UN environment
United Nations Environment Programme

Terminal Evaluation of the UN Environment–Global Environment Facility Project

"Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic"

Evaluation Office of UN Environment

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Photos Credits:
Front cover: Entrance to Khaidarkan, view of the pile of ignition residues and the main stack of the factory
Page 39: Steering Committee meeting in August 2017 where results of the project were reported to project stakeholders
Page 42: Children in the kindergarten of Khaidarkan, the health study did not indicated any of them are substantially exposed to mercury
Page 44: Analyzer PA-915M by Lumex in SSES Kadamzhai Laboratory
Page 45: Pile of ignition residues at the entrance of Khaidarkan
Page 47: Little caution is exercised at the mercury factory; the open volume of mercury is not believed to produce hazardous vapours. This is actually a violation of safety rules possible because of people's ignorance.

Page 54: Herds of livestock pass by and graze right next to the pile of ignition residues – the most contaminated area in Khaidarkan
Page 54: The fenced area is used for making reserves of forage for feeding cattle in wintertime, it is contaminated by mercury and such use should not be allowed.
@UN Environment/ (Petr Sharov), UN Environment Evaluation Mission (2017)

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Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic

GEF ID: 4985
May 2018

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The evaluation team hopes that the findings, conclusions and recommendations will contribute to the successful finalisation of the current Project, formulation of a next phase and to the continuous improvement of similar projects in other countries and regions.

Evaluation team

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ABOUT THE EVALUATION[1]

Joint Evaluation: No

Report Language(s): English, Russian

Evaluation Type: Terminal Project Evaluations

Brief Description: This report is a terminal evaluation of a UN Environment-GEF project implemented between 2013 and 2017.The project's overall goal was to protect human health and the environment from the toxic exposure to mercury by phasing out mercury production and supply. The evaluation sought to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF and the relevant agencies of Kyrgyz Republic.

Key words: Kyrgyz Republic; Kyrgyzstan; Mercury; Mining; Health Risk; Environmental Assessment; Project Evaluation; Risk Assessment; TE; Terminal Evaluation; GEF; GEF Project;

[1] *This data is used to aid the internet search of this report on the Evaluation Office of UN Environment Website*

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List of acronyms and abbreviations

CSO	Civil Society Organization
EA	Expected Accomplishment
FSU	Former Soviet Union
GEF	Global Environmental Facility
MTS	Medium-Term Strategy (UN Environment)
MTE	Mid-Term Evaluation
M&E	Monitoring and Evaluation
PIF	Project Identification Form
PIR	Project Implementation Report
PoW	Programme of Work
ProDoc	Project Document
RC	Regional Coordinator
SAEPF	State Agency on Environmental Protection and Forestry of Kyrgyz Republic
SSES	State Sanitary and Epidemiologic Service of Kyrgyz Republic
TE	Terminal Evaluation

TOC	Theory of Change
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme (UN Environment)

PROJECT IDENTIFICATION TABLE

Sub-programme:	Sub-programme 5 (Harmful Substances and Hazardous Wastes)	**Expected Accomplishment(s):**	"States and other stakeholders have increased capacities and financing to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste"
UN Environment approval date:	3/12/2012	**Programme of Work Output(s):**	PoW 524.2
GEF project ID:	4985	**Project Type:**	Medium-size project
GEF OP #:	CHEM-03	**Focal Area(s):**	POPs and heavy metals
GEF approval date:	July 2012	**GEF Strategic Priority/Objective:**	CHEMs-OBJ3: Pilot sound chemicals management and mercury reduction
Coverage - Country(ies):	Kyrgyz Republic	**Coverage - Region(s):**	Central-Asia
Expected Start Date:	1/10/2012	**Actual start date:**	5/5/2013
Planned completion date:	6/5/2016	**Actual completion date:**	31/3/2018
Planned project budget at approval:	3,951,000 USD	**Total expenditures reported as of [November 2017]:**	1 269 647 USD [2]
GEF Allocation:	944,000 USD	**GEF grant expenditures reported as of [November 17]:**	730 647 USD
Project development financing GEF cost:	n/a	**Project development financing co-financing:**	n/a
***Expected* Medium-Size Project/Full-Size**	461 000 USD	**Secured Medium-Size Project/Full-Size Project**	895 000 USD

[2] Including UN Environment co-financing 439,000 USD provided according to the Task Manager and 100,000 USD co-financing from State Agency on Environmental Protection and Forestry of Kyrgyz Republic from the project's co-financing report

Project co-financing:		**co-financing:**		
First Disbursement:	22/5/013	**Date of financial closure (expected):**	31/3/2018	
No. of revisions:	2	**Date of last revision:**	20/01/2017	
No. of Steering Committee meetings:	**4**	**Date of last/next Steering Committee meeting:**	**Last:** **Aug 2017**	**Next: n/a**
Mid-term review/ evaluation (planned date):	18 January 2016	**Mid-term review (actual date):**	Not done	
Terminal Evaluation *(planned date):*		**Terminal Evaluation (actual date):**	March 2018	
Coverage - Country(ies):	Kyrgyz Republic	**Coverage - Region(s):**	Central Asia	
Dates of previous project phases:	UNITAR project	**Status of future project phases:**	Support to the execution of the Minamata convention in Kyrgyz Republic	

EXECUTIVE SUMMARY

Introduction

This is a Terminal Evaluation report for the UN Environment-Global Environment Facility project entitled - *"Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic"*[3] implemented in 2013-2018.

In accordance with the agreement signed with Global Environment Facility and in line with the UN Environment Evaluation Policy and the UN Environment Programme Manual, this Terminal Evaluation is undertaken at completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability.[4]

The two primary purposes of the evaluation are: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UN Environment and its partners. Therefore, the evaluation will identify lessons of operational relevance for the formulation and implementation of the up-coming mercury related project in Kyrgyz Republic.

The evaluation was undertaken by an independent evaluator (see Annex III for CV) between June 2017 and March 2018. The data collection included a desk review of project documentations (Annex IV), face-to-face and Skype interviews with a range of respondents (30 people in total, see full list in Annex II), field visit to Kyrgyz Republic, and attendance at a Steering Committee meeting where the main project achievements were presented to a wide range of stakeholders.

Project

The project was designed in 2011-2012 to address the issue of mercury contamination of Khaidarkan area and the impacts of mercury on human health. The project has a typical structure for such initiatives observed by evaluator in most projects of similar purpose. The evaluated project included actions: a) to reduce or eliminate ongoing emissions of pollutants; b) to conduct environmental and health assessments; c) to increase awareness of people; d) to plan a major remediation intervention; and e) to implement some most feasible immediate cleanup measures. In addition to those actions the project also paid attention to the economic development of the area to decrease the reliance of local community on mining industry. These activities were grouped into four components with separate outcomes and outputs. Component 1 contained activities on helping the community economy switch from mercury production to other mining and non-mining alternatives. Component 2 included work on environmental and health assessments to characterize environmental contamination and health risks to people. Component 3 comprised actions on remediation planning and implementation. Component 4 was devoted to education and awareness. All these activities together were designed to contribute to achieving the main goal "to protect human health and

[3] GEF project ID: 4985

[4] The project was extended until Mach 2018. This decision made only after initiation of the terminal evaluation process.

the environment from the toxic exposure to mercury by phasing out mercury production and supply."

Evaluation findings and conclusions

The project rationale was well-founded, and all activities were designed to decrease health risks and reduction of the Khaidarkan community reliance on mercury production. By its design the project is strategically relevant to global, regional and national environmental issues and UN Environment's mandate, strategies and priorities. The project particularly addressed the Medium-Term Strategy 2010-2013 Harmful substances and hazardous waste thematic objective: "to minimize the impact of harmful substances and hazardous waste on the environment and human beings." And the project activities contribute to the thematic expected accomplishment "That States and other stakeholders have increased capacities and financing to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste."

The start of the project was delayed because of issues in the government of Kyrgyz Republic. This complicated achievement of some project deliverables.

The project delivered 8 outputs fully and 7 outputs partially out of 14 intended outputs, but the actual effects on the situation were modest. The project did not improve the situation with mercury contamination in Khaidarkan area and didn't decrease the exposure of people to toxic mercury. Nevertheless, the project did contribute to increased local capacity in gathering area specific environmental and health data.

The project's likelihood of impact is rated as being highly unlikely. As per the constructed Theory of Change the direct outcome (1) "alternative diversified employment opportunities identified and available to the communities" was partially achieved. The long-term outcome (1) "Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities" has been assessed as not achieved. The mine production stopped due to external factors but is expected to resume operation again.

