1. Project Data

Summary project data			
GEF project ID		1223	
GEF Agency project ID		2198	
GEF Replenishment Phase		GEF 2	
Lead GEF Agency (include all for joint projects)		UNDP	
Project name		Removal of Barriers to the Introduction of Cleaner Artisanal Gold Mining and Extraction Technologies	
Country/Countries		Brazil, Indonesia, Lao PDR, Sudan, Tanzania, Zimbabwe	
Region		Global	
Focal area		International Waters	
Operational Program or Strategic Priorities/Objectives		OP 10: Contaminant-Based Program	
Executing agencies involved		UNIDO	
NGOs/CBOs involvement		Some NGOs were involved in on the ground execution	
Private sector involvement		Some service providers were also involved in on the ground execution but it is unclear whether they were private or non-profit. The project trained local manufacturers of clean technology.	
CEO Endorsement (FSP) /Approval date (MSP)		April 2002	
Effectiveness date / project start		July 2002	
Expected date of project completion (at start)		May 2005	
Actual date of project completion		October 2007	
Project Financing			
		At Endorsement (US $M)	**At Completion (US $M)**
Project Preparation Grant	GEF funding	0.318182	0.318182
	Co-financing		
GEF Project Grant		6.8068	6.8068
Co-financing	IA own		
	Government	12.382	N/A
	Other multi- /bi-laterals	0.67	0.67
	Private sector		
	NGOs/CSOs		
Total GEF funding		7.124982	7.124982
Total Co-financing		13.052	N/A
Total project funding (GEF grant(s) + co-financing)		20.176982	N/A
Terminal evaluation/review information			
TE completion date		January 2009	
TE submission date			
Author of TE		Salvador Mondlane Junior	
TER completion date		December 2014	
TER prepared by		Aditi Poddar	
TER peer review by (if GEF EO review)		Joshua Schneck	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF EO Review
Project Outcomes	S	S*	NR	MS
Sustainability of Outcomes	NR		NR	MU
M&E Design	NR	NR	NR	U
M&E Implementation	NR		NR	U
Quality of Implementation	S	NR	NR	U/A
Quality of Execution	NR		NR	MU
Quality of the Terminal Evaluation Report	-	-	NR	MU

*****The TE rates each indicator for progress in achieving the project outcome. The 'Satisfactory' rating here is the average of those ratings calculated by the reviewer. It does not rate the efficiency of the project.

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objective of the project, as stated in the Project Document (PD), was to assist developing countries create conditions necessary to minimize mercury pollution and other negative environmental impacts on international water bodies resulting from artisanal gold mining and extraction activities. Artisanal mining refers to mining activities carried out by individuals, families, and/or ad hoc groups (some form of co-operatives) of indigenous people. The majority of these individuals have no technical skills and lack adequate working tools. Large amounts of mercury are dumped into water bodies to recover gold - it is estimated that gold mining activities dump nearly 130 tons of mercury annually within Brazil and nearly 200 tons in Indonesia. Most artisanal gold mining within the participating countries is carried out within ecologically significant basins across political boundaries, e.g., the basins of the Amazon, River Nile, Lake Victoria, River Zambezi, River Mekong and River Kahayan in Indonesia. Thus, the negative environmental impacts on the international water bodies within these basins are bound to affect many countries.

The governments of the participating countries, acting unilaterally are unable to finance the high initial start-up costs of dealing with mercury pollution. The proposed project will establish the extent of mercury pollution, increase knowledge and awareness on environmental issues, introduce and demonstrate the application of efficient and clean technology, and provide assistance to governments to enable them to develop policies and legislation that are practical and enforceable (PD pgs. 6, 7, 14).

3.2 Development Objectives of the project:

The principal development objective of the project is to transform current artisanal mining activities in the six participating countries into organized activities in order to enhance the incomes of the people involved, minimize negative environmental impacts and enhance the development of the mineral sector and the broader economy. This broad objective was to be attained through the following immediate objectives:

1. *Project coordination and support* - Ensure effective project coordination and support through identification of and provision of resources for the establishment of the program management

structures in each of the six participating countries and the creation and operation of the basin and country specific project task forces.

