning, enforcement, capacity and training opportunities to reduce deforestation, degradation, biodiversity loss and loss of ecosystem services associated with terrestrial and freshwater systems.

7. Knowledge Management. Outline the knowledge management approach for the project, including, if any, plans for the project to learn from other relevant projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

63. A project website will be established to house key project-related outputs, and to facilitate access by stakeholders. Basic project information will also be uploaded onto the openundp.org site, following standard practice. The website will be linked to other related project sites (such as http://lands.gov.gy/Napa.html). Project learning and achievements will be regularly assessed through the annual exercise of preparing PIRs. In addition, prior to project completion, a summary document will be produced to highlight lessons learned and project achievements and this will be disseminated to participating government agencies and to relevant civil society and private sector organizations, such as miners' associations and environmental NGOs.

64. Given that the UNDP is the implementing agency for various mining-related GEF projects in the region, such as in Suriname and the Dominican Republic, it is in an excellent position to facilitate the exchange of experiences and learning. In addition, there are various other regional fora which may provide information of relevance to the project and with which the project can share its experiences. As such, the project will liaise with the UNDP-led Sustainable Development Solutions Network for the Amazon, which is gathering relevant data and has been assessing how mining can contribute to the achievement of the sustainable development goals. The Guyana Shield Facility (GSF) will continue to act as a regional brokerhouse of biodiversity information and as such the project's biodiversity monitoring activities will be informed by data that have already been gathered by the GSF and in turn, the project can share any new biodiversity findings with the GSF. The Biodiversity and Ecosystem Services Network (BES-Net), which is hosted by UNDP, is a capacity building network that fosters dialogue among science, policy and practice to strengthen management of biodiversity and ecosystems. This Network can also facilitate information exchange related to the proposed project. In addition, the project will explore how the Amazon Observatory that is being set up through the Amazon Cooperation Treaty Organization (which will look at REDD+ and other thematic areas) could provide relevant data for the project and how the project in turn could share information with the Observatory. The project may also ensure information sharing and coordination with WWF's Living Amazon Initiative, which is setting up connectivity corridors in the Amazon and is working on the issue of habitat degradation from mining.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT AND GEF AGENCY

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 SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE *(MM/dd/yyyy)*
Dr. Indarjit Ramdass, Executive Director	GEF Operational Focal Point	**MINISTRY OF NATURAL RESOURCES / ENVIRONMENTAL PROTECTION AGENCY**	**07/13/2016**

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	**Signature**	**Date** *(MM/dd/yyyy)*	**Project Contact Person**	**Telephone**	**Email**
Adriana Dinu, UNDP-GEF Executive Coordinator.		07/20/2016	Lyes Ferroukhi EBD, Regional Technical Adviser	+507 302-4576	lyes.ferroukhi@undp.org

ANNEX I. NOTIFICATION TO THE MINAMATA CONVENTION ON MERCURY.

Government of the Cooperative Republic of Guyana
Ministry of Natural Resources
Upper Brickdam, Georgetown, Guyana, South America (GGMC Compound)
(592) 231.2506 ministry@nre.gov.gy www.nre.gov.gy

GUYANA 1966 - 2016 GOLDEN JUBILEE OF INDEPENDENCE

2016-07-29

The Coordinator
Interim secretariat of the Minamata Convention on Mercury
Chemicals and Waste Branch
Division of Technology, Industry and Economics
United Nations Environment Programme
11 - 13 chemin des Anémones
CH - 1219 Châtelaine, Geneva
SWITZERLAND

Dear Sir or Madam,

Notification that artisanal and small-scale gold mining and processing is more than insignificant within Guyana

Guyana hereby notifies the interim secretariat of the Minamata Convention on Mercury that artisanal and small-scale gold mining and processing in which mercury amalgamation is used to extract gold from ore is more than insignificant within its territory.

With Kind Regards,

PERMANENT SECRETARY Ministry of Natural Resources

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Mr. Joslyn McKenzie
Permanent Secretary
National Focal Point
Ministry of Natural Resources,
Guyana, South America