In Component 2 the project had the most impact. The local environmental capacity was increased because of the provided training, equipment, and conducted field studies. In evaluator's view the work under this project component should be continued in order to build upon and make use of the increased local capacity. The project contributed to the achievement of the Direct Outcome (2) "Enhanced human health and environment monitoring" and long-term outcome (2) "Impacts of mercury mining evaluated through enhanced human health and environment monitoring." However, the achieved results are below the target values of the project indicators. This could be attributed to the delay in the project work and also late arrival of co-financing contributions that were supposed to support more training at the beginning of the project.

Direct outcomes under components 3 and 4 on remediation planning and awareness raising were only partially achieved and are assed to have the lowest likelihoods of impact.

With few exceptions the project sustainability appears to be low without external support. The outcome 1 to support local business that could create local jobs is a project result that would potentially last. Another sustainable achievement is the increased analytical capacity on mercury in the country. As to the other project parts it is possible to build upon project achievements in order to solve the issue of mercury health effects in Khaidarkan. But this probably will not be done unless supported by an internationally funded project. Even with

international support it was difficult for the project staff to move ahead due to lack of experience in such projects and counteraction of the mine administration. The production of mercury in the area has stopped for reasons not related to the project activities. It is expected that the mine activities will resume producing mercury as a by-product.

From the perspective of Monitoring and Reporting, the evaluation finds that adequate monitoring reporting took place and as planned in a timely fashion and with adequate attention to detail and content. Reports from subcontractors on each activity provided clear description of conducted work. The project team provided regular reports to the Project Steering Committee and the UN Environment. The project should perhaps have done the mid-term evaluation that was planned to happen 12 months after the project implementation. It was cancelled because of the delay in the project implementation. It might have helped to track the project progress and make adjustments to implementation.

The replication potential of the project is good. Similar work, particularly of Components 2-4 could be done in other similar places in South Kyrgyz Republic with decreased or recently ceased mercury production: Chauvai and Ulu-Too. The project dealt not only with mercury contamination, but also assessed concentrations of toxic arsenic and antimony. This experience could be used in future work in similarly contaminated Kadamzhai, Terek-Sai and other places in Kyrgyz Republic. Solving environmental health issues in Anzob, Tajikistan could also benefit from using experience of Khaidarkan project. Replication of the project work in those places will probably bring even better results because of the lessons and limitations of this project could be accounted for.

Lessons learned

The project lessons learned are listed below.

- Lesson 1: Carefully assess the local capacity and it's potential to grow in order to set more realistic targets for projects dealing with environmental monitoring and remediation. The project underachieved in some indicators and this could be attributed to several factors. One of those is over ambitious indicator targets that did not match with local capacity. For instance, in Component 2 the *number of people and villages monitored on health and environmental impacts* was set at *5000* while the project team was able to monitor only 200. It is possible that more people could have been monitored, but still the value of 5000 did not match the capacity for such work in Kyrgyz Republic. In Component 3 one of the indicators was *47 hectares* of fenced or remediated area. It proved too difficult to implement due to the lack of experience and lack of cooperation with mine administration.

- Lesson 2: Do not underestimate existing risks to the project implementation. The project implementation was delayed because of the issues of government instability and changes of people in key government structures. The country went through a revolution in 2010 (second revolution within a decade) and it took a few years for the government structures to get through changes and reorganisations. This had a direct effect on the project. In present case the actual start of the project was postponed, and the project schedule was adjusted with an extension which were adequate mitigation measures

- Lesson 3: Ensure correct capacity assessment and sufficient support with external expertise. This was the first such project in the country to conduct a detailed health and environmental assessment and also work on economic issues and remediation actions. There was not enough experience in the country how to conduct such work. As a result, some deliverables did not match what was anticipated by the project design. **For instance,** the environmental assessment conducted as part of Component 2 activities provided good report and interesting data. The main purpose of conducting the assessment was to gather data for planning and even starting remediation activities. However this data do not allow delineation of contaminated areas and indicating levels of contamination with sufficient details. The study was conducted as a qualitative rather than quantitative assessment. Therefore, the data is insufficient for development of remediation plans. This could have been corrected if an expert in such assessments were invited to assist with planning and conducting the study.

  A second example is the report on remediation strategy prepared in Component 3. It is a very good quality report with detailed analysis of one identified remediation strategy. But this strategy does not lead to the reduction of mercury emissions from contaminated area or decrease of exposure of people to mercury. In this case a specialist on risk assessment and an engineer with experience of mercury contamination remediation could have helped to identify suitable effective strategies that should have been developed in detail by national specialists.

- Lesson 4: Ensure working relationship with the industry. This is often a sensitive issue in such projects because active mining industry tends to work against strict environmental regulations or efforts to identify actual health effects of contamination from mining and ore processing. Even though the Khaidarkan mining enterprise belongs to the government there was little cooperation and even conflicts observed between members of the project team and the mine administration. This indicates there were disagreements in the national government about supporting the project which contributed to the project delays and problems in field work. Such issues should be cleared before the start of such project.

Recommendations

Taking into account the scope of the evaluation and based on the main findings, conclusions and lessons learned, the recommendations that follow are principally addressed to UN Environment (as Implementing Agency) to help development of any future follow up or similar projects in Kyrgyz Republic or other countries in the region.

Recommendation 1. Prepare a Continuation Strategic Plan to structure the follow up project to achieve the decrease of health risks of people in Khaidarkan. Creation and implementation of such plan considering all lessons learned in this project could provide results that would be sustainable in the long run.

Recommendation 2. Include in the next project other areas in southern Kyrgyz Republic with similar contamination issues: Chauvai, Kadamzhai, Ulu-Too, Terek-Sai and other places where high mercury, antimony and arsenic contamination is known or suspected. The properly structured environmental and health assessment work would allow prioritizing remediation and health risk mitigation work in order to be more efficient and ensure success.

Recommendation 3. As part of the follow up project design an effective and realistic remediation strategy that could be implemented in the future to solve the problem of mercury contamination of Khaidarkan. Separate strategies should be developed for other contaminated areas in South Kyrgyz Republic. Developing such strategies and implementing pilot projects would allow better understanding of possible solutions and necessary resources to decrease or eliminate health risks.

Recommendation 4. Kyrgyz Republic legislation and its application should be analyzed for any obstacles to conducting remediation. If such exist a set of recommendations must be developed based on best known international practices on how to improve the legislative framework or its use.

Recommendation 5. Provide ample support with expertise to national specialists and use results-based management framework to ensure the project outputs lead to intended outcomes and lasting impacts.

Recommendation 6. Ensure better cooperation of government structures on the project and participation of stakeholders.

Recommendation 7. Improve publicity and transparency of the project implementation.

Краткое обобщение оценки проекта "Снижение глобальных и местных экологических рисков, возникающих в связи с добычей первичной ртути в посёлке Айдаркен, Кыргызской Республики"

Введение

Настоящее обобщение кратко представляет основные данные и выводы итоговой оценки проекта Глобального экологического фонда (ГЭФ) и Программы ООН по окружающей среде (ЮНЕП) «Снижение глобальных и местных экологических рисков, возникающих в связи с добычей первичной ртути в посёлке Айдаркен, Кыргызской Республики» [5]

В соответствие с соглашением, подписанным ГЭФ, и политикой ЮНЕП по оценке проектов, итоговая оценка проводится на заключительной стадии или по завершении проекта с целью оценки его эффективности (с точки зрения актуальности и продуктивности), а также для определения результатов и последствий (фактических и возможных), вытекающих из проекта, включая их устойчивость.

Двумя основными целями оценки проекта являются: (1) предоставление результатов проекта для удовлетворения требований отчетности, и (2) содействие оперативному улучшению работы, обучению и обмену знаниями между ЮНЕП и ее партнерами посредством полученных результатов и извлеченных уроков. Таким образом, в ходе настоящей оценки определялась практическая ценность извлеченных уроков для разработки и реализации последующих проектов, связанных с добычей ртути в

[5] ГЭФ ID проекта: 4985

Кыргызской Республике.

Оценка проводилась независимым экспертом, специалистом в области снижения рисков для здоровья населения от загрязнения окружающей среды тяжелыми металлами. Сбор данных включал обзор документации по проекту, личные встречи и интервью по Skype с рядом респондентов (всего 30 человек), визит в Кыргызстан, участие в заседании Руководящего комитета, где основные достижения проекта были доложены широкому кругу участников и заинтересованных сторон.