2. *Training and awareness generation* - Identify project demonstration sites and organize training aimed at increasing knowledge and raising awareness of miners, governments, NGOs and the general public on the environmental and health impacts associated with the current artisanal mining practices and the environmental, health and economic benefits of employing appropriate technology.

3. *Assessment of mercury pollution* - Identify hotspots in project demonstration sites, conduct geochemical and toxicological studies and other field investigations in order to assess the extent of environmental (mercury) pollution in surrounding water bodies and devise intervention measures.

4. *Databank of technological requirements* - Establish a databank comprising of technological requirements relevant to artisanal gold mining and extraction activities through field investigations, interviews with miners, miners' associations and other relevant institutions.

5. *Demonstration of clean technology* - Acquire and demonstrate, within the project demonstration sites, the application of affordable high-efficiency clean technology with improved gold processing methods while avoiding environmental degradation from mercury contamination.

6. *Development of sustainable extraction indicators and policies* - Based on the acquired experience, develop sustainable extraction indicators and hence assist governments to develop generic policies (or country-specific policies, if possible) and legislation that will lead to implementable standards on the application of mercury with special attention to minimization of environmental impacts.

7. *Dissemination of results and project continuation* - Promote the dissemination of the produced project results and identify opportunities that will allow the project to continue beyond the three-year time frame through self-financing and to initiate and conduct a Donor Conference to solicit financing.

3.3 Were there any **changes** in the Global Environmental Objectives, Development Objectives, or other activities during implementation?

No, there were no changes to the Global Environment Objectives or the Development Objectives. However, PIR 2007 (pg. 10) reports that more field activities were included in the project activities after consultation with the relevant governments.

4. GEF EO assessment of Outcomes and Sustainability

Please refer to the GEF Terminal Evaluation Review Guidelines for detail on the criteria for ratings.

Relevance can receive either a Satisfactory or Unsatisfactory rating. For Effectiveness and Cost efficiency, a six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess. Sustainability ratings are assessed on a four-point scale: Likely=no or negligible risk; Moderately Likely=low risk; Moderately Unlikely=substantial risks; Unlikely=high risk. In assessing a Sustainability rating please note if, and to what degree, sustainability of project outcomes is threatened by financial, sociopolitical, institutional/governance, or environmental factors.

Please justify ratings in the space below each box.

4.1 **Relevance**	Rating: **Satisfactory**

The project's objective was consistent with policies that the participating countries had been attempting to enact and enforce. For instance, the Brazilian House of Representatives commissioned the Brazilian Research Council to evaluate the operations, propose solutions, and advise the House on potential legal measures for the artisanal mining sector in the 1980s. The Council produced data related to mercury and particulate matter pollution caused by mining and proposals for legislative measures. The Government of Tanzania in collaboration with the World Bank formulated the Mineral Sector Development Technical Assistance Project in 1994 to provide the government with necessary technical, managerial and material support for the implementation of its new private sector oriented mining development strategies. One of the major components of this USD 13.9 million five-year project was to improve the economic, social and environmental performance of artisanal mining in order to encourage and expand private investment in the mining sector. This project resulted in the country's first mining and environmental legal and regulatory framework. Similarly, the European Union in collaboration with the Government of Zimbabwe embarked on a USD 38.7 million project, part of which was to be spent on the development and regulation of the small-scale mining sector. Although there are similar programs in other countries, most have not addressed the global environmental problems arising from artisanal mining (PD, pg.11).

The project was also aligned with the GEF Operational Strategy 10, which focuses on contaminant-based problems in international waters. One of the priority areas identified by GEF under the international waters focal area is the "degradation of the quality of trans boundary water resources, primarily due to pollution from land-based activities". Artisanal mining, which is a land-based activity, results in the degradation of the selected international water bodies due to certain poor practices. GEF Operational Strategy 10 aims to target projects that "help to demonstrate ways of overcoming barriers to the adoption of best practices, waste minimization strategies and pollution prevention measures that limit contamination of the international waters environment", especially poorly addressed global contaminants. This project aimed to remove barriers that inhibit artisanal miners from applying cleaner and efficient technology. In all the six countries, artisanal miners use mercury as a major component in gold recovery. Apart from introducing alternative techniques that will minimize the application of mercury, which is a poorly addressed global contaminant, it was to introduce methods for recirculating mercury during distillation and thus avoid its direct release into the environment (PD, pg. 14).