Краткое описание проекта

Проект был разработан в 2011-2012 гг для решения проблемы ртутного загрязнения и воздействия ртути на человека в пос. Айдаркен. Проектный документ имеет типичную структуру и включает в себя следующие задачи: а) сокращение или устранение текущих выбросов загрязняющих веществ; б) проведение оценки состояния окружающей среды и здоровья людей; в) повышение осведомленности людей; г) разработка масштабного плана по реабилитации; д) осуществление некоторых наиболее возможных мер по очистке. В дополнение к этим действиям в проекте также обращается внимание на экономическое развитие района с целью уменьшения зависимости местного населения от горнодобывающего производства.

Эти задачи были сгруппированы в 4 компонента с отдельными мероприятиями, продуктами и результатами. Компонент 1 включал мероприятия по оказанию содействия местному сообществу по переходу от производства ртути к другим альтернативным производствам, связанным или нет с горнодобычей. Компонент 2 включал работу по оценке окружающей среды и здоровья человека с целью охарактеризовать загрязнение окружающей среды и риски для здоровья населения. Компонент 3 включал действия по планированию и реализации работ по очистке и рекультивации загрязненной территории. Компонент 4 был посвящен повышению уровня образованности и осведомленности. Все эти мероприятия были направлены на достижение главной цели – «охрана здоровья человека и защита окружающей среды от токсического воздействия ртути путём перепрофилирования комбината по производству первичной ртути и сообщества».

Результаты оценки и выводы

Проект был хорошо обоснован, и вся деятельность была направлена на снижение рисков для здоровья и на сокращение зависимости от ртутного производства. Структура проекта имеет стратегическое значение для решения глобальных, региональных и национальных экологических проблем и соответствует мандату ЮНЕП, ее стратегиям и приоритетам. Деятельность по проекту способствовала достижению того, что «государства и другие заинтересованные стороны увеличили потенциал и финансирование для оценки, управления и снижения рисков для здоровья человека и окружающей среды, создаваемых химическими веществами и опасными отходами».

Проект был реализован с задержкой в начале и с последующим продлением сроков: изначально работа планировалась с 01.10.2012 по 06.05.2016, а фактически проект реализовывался с 05.05.2013 по 31.03.2018. Это было связано с организационными проблемами и сложностями во взаимоотношениях между участниками и заинтересованными сторонами.

В результате работы проекта из 14 запланированных продуктов полностью реализованы 8 и 6 частично. Был проведен большой объем работы и проект способствовал расширению возможностей в Кыргызстане по проведению анализов на содержание ртути в различных средах. Был собран значительный объем новых данных по загрязнению в пос. Айдаркен и его окрестностях и по поступлению ртути в организм людей. Вместе с достижения проекта были достаточно скромными по изменению существующей ситуации в пос. Айдаркен. В частности нельзя сказать, что стало меньше загрязнения ртутью или уменьшилось воздействие ртути на людей.

Прямой результат (1) «альтернативные многоотраслевые возможности трудоустройства выявлены и доступны для сообщества» был частично достигнут. Долгосрочный результат (1) «зависимость сообщества от добычи ртути уменьшена путем выявления альтернативных вариантов занятости» оценен как недостигнутый. Горное производство прекратилось из-за внешних факторов, но как ожидается, будет возобновлено.

Наибольшее влияние на ситуацию в стране проект оказал в компоненте 2. Местный потенциал по проведению исследований загрязнения окружающей среды был значительно увеличен благодаря обучению, приобретению современного оборудования и проведению полевых исследований. Эту работу следует продолжать, опираясь на существующие достижения. Проект способствовал достижению прямого результата (2) «улучшение мониторинга здоровья человека и окружающей среды» и долгосрочного результата (2) «воздействие добычи ртути оценивается с помощью углубленного мониторинга здоровья человека и окружающей среды». Достигнутые результаты ниже целевых значений показателей, но это было связано с поздним и неполным получением софинансирования проекта, которое должно было пойти на поддержку работы на начальном этапе.

Прямые результаты по компонентам 3 и 4 по планированию работ по ремедиации и повышению осведомленности были достигнуты частично и имеют наименьшую вероятность воздействия. В работе проекта были сложности связанные с противодействием администрации Хайдарканского ртутного комбината, особенно на начальном этапе.

Устойчивость результатов проекта за некоторыми исключениями оценивается в целом как низкая без внешней поддержки. Результат 1 по поддержке местного бизнеса, который бы создал несколько рабочих мест, - это результат, который, вероятно, будет работать дальше. Другим устойчивым достижением является увеличение лабораторного потенциала по исследованиям ртути в стране. Что касается других частей проекта, то можно опираться на существующие достижения, чтобы решить проблему воздействия ртути на здоровье в Айдаркене. Но для этого потребуется поддержка международных институтов.

Оценка показала, что проект в целом соответствовал требованиям по мониторингу и отчетности, все отчеты предоставлялись своевременно и с адекватным вниманием к деталям и содержанию. Отчеты субподрядчиков по каждому виду деятельности дали четкое описание проведенной работы. Команда проекта регулярно предоставляла доклады о ходе работ Руководящему комитету проекта и ЮНЕП. Возможно, следовало произвести среднесрочную оценку через 12 месяцев после начала реализации проекта. Это помогло бы лучше отслеживать прогресс проекта и внести своевременные изменения в реализацию.

Потенциал по воспроизводству проекта оценивается как хороший. Аналогичные работы, в частности компоненты 2-4, можно было бы реализовать в других подобных местах в Южном Кыргызстане с сокращенным или недавно прекращенным производством ртути: Чаувай или Улу-Тоо. Проект касался не только производства ртути, но и оценки концентраций токсичного мышьяка и сурьмы. Этот опыт можно было бы использовать в будущей работе в поселках со сходным характером загрязнения: Кадамжае, Терек-Сае и других местах в Кыргызстане. При решении проблем по охране окружающей среды в Анзобе, Таджикистан также можно использовать полученный опыт настоящего проекта.

Извлеченные уроки

Извлеченные уроки по проекту представлены ниже:

- Урок 1: Тщательно оцените местный потенциал, чтобы ставить наиболее реалистичные цели проекта, связанные с мониторингом и рекультивацией. В ходе работы проекта ряд показателей не был достигнут, и это можно объяснить влиянием нескольких факторов. Один из них – это амбициозные целевые индикаторы проекта, которые не вполне соответствовали местным условиям. Например, в компоненте 2 количество людей в поселках, где контролировалось воздействие на здоровье, было заявлено участие 5000 человек, в то время как было фактически протестировано только 200 человек, что соответствовало имевшимся возможностям. Другой пример: в компоненте 3 одним из показателей было 47 га огороженной территории. Но это оказалось слишком сложно осуществить из-за недостатка опыта и из-за отсутствия сотрудничества с администрацией комбината.

- Урок 2: Не стоит недооценивать существующие риски для реализации проекта. Реализация проекта была отложена из-за проблем, связанных с ситуацией в стране и государственных структурах. Страна пережила революцию в 2010 году (вторая революция за десятилетие), и потребовалось несколько лет, чтобы правительственные органы прошли через изменения и реорганизацию. Это напрямую повлияло на проект. В данном случае фактическое начало было задержано в связи с чем срок работ был закономерно продлен.

- Урок 3: Следует наиболее корректно оценивать имеющиеся возможности и оказывать достаточную экспертную поддержку. Этот проект был первым комплексным проектом такого рода в Кыргызстане. В ходе проекта проводилась детальная оценка состояния окружающей среды и здоровья человека, и велась работа по экономическим вопросам и мероприятиями по рекультивации среды. В стране пока недостаточно опыта по проведению подобных работ. В итоге некоторые результаты не соответствовали изначальным планам и показателям проекта. Например, экологическая оценка, проведенная в рамках мероприятий Компонента 2, обеспечила хороший результат и интересные данные. Предполагалось, что собранные данные позволят планировать работы по рекультивации. Однако полученная информация не позволяет картировать площади и контуры загрязненных участков, и уровни их загрязнения. Исследование производилось скорее как

качественная, а не как количественная оценка. Это можно было бы исправить, если б был приглашен эксперт для оказания помощи в планировании и проведении исследования.

Вторым примером является отчет о стратегии рекультивации, подготовленный при работе по Компоненту 3. Это отчет хорошего качества с подробным анализом одной идентифицированной стратегии по реабилитации. Но эта стратегия не приводит к сокращению выбросов ртути на территории или к уменьшению воздействия ртути на людей. В этом случае, специалист по оценке рисков, и инженер, имеющий опыт восстановление загрязненных ртутью территорий, могли бы помочь выявить наиболее подходящие эффективные стратегии, которые могли бы быть подробно разработаны местными специалистами.

- Урок 4: Следует обеспечить рабочие отношения с представителями промышленного производства. Это часто является довольно деликатной проблемой в таких проектах, поскольку активная горнодобывающая промышленность имеет тенденцию противодействия строгим экологическим нормам и усилиям, направленным на выявление фактических последствий загрязнения окружающей среды добычей и переработкой руды. Несмотря на то, что Хайдарканский ртутный комбинат принадлежит государству, между членами проектной группы и администрацией комбината сотрудничество было минимальным, и даже случались открытые разногласия. Это указывает на несогласованность в правительстве относительно поддержки проекта, что отразилось на полевой работе. Подобные проблемы должны устраняться до начала проектов.

Рекомендации

Основанные на выводах, результатах и извлеченных уроках последующие рекомендации адресованы Программе ООН по защите окружающей среды (как агентству-исполнителю), чтобы помочь в разработке любых будущих подобных проектов в Кыргызской Республике или других странах региона.

Рекомендация 1. Следует подготовить стратегический план, чтобы структурировать последующий проект по снижению рисков для здоровья в Айдаркене. Создание и реализация такого плана с учетом всех извлеченных уроков, может обеспечить устойчивые в долгосрочной перспективе результаты.

Рекомендация 2. Необходимо включить в следующий проект другие поселки на юге Кыргызской Республики со сходными проблемами загрязнения: Чаувай, Кадамжай, Улу-Тоо, Терек-Сай и др., где известно или подозревается высокое содержание ртути, сурьмы или мышьяка. Правильно структурированная работа по оценке состояния окружающей среды и здоровья позволит определить приоритетность мер по восстановлению или минимизации последствий для здоровья, чтобы они были более эффективными и успешными.

Рекомендация 3. В рамках разработки следующего проекта следует уделить внимание эффективной и реальной стратегии очистки, которая могла бы быть реализована в будущем для решения проблемы ртутного загрязнения в Айдаркене. Отдельные стратегии следует разрабатывать для каждого загрязненного участка в Южном

Кыргызстане. Разработка таких стратегий и осуществление экспериментальных проектов позволили бы лучше понять возможные решения и необходимые ресурсы для снижения или устранения рисков для здоровья.

Рекомендация 4. Законодательная база Кыргызстана и ее применение должны быть проанализированы на предмет любых препятствий для проведения работ по реабилитации. Необходимо разработать ряд рекомендаций на основе наиболее известных международных практик, касающихся совершенствования законодательной базы или ее использования для облегчения реализации проектов рекультивации и очистки окружающей среды.

Рекомендация 5. Обеспечить достаточную экспертную поддержку местных специалистов, и использовать систему управления, основанную на результатах, чтобы реализация проекта приводила к планируемым результатам с долгосрочным воздействием.

Рекомендация 6. Улучшить межведомственное взаимодействие государственных структур и участие заинтересованных сторон в проекте.

Рекомендация 7. Повысить прозрачность и информационное сопровождение выполнения проекта.

Introduction

1. This is a Terminal Evaluation (TE) report of the UN Environment/Global Environment Facility project entitled - "Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic" (GEF project ID: 4985). The project was implemented in 2013-2017. The Terminal Evaluation is carried out in accordance with the provisions of the UN Environment Evaluation Policy and the UN Environment Programme Manual to assess the project performance (addressing the aspects of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability.

2. The project was designed to complement the UN Environment Sub-programme 5 (Harmful Substances and Hazardous Wastes) aiming to "minimize the impact of harmful substances and hazardous waste on the environment and human beings." UN Environment acted as GEF Implementing Agency (Economy Division) whilst the State Agency for Environmental Protection and Forestry (SAEPF) of Kyrgyz Republic was tasked with being the Executing Agency (EA), responsibility for co-ordination of project activities.

3. The total budget (US$) based on GEF Allocation is US$ 944,000. Planned project budget with all co-financing was 3,951,000 USD. The official project starting date was May 2013 with formal implementation and the official project completion date was extended from the 6th of May 2016 to 31 of October 2017 (signed on 12 November 2015) of which the latter was authorised as a formal Amendment Extension

4. The project activities were focused on Khaidarkan mining area in southern part of Kyrgyz Republic with the primary project goal to protect human health and the environment from the toxic exposure to mercury by phasing out mercury production and supply.

5. This document represents the full and final report for the "Terminal Evaluation" of the "Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic" containing the project context; reconstructed Theory of Change (ToC) of the project; evaluation findings, conclusions, lessons learned, and recommendations. Detailed background information is included in the Annexes, documents consulted during the evaluation, evaluation program, and financial data on the project.

Evaluation methods

2.1. Overview

6. In line with the UN Environment Evaluation Policy and the UN Environment Programme Manual, this Terminal Evaluation is undertaken after completion of the project, to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability.

7. According to Terms of Reference (ToR) Terminal Evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UN Environment and main project partners. The evaluation addresses the strategic questions/issues listed below:

a. Considering the socio-economic significance of the mining industry in the Batken province, this evaluation pays particular attention to the sustainability of the project outcomes. To what extent the project contributed to the lessening reliance on mercury mining and how sustainable the achieved results actually are.
b. The evaluation formulates lessons learned that could support implementation of the future UN Environment projects in countries with similar socio-economic and political conditions as in the project country; especially in the post-soviet region.
c. This project also deals with issues related to economic development, livelihoods and alternative income sources that are not directly in the core of UN Environment's expertise. The evaluation pays attention to UN Environment's role/value in addressing these issues within the project context.

8. The main evaluation criteria are presented here: (A) Strategic Relevance; (B) Quality of Project Design; (C) Nature of External Context; (D) Effectiveness, which comprises assessments of the achievement of outputs, achievement of outcomes and likelihood of impact; (E) Financial Management; (F) Efficiency; (G) Monitoring and Reporting; (H) Sustainability; and (I) Factors Affecting Project Performance.

9. The report follows the format for Terminal Evaluations provided by the Evaluation Office of UN Environment and provides individual ratings for each evaluation criterion. Most criteria are rated on a six-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU). Sustainability and Likelihood of Impact are rated from Highly Likely (HL) down to Highly

Unlikely (HU) and Nature of External Context is rated from Highly Favourable (HF) to Highly Unfavourable (HU).

2.2. Evaluation approach, data collection and analysis

10. The findings presented within this Terminal Evaluation are based on the design of an Evaluation Framework developed in the evaluation inception stage which was based on the evaluation criteria and scope presented in the ToR (see Annex I) and the project Intervention Logic (log-frame). The methodological approach adopted a mix of techniques, including a desk review of the key project documents that were provided by either UN Environment or the State Agency for Environmental Protection and Forestry (SAEPF) at the start of the consultancy (see Annex IV), targeted stakeholder interviews to key project partners or individuals that were identified during the evaluation inception phase as important stakeholders by the consultant or the State Agency for Environmental Protection and Forestry (see Annex II), a purposely designed set of questions were prepared (to reflect the evaluation criteria and verbally presented (translated as needed) to a select group of stakeholders.

11. An introductory online meeting was undertaken with the Evaluation Manager in May 2017 to discuss the scope of the evaluation, agree on the working arrangements, field mission timing and project deliverables following the UN Environment procedures. The first draft of the inception report was delivered to Evaluation Office of UN Environment on 29 June 2017 and subsequent comments were incorporated within a final iteration of the Inception Report during the field mission (20-31 August 2017). Reconstructured Theory of Change (TOC) was developed at this stage based on the project logic. Development of TOC provided basis for assessing project performance and especially project actual and potential impacts.

12. Before travelling to Kyrgyz Republic the mission agenda was prepared and coordinated with the Evaluation Manager and the State Agency for Environmental Protection and Forestry, which helped to arrange meetings with people from the list formulated during the desk review. During the field mission at the end of August 2017 (see Annex II), 24 stakeholders were interviewed as part of the field mission exercise. The use of a local interpreter was adopted incidentally during the field mission to help gather local information for the evaluation. The main purpose of the field mission was to confirm what was reported in the project documents and hear opinions of the project stakeholders on the project implementation and actual impacts.