4.2 **Effectiveness**	Rating: **Moderately Satisfactory**

The TE rates the progress of each objective, and the average of these ratings is 'Satisfactory'[1]. This TER does not concur with the rating. While the project was able to create some awareness about the negative effects of mercury poisoning, establish an assessment system, and could potentially influence policy, it faced challenges in various components. There were issues with the health messaging in the awareness generation component, the laboratories set up for mercury testing were not functional, the capacity building of government officials was not successful, and there was limited use of the cleaner technology promoted by the project.

Progress towards expected achievements is detailed further below under each objective defined in the PD:

Objective 1, project coordination and support, is not rated in the TE, however, as mentioned in the 'Efficiency' section, this component faced multiple challenges.

Objective 2, training and awareness generation, is rated as 'Satisfactory'. Miners, trainers and government officials were trained under the project. Project activities also helped raise awareness of the negative impacts of mercury. However, the TE refers, at several different points, to problems arising from health messaging within this component. It seems that medical advice or training on mercury exposure provided by non-medical professionals was not convincing to the trainees. The TE (pg. 21) also reports that the duration of the awareness campaign in the field was not long enough.

Under objective 3, assessment of mercury pollution, health and the environment were carried out in all six countries. The project also published a protocol, which the TE claims has since been used as a benchmark for all such assessments worldwide. Additionally, it strengthened the capacity of national laboratories to measure mercury levels. However, the TE found that these laboratories were not functioning due to a lack of trained personnel and a lack of financial resources.

The TE rates objective 4, establishing a databank of technological requirements, as 'Satisfactory' but the website established to hold all the data and documents relevant to artisanal and small scale mining (ASM) could not be found at the time of writing this TER. The project, however, did conduct socio-economic assessments and identified the root causes of the problems in the ASM sector.

[1] It is difficult to measure the project outcomes as the PD lacked targets. However, both the TE and PIRs use project activities as indicators. The level of achievement by each project activity is subjectively rated on the 'Highly Satisfactory – Highly Unsatisfactory' scale (TE pgs. 12-13). The PIR 2007 (pgs. 4-6) attempts to measure the progress of project activities by providing a percentage measure. The baseline for the activity/indicator is 0 and the target for most of them is 100%. It is unclear what these percentages represent. The TE (pg. 15) also presents ratings for each of the objectives in each of the six project countries. However, these objectives do not correspond to those stated in the PD. For instance, the ratings table does not include objective 2 (training and awareness generation). On the other hand, it rates the sub-components of objective 6, such as "development of capacity and regulatory mechanisms for the sector" and "development of country-specific policies and legislation for governing the sector", as separate objectives. While reporting of results and progress in the TE is often unclear and of poor quality, an assessment of how effective the project was can be formed by the outputs reported in the TE and PIR.

For objective 5, the project demonstrated certain cleaner gold mining techniques. Its Transportable Demonstration Unit (TDU) was successfully implemented in Indonesia and Tanzania. The project also identified and trained local manufacturers of clean mining equipment in Indonesia, Sudan and Tanzania to produce ASM equipment. However, the TE mentions that some of the demonstrated cleaner technologies were not rigorously tested. The TE reports that the TDUs did not spend enough time in the field that would be necessary for impact. Furthermore, even though local manufacturers were manufacturing cleaner technology, not all of these technologies were being used by miners.

For objective 6, the project conducted an assessment of the policy and governance issues related to the sector, which identified the need for regulation. Its recommendations were incorporated in draft legislation in some of the countries. The TE (pg. 21) notes that this component did not, in fact, build the capacity of government officials. It also failed to provide convincing evidence for its policy recommendations in some cases as was reported in Zimbabwe.

The TE puts Global Task Force and Country Task Force meetings under the activities for objective 7 – dissemination of results and project continuation. It rates these two activities as 'Satisfactory' on average. However, there is no evidence provided in the TE to substantiate whether these meetings were in fact satisfactory. The partnerships formed with mining companies and the US EPA are also rated as 'Satisfactory', but no other information is provided about them. The PD lays out the plan for a conducting a Donor Conference to solicit financing but the TE does not mention such a conference. The project was successful in encouraging partner agency funding for the replication of the project approach in countries neighboring project countries.