13. The evaluator aimed to consider gender equality and human rights during the field missions, such questions were included in each conducted interview. The list of all 30 interviewed individuals included 10 women which provided relatively balanced representation of women (over 30%). All information provided to the evaluator during interviews was kept strictly confidential and not shared with other project participants and stakeholders.

14. Data collection was continued after the field visit through email and skype. Additional information and updates on the project implementation were provided through established contacts to the evaluator. In addition to 24 stakeholders interviewed as part of the field mission exercise; 5 more project stakeholders were interviewed by means of phone or skype.

15. The Terminal Evaluation adheres to a robust participatory approach whereby the UN Environment Evaluation Manager, Task Manager and key representatives of the executing agencies were kept informed and consulted throughout the TE. In attempting to evaluate any observations on project outputs and direct outcomes that the project may have achieved and contributed to, the evaluator (where possible) verified these through a triangulation process. The evaluator also kept in mind the difference between the answers to two simple questions:

a. Question 1: "what happened?"
b. Question 2: "what would have happened without the intervention anyway?"

16. To answer these questions, consideration of the baseline conditions and trends was undertaken and findings were then compared to the intended project outcomes and impacts. The evaluator then sought to assess outcomes and potential impacts to the "actual" actions recorded from the project. To this end, a thorough review of baseline conditions and data collected was undertaken so that the evaluator could make informed judgements about project performance. Mainly qualitative methods and different types of indicators were used to assess what the project has delivered. Quantitative outputs were also assessed for their quality and effectiveness, particularly their capacity to drive and sustain changes at a higher level of objectives.

17. To ensure that the TE seeks to promote learning and reflection, and that the key stakeholders find the recommendations relevant and useful, the evaluator has applied the following approach:

- The reconstructed Theory of Change (rToC - see Section 4) was discussed and validated with the UN Environment- Evaluation Office. Assumptions and impact drivers were then tested with key stakeholders during the field mission;

- Findings, impressions and recommendations were discussed and tested with the PSC and project stakeholders in a continuous and iterative process during the field mission.

- Interviews were conducted in a semi-structured manner, allowing space for interviewees to ask questions and communicate their priorities and views, and enabling the evaluator to follow up on unforeseen and emerging points and findings.

- Recommendations were sought from all interviewed stakeholders to provide advice for future implementation of similar projects;

- Preliminary findings and recommendations were presented to the Task Manager (Ludovic Bernaudat) at a wrap-up meeting at the end of the field mission (see PowerPoint presentation in Annex VII);

- The evaluator was available to the PSC and stakeholders throughout the consultancy period (June to October 2017) via email or Skype for further contact and discussions.

- The draft TE report was shared with UN Environment and the SAEPF, and this provided national stakeholders with an opportunity to comment and provide further inputs via online. National Stakeholders also received a 2 page "Evaluation Bulletin" summary as requested as part of the ToR (see Annex X);

- The TE report will be posted on the Evaluation Office website and will be publicly available.

2.3. Evaluation Limitations

18. During the field mission it was not possible to meet some high-ranking officials such as Zhenish Razzakov (Vice-prime-minister) and Abish Khalmurzaev (Government Representative in Batken) from the Government of Kyrgyz Republic as they were unavailable for an interview. This was mitigated by collecting information from other people mainly in State Agency for Environmental Protection and Forestry about the involvement and role of those officials in the project.

Project background

3.1. Context

19. Mercury is a highly toxic heavy metal that is transported long distances by atmospheric processes. It accumulates in ecosystems and has long been known for its significant negative effects on human health and the environment. Mercury is used primarily for the manufacture of industrial chemicals or for electrical and electronic applications. A still increasing amount is used as gaseous mercury in fluorescent lamps, while most of the other applications are slowly phased out due to health and safety regulations and is in some applications replaced with less toxic but considerably more expensive Galinstan alloy. The international community considers primary mining (process of extracting raw materials from the ground) as the least preferred source of the supply of mercury. The growing global and local concerns about the impacts of mercury led to adoption of the Minamata Convention in 2013 as a global legally binding agreement on mercury. As of December 2013 the Minamata Convention was signed by 128 countries and ratified by 84 countries.

20. At the time of the project design the major mercury mines in Almaden (Spain), Idrija (Slovenia) and Algeria have been closed, the Khaidarkan mine in southern Kyrgyz Republic remained operational and as the last supplier of primary mined mercury to the international marketplace (China also engages in primary mercury mining but uses the mercury domestically). Exact volumes of production of mercury at Khaidarkan are unknown. Presently the production of mercury in Khaidarkan has stopped, though the mine and factory are not

closed completely and the administration is looking for ways to revive production. The mine and factory complex is located in Khaidarkan which was renamed to Aidarken in 2006. In the text the old name Khaidarkan is used to decrease confusion because the name of the enterprise remained "Khaidarkan mining factory" regardless of the change in the name of the town.

Figure 1. Location of the Project Area

21. After more than 70 years of mercury mining and smelting at Khaidarkan, a number of mercury-contaminated hot-spots exist while atmospheric emissions of mercury from the smelter continue. These are sources of mercury released to the global and local environment. In addition to mercury releases from the mining and smelting operations, including its waste management, the mine continues to supply primary mercury to the global market. At the project design stage it was estimated that the mine could produce and supply more than 1,500 tonnes of mercury in the up-coming decade releasing mercury to the environment.

22. Due to Kyrgyz Republic being the world's only exporter of primary mined mercury (at the time of the project design), the project was called to ensure that Kyrgyz Republic would contribute to the global efforts to protect human health and the environment from the harmful effects of mercury. Nevertheless, as indicated in the Prodoc the Khaidarkan plant remains important to the local community as one of the primary income generator in the area. The Batken Province, where the Khaidarkan mercury mine is located, belongs to one of the poorest and most remote mountainous regions of Kyrgyz Republic. Agriculture is a driver of the local economy in the Province as at the time of the project design it provided for 50% of the gross regional product. Mercury mining and processing is the single most important industry, and it forms the backbone of the town of Khaidarkan.

23. Even though there has been little presentation of economic alternatives to mercury mining to facilitate transition and gain a firm commitment from all key stakeholders, in 2008 the Kyrgyz Ministry of Finance listed a number of investment possibilities for Batken province. These included community-based tourism as well as gold mining and production of aluminium and non-metallic minerals as industrial alternatives in the region.

24. As long as local economy and mining community remain threatened by mine closure and the arrangements for alternative development are not well known and practically demonstrated, the key governmental players and local community are unlikely to be confident and supportive of the phasing out of mercury production. Moreover, the lack of up-to-date sufficient and reliable local environmental and health data along with non-existent monitoring, reduces the weight of environmental arguments for mercury mining cessation. In addition, exposure of local residents to environmental and health risks from mercury and emissions into the environment continue due to lack of preventive and remedial measures.

25. At the time of the project design the following factors were identified and listed as root causes for the continuation of primary mercury mining and the related pollution:

a. the considerable mercury reserves that can be exploited (>20,000 tonnes according to official estimates) and high world mercury prices (up to US$ 2500 per flask);
b. institutional and governance aspects considering energy and mining sectors as key sources of economic growth and industrial development;
c. a significant and historical dependence of the local community on mercury mining enterprise and limited identified potential for diversification and local business development as well as lack of confidence in, and limited knowledge of, non-mercury alternatives;
d. lack of financial resources, and limited options (mechanisms and agreements do not exist) for private sector involvement to facilitate transition to non-mercury mining alternatives;
e. very limited environmental control and protection measures resulting in potentially high mercury emissions and releases;
f. lack of capacity and knowledge for preventive and remedial measures perpetuating unmitigated exposure to risks and non-existing capacity independent monitoring and risk reduction measures, inadequate baseline information hinder possibilities to realistically appreciate the extent and severity of mercury contamination;
g. as well as inadequate knowledge dissemination and advocacy of environmental and health risks of mercury mining.

3.2. Objectives and Components

26. The overarching goal of the project, subject to this evaluation, is **to protect human health and the environment from the toxic exposure to mercury by phasing out mercury production and supply**. The project's development objective is *to enable socially compatible economic transition of the Khaidarkan community from primary mercury mining to more environmentally and socially sound economic activities*.

27. According to the Prodoc the overall expected project results include:

a. **Global:** Reduce to minimum (eventually to zero) Kyrgyz Republic's primary mercury production; reduce emissions from Kyrgyz Republic's mercury smelting into the global atmosphere
b. **Regional**: Benefit to the downstream Ferghana Valley shared by Uzbekistan, Tajikistan and Kyrgyz Republic, through reduction of mercury mining and associated pollution
c. **National:** Replace primary mercury mining with alternative sources of income through investment promotion that will strengthen the national economy, improve the overall environmental image of Kyrgyz Republic and fulfill any requirements under the international mercury process
d. **Local**: Diversify local economy that will improve economic resilience, including employment; Reduce passive environment and health risk reduction measures and prepare steps for the future remediation, including adequate monitoring measures, will reduce known and potential threats to the environment (pollution) and the local population (health and agricultural activities)

28. The purpose of this project is to reduce global and local environmental and health risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic, by supporting a socially compatible economic transition away from mercury mining. As indicated in the Prodoc the project participants intend to eventually phase out mercury mining in Khaidarkan in order to stop local contamination and ultimately its input in the global mercury contamination.

29. **Component 1:** Promotion of non-mercury mining alternatives and employment opportunities. This component is about socio-economic issues and alternatives to mercury mining economic activities. It is directly related to the Outcome 1 and the associated block of outputs listed below. [6]

30. Outcome 1: Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities

- Output 1.1. Report on socio-economic analysis, environmental impact assessment and roadmap for the implementation of mining alternatives to mercury mining elaborated and endorsed.
- Output 1.2. Report on identified priority alternatives for non mining economic activities.
- Output 1.3. UNDP Report on progress in facilitating the diversification of Khaidarkan economy, including the promotion of alternatives to mining developed.

[6] There is some confusion in the text about the number of project components. Clearly the ProDoc describes four components and four related outcomes. But the table of contents also lists as first component: "Establish project team, agree on work plan and engage key stakeholders." Paragraphs 109 and 110 list 6 components. Probably this remained from earlier proposal drafts assuming that we are working with final documents. For the purposes of the evaluation and following the ProDoc actual contents 4 components will be discussed below.

- Output 1.4. National development plans and national strategies for development includes the outcomes of the analysis and programmes on alternatives to mercury mining (as indicated in the previous bullets).

31. **Component 2:** Assessment and monitoring of environment and health impacts from primary mercury mining and pollution. This component covers the work on environmental and health monitoring in order to quantify the extent and severity of the mercury mining related problems Khaidarkan area. This should result in achieving Outcome 2 and related outputs.

32. Outcome 2: Impacts of mercury mining evaluated through enhanced human health and environment monitoring

- Output 2.1. Training reports from 10 experts and 4 local laboratories and results from intercalibration studies available.
- Output 2.2. Report containing qualitative and quantitative assessment of environmental and health risks and impacts in the primary mercury mining area available.
- Output 2.3. Low cost and easy-to use monitoring system installed and capacity to collect and disseminate environment and health risk information available.

33. **Component 3:** Explore and prepare remedial and risk prevention measures for mercury-contaminated sites. This component is about developing strategies and options for future remediation project. By the logic of the project design this component is based on the results of the work conducted in Component 3. The data from environmental and health assessment would allow exploring remediation options. It is not clear though how this work could lead to Outcome 3. The 3.x outputs described in this section are feasible. But achieving Outcome 3 is hardly possible through this work during the project duration.

34. Outcome 3: Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures

- Output 3.1 Report on remediation targets and priorities available at UN Environment's website
- Output 3.2 Workshops and training reports on training on mercury remediation available.
- Output 3.3 Strategy and guidelines for remediation of highly mercury contaminated areas prepared and highlights reduction of mercury emissions into the local and global environment and also reflected in decontamination report.

35. **Component 4:** Awareness raising at national and community level and public transparency. This component targets informing both main decision makers in the government

and general public about mercury environmental health issues. This work would lead to achieving Outcome 4 and 4.x outputs.

36. Outcome 4: Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine alternatives

- Output 4.1 Media material produced and disseminated
- Output 4.2 Report on social impacts of alternatives to mercury mining available
- Output 4.3 Reports of awareness raising workshops and events available
- Output 4.4 Communication materials in local language available

3.3. Stakeholders

37. All project activities focus on one area in the South of Kyrgyz Republic: Khaidarkan and nearby communities in Batken Province. This is a mining region with long history of mercury and other heavy metals contamination. The project involves several national and regional stakeholders who operate from Bishkek – the capital of the country or other locations in Kyrgyz Republic.

38. Six main groups have been identified: (1) Governmental officials; (2) Implementing partners; (3) Civil Society Organisations; (4) Local communities; (5) Scientific/Academic communities; (6) Business community. Stakeholders, their roles, description, implications into the projects activities have been analyzed in several parts of the Prodoc. The list of stakeholders is provided in Table 1 below:

Table 1. Stakeholder groups list

Stakeholder group	Number of organizations
Government institutions	6
Implementing partners (International organizations)	3
Civil Society organisations	5
Local communities	1
Scientific/Academic community	8
Business community	3

3.4. Project Implementation Structure and Partners

39. The figure 2 below shows the institutional framework and project implementation arrangements.[7]

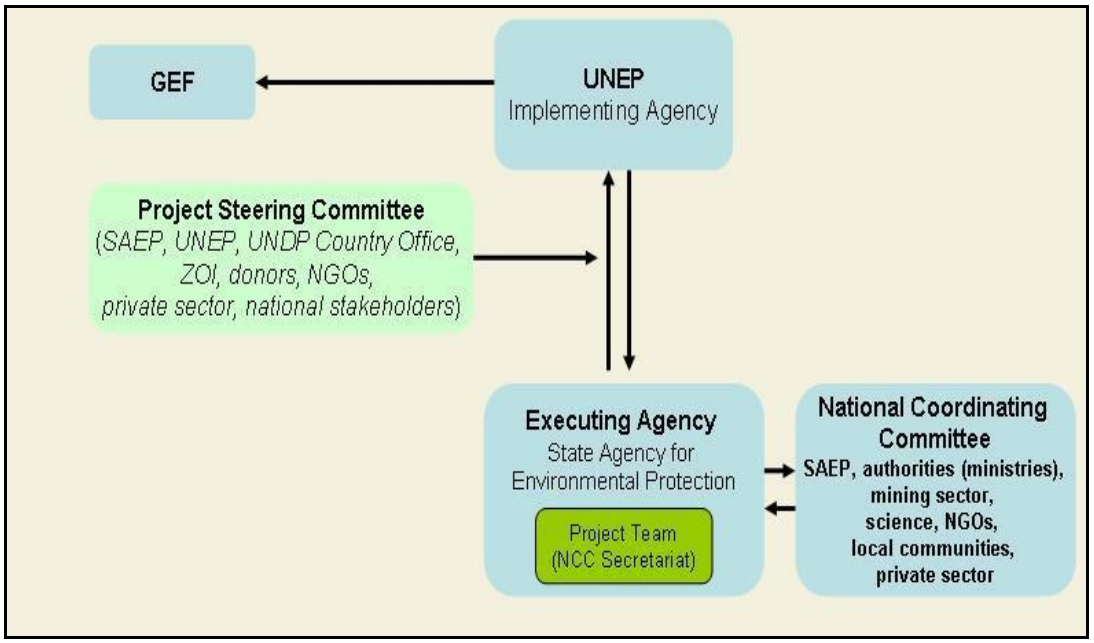

Figure 2. Project Implementation Structure as per project design

40. UN Environment was the *GEF implementing agency* of this project. As the implementing agency, UN Environment supervised the project by providing substantive input and financial coordination within the larger Kyrgyz mercury project partnership. UN Environment worked with its partners (see below) to convene stakeholders, coordinate with international players and supervise the project activities.

41. The State Agency for Environmental Protection and Forestry (SAEPF) was the *GEF executing agency* in this project to facilitate national coordination and project implementation. SAEPF was also in charge of organizing independent audits in order to guarantee the proper use of GEF funds allocated at the national level. SAEPF also provided regular progress and financial reports to UN Environment. According to its core competence, the State Agency for Environmental Protection (in cooperation with other competent institutions, such as the State Inspection on Environmental and Technical safety) supervised remedial measures planning and environment and health risk reduction measures and information dissemination to ensure that national requirements are met. The Centre on Ecological Safety within the Agency was a *supporting executing partner* for remedial planning and risk reduction measures.

42. At the international level, **A Project Steering Committee (PSC)** was created and met at the beginning, mid-term and at the end of the project. This committee is formed by donors, executing and implementation organisations (UN Environment, State Agency of Environmental

[7] During the project implementation Zoï Environment Network (ZOI) became not involved anymore

Protection, State Agency of Geology, Ministry of Economy, donors) and other stakeholders. The purpose of the committee was evaluate the progress of the project and to take the necessary measures to guarantee the fulfilment of the goals and objectives. PSC met twice during the project execution, at the beginning and at the end of the project.