4.3 **Efficiency**	Rating: **Moderately Satisfactory**

The project had some delays due to which it was extended for two years, and there were inefficiencies in the program management structure. PIR 2007 (pg. 10) notes that there were problems in implementing field work in 2004-2005. Technology transfer activities stagnated during this period because there were difficulties in procuring and manufacturing equipment. This problem was resolved when the project shifted to using local equipment and personnel, which made implementation faster and the activities more sustainable.

The management structure of the project, also known as the Global Mercury Project (GMP), was riddled with problems. The TE (pgs. 6, 7) reports that the structure was confusing and inefficient. All the staff was reporting to the Chief Technical Advisor (CTA) directly and middle management was missing. In the latest structure the Assistant Country Focal Point (ACFP) and the Country Focal Point (CFP) were not clearly assigned the responsibility of managing the consultants or the service providers. Every action had to be channeled through the CTA. This highly bureaucratic structure is especially inappropriate for the GMP as it hampers sustainability. It could not facilitate smooth communication between UNIDO, University of British Columbia Coordination Unit, the ACFP and the service providers. Country

Coordinators were appointed for each country but they were based in Vancouver. The structure should have had contractors and consultants report to the respective ACFP, because the ACFPs, being on the ground, had a better understanding of the local environment and the applicability of specific technology to be introduced. The financial management was completely independent from the technical management. The TE notes that ACFPs were not aware of the full extent of the funds available. Additionally, this management structure was expensive, especially due to high travel costs (15% of total expenditure) incurred when travelling to the beneficiary countries (TE pg. 11). Although the TE does not provide a detailed report on costs and expenditure, it does conclude that the actual impact of the project was lower than what could be expected from a budget its size (TE pg. 15).

4.4 **Sustainability**	Rating: **Moderately Unlikely**

The TE does not provide an overall sustainability rating but provides information about some risks. This TER rates the overall sustainability of the project as Moderately Unlikely because of high institutional risks.

Risks to the sustainability of project outcomes is further assessed along the following four dimensions:

Financial sustainability (**ML**) – The TE does not report on financial sustainability of the project. However, it mentions a follow-up project, Global Mercury Project II (GMPII), which, if implemented, would continue some of the activities of this project. The TE (pgs. 43, 75, 83) mentions that while the mayor of Itaituba municipality in Brazil has committed to offering 30% of the resources that will be invested in Brazil in GMP II, the Tanzanian and Zimbabwean governments have shown interest in contributing in kind to GMP II. It also mentions the possibility of local funding from other organizations, such as through human capital rehabilitation programs in Sudan (TE pg. 25).

Socio-political sustainability (**ML**) – The number of people involved in artisanal and small mining (ASM) of gold is affected by international gold prices. The number of miners increases when gold prices rise and decreases when the prices fall. The ASM community is characterized by a high turnover. These factors reduce the sustainability of the project results as new untrained miners come into the vocation all the time who are unaware of the good practices introduced by the project, and thus carry out mining using harmful methods. However, certain activities of the project have been adopted fairly widely. For instance, local fabricators are producing retorts and water condensers for mercury recycling. Unfortunately, the use of retorts by miners was very low, but water condensers were fully adopted by gold shops in Indonesia.

Institutional sustainability (**MU**) – The project used NGOs or service providers for technology transfer and awareness campaigns which is more efficient but less sustainable than the government carrying out these activities. Service providers will only carry out these activities when they are contracted to do so which would not last beyond the project. If the government integrated them into their regular activities, then they could carry them out even after the project ends. Additionally, laboratory equipment provided by the project was not in use at the time of the TE's writing. As the TE recommends training more laboratory technicians and charging fees for analysis in the laboratory as ways to resolve this issue, it

can be inferred that not enough trained staff and lack of resources might be the challenges to the sustainability of equipment provided by the project.

Environmental sustainability (**U/A**) – The TE does not provide any information on the environmental risks associated with the project.

5. Processes and factors affecting attainment of project outcomes

5.1 Co-financing. To what extent was the reported co-financing essential to the achievement of GEF objectives? If there was a difference in the level of expected co-financing and actual co-financing, then what were the reasons for it? Did the extent of materialization of co-financing affect project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

The majority of the project's funding was expected to come through co-financing from the country governments. The PD (pgs. 80-84), gives per activity details of the co-financing from all six country governments. While most of the committed contribution seems to be in kind (office space, personnel, logistic support), it is unclear whether all of the committed contribution was in kind. The Executing Agency, UNIDO, contributed a little less than 10% of the remaining funds. The TE (pg. 10) reports that committed UNIDO funds were realized fully, but the country governments' in kind contributions were difficult to track. The TE states that the country governments only partially fulfilled their commitments but does not provide evidence. Even if the commitment from partner governments was only partially realized, it provided for key program aspects such as personnel, office space and logistic support, so it can be assumed that this co-financing was essential to the project. The TE does not provide information on why the co-financing commitment from partner countries was not fulfilled completely, and whether this had any impact on the project's sustainability.

5.2 Project extensions and/or delays. If there were delays in project implementation and completion, then what were the reasons for it? Did the delay affect the project's outcomes and/or sustainability? If so, in what ways and through what causal linkages?

As mentioned in the 'Efficiency' section, the project was extended by two years because of problems in field implementation in 2004-2005. The TE mentions problems in procuring and manufacturing equipment as the reason for stagnation in technology transfer but does not mentions any other reasons for the delay and thus extension of the project. The original project duration (2002-2005) was re-classified as the diagnostic analysis phase of the project when a series of studies were carried out to determine the level of mercury contamination and its impact at the project sites. The second phase was the extension period (2005-2007) where training, awareness campaigns and program promotions were carried out (TE pg. 8). Since the extension of the project allowed for the implementation of activities that were providing solutions to mercury contamination, the extension was important in ensuring that the project achieved as many of its objectives as it did.

5.3 Country ownership. Assess the extent to which country ownership has affected project outcomes and sustainability? Describe the ways in which it affected outcomes and sustainability, highlighting the causal links:

The TE (pg. 20) reports that government involvement was low and recommends that project activities be made a part of regular government activities to ensure sustainability. It does not provide more details on the role played by these governments. The TE also reports that all six governments demonstrated high interest in and commitment to the follow-up project, Global Mercury Project II (GMPII).

6. Assessment of project's Monitoring and Evaluation system

Ratings are assessed on a six point scale: Highly Satisfactory=no shortcomings in this M&E component; Satisfactory=minor shortcomings in this M&E component; Moderately Satisfactory=moderate shortcomings in this M&E component; Moderately Unsatisfactory=significant shortcomings in this M&E component; Unsatisfactory=major shortcomings in this M&E component; Highly Unsatisfactory=there were no project M&E systems.

Please justify ratings in the space below each box.

6.1 **M&E Design at entry**	Rating: **Unsatisfactory**

The TE does not provide a rating for M&E design. This TER rates the M&E design at entry as 'Unsatisfactory' because of severe shortcomings such as lack of indicators, targets and baseline data.

The PD does not describe a sound and well-formulated M&E plan (pg. 31). It has severe shortcomings. While it sets up review and reporting mechanisms and timelines, it does not define indicators to measure its various activities. There were no quantitative or qualitative targets set for project outputs. The TE (pg. 11) suggests that the lack of log frames and indicators in the PD might be because these were not a part of the GEF project procedures at the time the PD was created. Additionally, baseline data was also not collected. A Country Project Task Force (CPTF) and a Basin Project Task Force (BPTF) were to be set up to review implementation. The CPTF was to visit project sites, meet every quarter to review project implementation and provide advice. The BPTF was expected to meet annually to review the progress towards regional and global environmental objectives. However, it does not lay out clear reporting processes between the multiple management layers, thus there were no regular monitoring mechanisms put in place. The PD set aside USD 746,800 as the M&E budget but more than 80% of this budget was for travel for M&E rather than substantive M&E work (PD pg. 29).

6.2 **M&E Implementation**	Rating: **Unsatisfactory**

The TE does not provide a rating for M&E implementation.