43. At the National level, a **Project Team (PT)** was established within the *executing agency*; this team was in charge of the execution and management of the project and reported to UN Environment and to the Project Steering Committee.

3.5. Project Budget and Expenditure

44. Table 2 below shows the project financing broken into components and activities at the project design.

Table 2. Project financing at design

Project Components	GEF	Co-finance	TOTAL
1. Identification and implementation of local economic opportunities, not reliant on mercury mining	**250,000**	**1,123,000**	**1,373,000**
1.1 Develop socio-economic analysis, environmental impact assessment and roadmap for the implementation of other mining alternatives to mercury mining.	45,000	215,000	260,000
1.2 Identify priority alternatives for non-mercury mining economic activities in the Khaidarkan area.	45,000	120,000	165,000
1.3 Continue supporting the UNDP programme fostering alternative job opportunities in Khaidarkan not reliant on mining, based on lessons learned from previous phases of the project identified in the project evaluation.	120,000	578,000	698,000
1.4 Update national plans and strategies for alternative employment which will include socio economic analysis for mining and non-mining alternatives	50,000	210,000	250,000
2. Assessment and monitoring of environment and health impacts from primary mining and pollution	**155,000**	**495,500**	**650,500**
2.1 Identify and reinforce existing capacities (including training and exchange of experiences) of laboratories in Kyrgyz Republic able to analyze human and environmental	65,000	190,000	255,000

Project Components	GEF	Co-finance	TOTAL
2.2 Conduct a comprehensive study of environmental and health impacts of mercury mining in the area, involving local and international scientists, local health authorities and experts and independent (verification) sampling	50,000	262,500	312,500
2.3 Install a mobile, low cost and easy-to-use monitoring system for mercury related accidents and emissions within the existing competent organizations and train local specialists in its use.	40,000	43,000	83,000
3. Explore and prepare remedial and risk prevention measures for mercury contaminated sites	**258,000**	**640,500**	**898,500**
3.1 Select, prepare and agree on the remediation targets and priorities for rapid response and preventive measures.	20,000	86,500	106,500
3.2 Ensure substantial training and international experience exchange on mercury pollution remediation and rapid response approaches for risk reduction (including international partnerships for technology and experience transfer).	74,000	213,500	283,500
3.3 Develop and implement a strategy and guidelines to conduct remediation on priority sites (including the design of a strategy and guidelines for remediation; draft a proposal for financing and implementation of the remedial measures with demonstration of selected approaches and the publication and distribution of information materials related to remedial and preventive measures).	164,000	340,500	504,500
4. Awareness rising at national and community level and public transparency	**120,000**	**475,000**	**595,000**
4.1 Media coverage (TV and e-news/newspapers) on the selected aspects of local, national and global mercury issues and briefings on project milestones /achievements.	15,000	10,000	25,000
4.2 Conduct social impact studies to understand better the local perception and acceptance of the transition options.	20,000	65,000	85,000
4.3 Design and implement a targeted mercury awareness raising campaign and a strategy to promote employment opportunities to mercury mining for: a) government; b) research institutions; c) private sector; d) local residents (farmers, workers, housewives, etc); and e) journalists)	55,000	257,500	312,500

Project Components	GEF	Co-finance	TOTAL
4.4 Design and produce, including translation to local languages, mercury information kits.	30,000	142,500	175,500
Project Management and Supervision	**80,000**	**189,000**	**269,000**
Monitoring and Evaluation	**81,000**	**84,000**	**165,000**
TOTAL	**944,000**	**3,007,000**	**3,951,000**

45. Table 3 below shows the project costs by components.

Table 3. Project costs (only GEF, provided by the Fund Management Officer)

APPROVED BUDGET AND RECORDED EXPENDITURES			
As at 16.11.2017	Approved budget	Recorded expenditure	Balance
Executing agency expenditures			
Original allotment	884 000	730 647	153 353
Increase / (decrease)			
Current allotment	884 000	730 647	153 353
UN Environment /DGEF direct expenditures and mid-term and Terminal evaluation	60 000		60 000
Other expenditures (provide details below)			-
	944 000	730 647	213 353

Theory of change

46. The intervention logic in the ProDoc, the results framework and Project Implementation Reports (PIRs) have been carefully studied to establish the project's Theory of Change (ToC). The ToC has been assessed for consistency and a "reconstructed" ToC was developed to ensure that there is a consistent and clear conceptual understanding of the project's impact pathways that can guide the Terminal Evaluation. The reconstructed ToC is presented in Figure 1 at the end of this section.

47. As indicated in ProDoc "*As long as local economy and mining community remain threatened by mine closure and the arrangements for alternative development are not well known and practically demonstrated, the key governmental players and local community are unlikely to be*

confident and supportive of the phasing out of mercury production." This means that even though phasing out mercury production is the main goal of the project, it is yet unlikely to have local and national support in the near future. This assumption was fully proven during the project implementation; because even the start of activities was delayed due to lack of support in the country and later on there was some resistance in Khaidarkan and delays with the outputs. Yet the project was designed as a step to create conditions that would help in creating conditions for the reduction of mercury production or complete mine closure in the future.

48. Each activity results in particular output. Therefore activities are not included in the ToC diagram because it does not add value to the analysis. The level of outputs is sufficient as starting points for impacts pathway. The results framework identifies a fair number of assumptions at the outcome/output levels. There are also some assumptions and impact drivers that have not been identified in the results framework; these are presented in the reconstructed ToC. All identified assumptions and drivers for all levels are specified in the Table 4.1.

49. **Outputs to direct outcomes:** The outputs outlined in the ProDoc are mostly logical and coherent. According to the project design successful implementation of planned outputs would lead to desired outcomes in the longer term. The problem is that the immediate achievement of the stated ProDoc outcomes may not happen during the project duration. So in order to describe more likely stages of the project's actual, immediate and achievable results, 'direct outcomes' were reconstructed to represent the project logic by utilizing official project documentation (such as project document and PIRs). The achievement of such 'direct outcomes' would lead to 'intermediate states' that precede achieving the level of the long-term outcomes (as per original outcome statement in ProDoc). The original long term outcomes, direct outcomes and intermediate states are listed in Table 4.

Table 4. Reconstructed direct outcomes and intermediate states

Direct Outcomes and Intermediate States		
Original outcome statement as per the Logframe	**Reconstructed**	**Explanation**
Outcome 1: Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities	**Direct outcome 1:** Alternative diversified employment opportunities identified and available to the communities	Outcome 1 Identification and availability of new livelihood is the key in this project component (reliance is a longer term results)
Outcome 2: Impacts of mercury mining evaluated through enhanced human health and environment monitoring	**Direct outcome 2:** Enhanced human health and environment monitoring capacity	Health and environment monitoring provide basic information and indicators of success of the efforts to reduce exposure of people to mercury.

Direct Outcomes and Intermediate States		
	Intermediate state 2: Information utilized to make an assessment to support remediation and cleaning work	This is a necessary step for preceding mining impact evaluation and planning future remediation activities.
Outcome 3: Reduced exposure of people to mercury from mercury contaminated sites through remedial and risk prevention measures	**Direct outcome 3:** National partners utilize the information on remediation	The information collected in the project would serve to develop the strategy of cleaning up the area ("reduced exposure" would require that actual remediation activities are undertaken, thus that is a longer term result)
	Intermediate state 3: Cleanup Project implemented	Remediation of the contaminated area is the biggest and obvious step in solving the environmental problem of the area after the continued contamination is stopped. This could happen after better management of contamination or closure of the facility.
Outcome 4: Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine alternatives	**Direct outcome 4:** Stakeholder/community level of awareness and participation raised	Based on the project logic increased awareness about the real situation concerning the health risks of mercury and new economic opportunities would lead to actions of the people, such as communities and policy makers
	Intermediate state 4.1: Actions of policy makers	
	Intermediate state 4.2: Influence of community on policy/decision makers	

50. **Direct outcomes to intermediate state and long-term outcomes:** The activities of Component 1 if successful would contribute to reconstructed Direct Outcome 1 "Alternative diversified employment opportunities identified and available to the communities". The identification of new employment opportunities not related to mercury mining would help the

local residents find new income. Realization of these new livelihoods would lead in the future to "Reducing the community reliance on mercury mining…" which is the Long-Term Outcome 1.