As the M&E system was not well formulated in the PD, the TE has very little information about M&E performance. The only review mechanisms that were described in the PD, the Country Project Task

Force and the Basin Project Task Force, were not established. The TE (pg. 11) ventures that the fact that these were not established might have been the reason for sparse M&E processes. The PIRs from different years show different indicators for activity progress so it is difficult to measure progress in a consistent manner. The TE and the PIR do not present any objective measurement of the indicators such as the number of artisans and officials trained, etc. – they only provide a rating on the 'Highly Satisfactory-Highly Unsatisfactory' scale for each of the project activities. However, the project collected baseline data on the status of health and the environment at the project sites (TE pg. 2). The Annual Project Performance Results Template at the end of the PIR 2007 (pgs. 8-15) provides some quantitative indication of progress under different project activities so it can be assumed that some monitoring was being carried out.

7. Assessment of project implementation and execution

Quality of Implementation includes the quality of project design, as well as the quality of supervision and assistance provided by implementing agency(s) to execution agencies throughout project implementation. Quality of Execution covers the effectiveness of the executing agency(s) in performing its roles and responsibilities. In both instances, the focus is upon factors that are largely within the control of the respective implementing and executing agency(s). A six point rating scale is used (Highly Satisfactory to Highly Unsatisfactory), or Unable to Assess.

Please justify ratings in the space below each box.

7.1 **Quality of Project Implementation**	Rating: **Unable to Assess**

The TE does not provide information on or an assessment of the quality of project implementation through supervision and assistance by the implementing agency, UNDP.

7.2 **Quality of Project Execution**	Rating: **Moderately Unsatisfactory**

As mentioned in the 'Efficiency' section, the project management structure had several problems which negatively affected the quality of project execution. The management structure was highly bureaucratic and too centralized for a field-based global project which had a fairly small budget. The Chief Technical Advisor (CTA) and the Country Coordinators were supervising the project remotely from Vancouver. All decisions were routed through the CTA and everyone including consultants and contractors reported directly to the CTA. On the ground there were Country Focal Points (CFPs), who were generally political figures within relevant ministries. They had the capacity to influence regulation to support artisanal miners. However, the project was unable to use the CFPs in the best way possible. The TE (pg. 7) reports that there might have been a few different reasons for the low involvement of CFPs – the CFPs might have found it difficult to integrate the project into their schedules and/or they might have needed

compensation to carry out their work. Assistant Country Focal Points (ACFPs) were recruited especially for the project but did not have clear reporting requirements. The TE notes that ACFPs highlighted the tedious bureaucracy, lack of supervision, lack of coordination with the CFP and weak knowledge of Country Coordinators about ground realities as reasons for shortcomings in their performance. Additionally, country governments did not have enough input or involvement in the execution.

8. Assessment of Project Impacts

Note - In instances where information on any impact related topic is not provided in the terminal evaluations, the reviewer should indicate in the relevant sections below that this is indeed the case and identify the information gaps. When providing information on topics related to impact, please cite the page number of the terminal evaluation from where the information is sourced.

8.1 ***Environmental Change***. Describe the changes in environmental stress and environmental status that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE does not provide any information on environmental changes. It seems that due to the nature of the project, it might be too early to tell the extent of its environmental impact. The PIR (pg. 9) reports an increase in the use of cleaner technology but does not provide details on the impact of this increase.

8.2 ***Socioeconomic change***. Describe any changes in human well-being (income, education, health, community relationships, etc.) that occurred by the end of the project. Include both quantitative and qualitative changes documented, sources of information for these changes, and how project activities contributed to or hindered these changes. Also include how contextual factors have contributed to or hindered these changes.

The TE does not provide any information on socioeconomic changes.

8.3 ***Capacity and governance changes***. Describe notable changes in capacities and governance that can lead to large-scale action (both mass and legislative) bringing about positive environmental change. “Capacities” include awareness, knowledge, skills, infrastructure, and environmental monitoring systems, among others. “Governance” refers to decision-making processes, structures and systems, including access to and use of information, and thus would include laws, administrative bodies, trust-building and conflict resolution processes, information-sharing systems, etc. Indicate how project activities contributed to/ hindered these changes, as well as how contextual factors have influenced these changes.

a) Capacities

One of the project components was awareness generation and training to use cleaner technology for artisanal and small scale mining (ASM). The project trained 30,000 miners and

200 trainers on using cleaner technology and the ill-effects of mercury pollution. Additionally, 120 officials in government agencies were trained in technical and policy relevant issues centered on mercury pollution and ASM (PIR 2007 pgs. 8-10).The project developed and established some infrastructure which will be useful to monitor ASM and mercury levels in the future. It equipped national laboratories with the capacity to measure mercury levels in human beings and in the environment. Satellite imagery was used to monitor and predict the mobility of mercury from artisanal mining sites. The project identified and trained local manufacturers who were producing ASM equipment when the TE was written. A static online database was also established (TE pg. 14). The TE does not explain what the database records and the website was not accessible at the time of the writing of this TER. As mentioned in the 'Sustainability' section, the mercury testing laboratories were not in use at the time of the TE's writing. Thus, it is unclear whether the infrastructure set up by the project will continue to be used in the future.

b) Governance

The TE and the PIR report that the project helped raise awareness about the importance of regulating the ASM sector. In fact, the TE claims that in Tanzania, regulations for ASM were introduced but in the separate country evaluation it reports that a policy review committee had only accepted the ASM policy recommendations. PIR 2007 expected that the project's suggestion of banning the amalgamation of the ore would be incorporated into legislation. However, the TE does not report the successful inclusion of the recommendations into legislation. In Zimbabwe, for instance, the TE found that legislators believed that the evidence for the recommendations was weak and thus it seemed unlikely that they would be included in new legislation. In Indonesia, the regulations for mercury handling and trading were still in the draft stage (TE pgs. 47, 80).

8.4 ***Unintended impacts***. Describe any impacts not targeted by the project, whether positive or negative, affecting either ecological or social aspects. Indicate the factors that contributed to these unintended impacts occurring.

No unintended impacts are reported in the TE.

8.5 ***Adoption of GEF initiatives at scale***. Identify any initiatives (e.g. technologies, approaches, financing instruments, implementing bodies, legal frameworks, information systems) that have been mainstreamed, replicated and/or scaled up by government and other stakeholders by project end. Include the extent to which this broader adoption has taken place, e.g. if plans and resources have been established but no actual adoption has taken place, or if market change and large-scale environmental benefits have begun to occur. Indicate how project activities and other contextual factors contributed to these taking place. If broader adoption has not taken place as expected, indicate which factors (both project-related and contextual) have hindered this from happening.

The project's approach was replicated in six additional countries (Mozambique, Venezuela, Guinea, Ecuador, Cambodia, Senegal) neighboring the project countries using materials developed by the project. The projects in these countries were funded by their governments, NGOs or companies. In

addition, UNEP and other organizations also sponsored missions to spread concepts and information developed during the project to Suriname and Uganda (PIR 2007 pg. 10).

9. Lessons and recommendations

9.1 Briefly describe the key lessons, good practices, or approaches mentioned in the terminal evaluation report that could have application for other GEF projects.

The TE lists the following lessons (pgs. 22-24):

1. The Global Mercury Project (GMP) was unique as it integrated health, ecological, technical, economic and policy concerns in community development. However, it is challenging to ensure that such broad and inclusive projects are sustainable. For instance, the use of health-centered messages by non-health personnel can be counterproductive.
2. Supervising consultants remotely is challenging. Protocols for all contracted work need to be developed carefully and followed closely.
3. Synergies can be created by collaborating with other similar projects as GMP did with US/GHA/02/006 phase II.
4. The local government and authorities should play a significant role in such interventions as it guarantees sustainability. New technologies can only be introduced in the medium- and long-term for which government structures are necessary. The relevant ministries should be involved and have budgets for the issues relevant to the project to ensure that these issues continue getting attention.
5. There is no one solution in a global project. Each case is specific and requires separate attention.
6. Although the project successfully contracted local service providers for some of its activities, it is not a sustainable way to carry out these activities as these providers will not continue carrying out these activities once the project is over.
7. While the project established communal centers for new technology and carried out training for mining communities, the high turnover of people in these communities meant that not everyone was trained and compliance was not high. There needs to be a permanent training program and awareness generous campaign.
8. The community usually has high expectations, often higher than the project scope. These expectations become even more difficult to manage when it is a pilot project and the implementer is still learning. It is important to ensure that community representatives interact with project staff and understand the project objectives, plans and challenges clearly.
9. It is challenging to work on ASM issues in isolation. The number of people involved in gold ASM is determined by the world gold price. A sudden increase in gold price leads to a sudden increase in the number of miners and the new miners are untrained in cleaner technologies. The high price of gold makes mining very attractive, which makes it difficult to create alternate livelihoods options, and thus it is difficult to limit the number of people involved in ASM. It is important to see the ASM sector as a part of the rural development program to develop holistic solutions.

9.2 Briefly describe the recommendations given in the terminal evaluation.

The following recommendations are listed in the TE (pgs. 25-26):

1. As global momentum has been created by the project, Global Mercury Project II (GMP II) should be implemented as soon as possible. Additionally, UNIDO should implement GMP II as it now has experience and understands who would make effectives partners.
2. The management structure should be simplified and most implementation tasks should be entrusted to the country level. The "country coordinators" must be recruited as experts for technical assistance in project implementation in each country and be based in the specific countries. The roles of the Country Focal Point (CFP) and the Assistant Country Focal Point need to be redesigned. Additionally, the project should find ways to keep the CFP interested and highly involved in the activities, for instance, by providing financial assistance to attend relevant training programs.
3. The project should redefine its scope in order to deal with issues in an integrated way (e.g. ASM as part of rural development) so that people are at the center of the process. This is one way to ensure sustainability of project outcomes.
4. The project must have implementation procedures that include reporting, monitoring and a self-evaluation mechanism. The TE recommends that the website www.globalmercuryproject.org and its database should be used to track sustainability and long-term use of the project results. However, when this reviewer checked at the time of writing this TER, the website could not be found.
5. Diagnostic studies should be carried out as swiftly as possible in order to allow the project to start its field implementation as early as possible. Legislative issues require prolonged interaction with government which can also cause delays, thus these issues should also be dealt with right from the beginning of the project in order to give enough time to produce impact.
6. Being a global project, more interaction and exchange of experiences among the countries is advisable. This helps disseminate good practices developed in one country and learn from individual countries' experiences.
7. It is known that the introduction of best practices and cleaner technologies can only happen if there is cultural change among the miners. Thus, it is recommended that the training of the miners be a continuous process integrated in the activities of the local government (e.g. through mining department extension workers).
8. New technologies should be scientifically tested for local conditions.
9. The use of NGOs or service providers proved to be more efficient in terms of field implementation; however, it is not sustainable for interventions that require results to last beyond the project life. Hence, government authorities should be empowered to outsource specific chapters of the project implementation when required. Government commitment to the project should be mandatory in order to guarantee the sustainability of the project.
10. For the sustainability of the laboratory equipment, more than one person should be trained to work in the laboratory.

11. The use of health issues as a tool to deliver messages related to other subjects like cleaner gold extraction technologies can be counterproductive, thus it needs to be handled with care and by appropriate health experts.
12. Due to the size of the countries, the lack of infrastructure in rural areas and the countrywide spread of ASM, a field approach that combines TDUs (Transportable Demonstration Units) with regional training centers should be used.

10. Quality of the Terminal Evaluation Report

A six point rating scale is used for each sub-criteria and overall rating of the terminal evaluation report (Highly Satisfactory to Highly Unsatisfactory)

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The TE attempts to assess relevant outcomes and impacts for the project activities but provides only subjective ratings for these activities with weak evidence. This poor reporting and assessment is partly because no clear indicators were laid out in the PD.	**U**
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The TE does not provide ratings for most aspects of project implementation. It sometimes makes claims without presenting enough evidence to substantiate them.	**MU**
To what extent does the report properly assess project sustainability and/or project exit strategy?	The report does not assess financial and environmental sustainability nor does it provide risk mitigation measures.	**MS**
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned are derived from all parts of the project and are often supported by evidence from the project.	**MS**
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The report does not include details of co-financing and project costs by activity.	**U**
Assess the quality of the report's evaluation of project M&E systems:	It does not provide details about M&E implementation but that might be because not many M&E processes were followed.	**MU**
Overall TE Rating		**MU**

Overall TE rating = 0.3 * (2+3) + (0.1 * (4+4+2+3)) = 1.5 + 1.3 = 2.8 = MU

11. Note any additional sources of information used in the preparation of the terminal evaluation report (excluding PIRs, TEs, and PADs).