51. The Direct Outcome 2 "Enhanced human health and environment monitoring capacity" of the Component 2 means the local capacity and quality of health and environmental data gathering is increased. This would allow using gathered data to make an environmental health risk assessment, which is a necessary step before planning a remediation (cleanup) project to remove toxic substances from contact with people. This is called Intermediate State 2 "Information utilized to make an assessment to support remediation and cleaning work" which would be expected to lead to the fulfilment of the Long-Term Outcome 2 "Impacts of mercury mining evaluated through enhanced human health and environment monitoring". As seen on the diagram (Figure 1) the Long-Term Outcome 2 directly supports the development of another intermediate state – the "Cleanup Project" as national or international project to physically remove contaminated toxic materials from Khaidarkan and mitigate or exclude associated health risks. The Intermediate State 3 "Cleanup Project implemented" is also supported by the resulting from the Component 3 reconstructed Direct Outcome 3 "National partners utilize the information on remediation". The information on methods and strategies of remediation is just as important for planning remediation as the environmental health risk assessment identifying the pathways of exposure of local people to mercury and other contaminants.

52. The activities of Component 4 should result in Direct Outcome 4 "Stakeholder/community level of awareness and participation raised" which should transform into two intermediate states: 4.1"Actions of stakeholders" and 4.2 "Influence of community on decision makers". "Actions of policy makers" would mean that the main players in the area would take steps to change the current situation of high contamination of the area with heavy metals and negative effects on health of people. Local businesses could adopt some strategies to adapt to living without mining industry. The government agencies may initiate a social and/or an environmental national or local program. The Intermediate State 4.2 "Influence of community on decision makers" is a process and the driver for such changes to happen, primarily as the influence of the community on authorities.

53. Further development of the situation under the assumption that people are willing to switch to alternatives to mercury mining activities achieving the project objective of *socially compatible economic transition of the Khaidarkan community from primary mercury mining to more environmentally and socially sound economic activities.* As shown on the diagram (Figure 3) the long-term outcomes 1 and 4 together make a section of the project that mainly contributes to achieving this project objective through the above described direct outcomes and intermediate states.

54. The other section of the project is structured so that the activities of Component 2 through its direct outcome and intermediate state serve as the basis for the activities and outputs of the Component 3. Outputs 3.x become possible after the work on Component 2 is

complete. Outputs 3.x lead to the above described Direct Outcome 3 “Information available to the national partners on remediation” and Intermediate State 3 “Cleanup Project implemented”. Implementation of the “Cleanup Project” would directly contribute to achieving Long Term Outcome 3 “Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures.” The Long-Term Outcomes 2 and 3 both jointly lead to the stated Project **Goal to protect human health and the environment from the toxic exposure to mercury by phasing out mercury production and supply**.

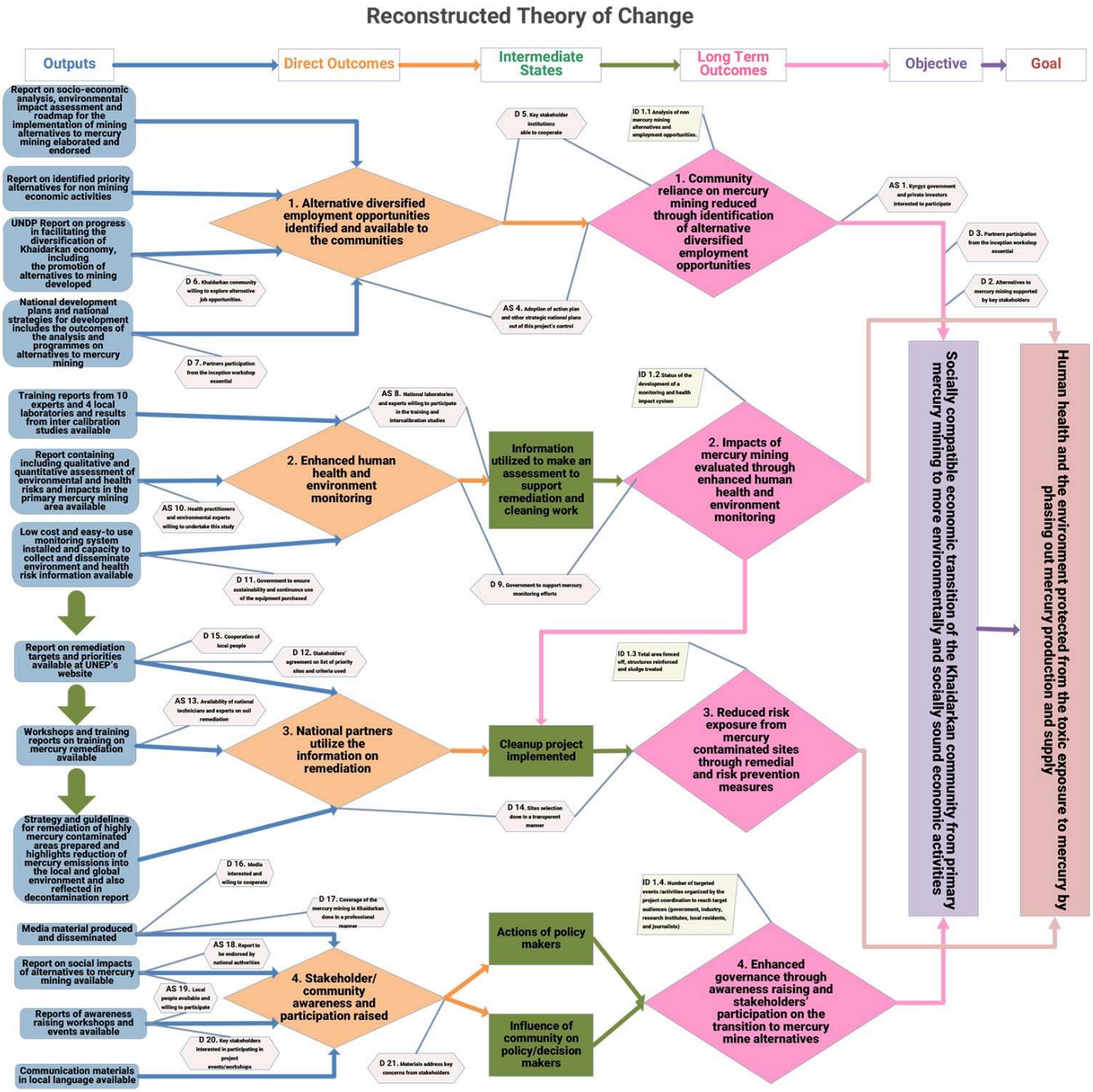

Figure 3. Theory of change diagram (compressed version, the full picture in presented in Annex VIII)

Table 5. List of Drivers and Assumptions for the Theory of Change.

Code	Condition	Type	Level
AS 1	Kyrgyz government and private investors interested to participate	Assumption	Outcomes (1) - Intermediate State- Objective
D 2	Alternatives to mercury mining supported by key stakeholders	Driver	Outcomes (1) - Intermediate State-Objective
D 3	Partners participation from the inception workshop essential	Driver	Outcomes (1) - Intermediate State-Objective
AS 4	Adoption of action plan and other strategic national plans out of this project's control	Assumption	Outputs (4) - Intermediate State- Outcomes (1) - Objective
D 5	Key stakeholder institutions able to cooperate	Driver	Outputs (1,2) – Outcomes (1)
D 6	Khaidarkan community willing to explore alternative job opportunities	Driver	Outputs (3) – Outcomes (1)
D 7	Partners participation from the inception workshop essential	Driver	Outputs (4) – Outcomes (1)
AS 8	National laboratories and experts willing to participate in the training and intercalibration studies	Assumption	Outputs (1) – Outcomes (2) - Intermediate State- Objective
D 9	Government to support mercury monitoring efforts	Driver	Outcomes (2) - Intermediate State-Objective
AS 10	Health practitioners and environmental experts willing to undertake this study	Assumption	Outputs (2) – Outcomes (2)
D 11	Government to ensure sustainability and continuous use of the equipment purchased	Driver	Outputs (3) – Outcomes (2)
D 12	Stakeholders' agreement on list of priority sites and criteria used	Driver	Outputs (1) – Intermediate State-Goal
AS 13	Availability of national technicians and experts on soil remediation	Assumption	Outputs (2) – Intermediate State-Goal
D 14	Sites selection done in a transparent manner	Driver	Outputs (3) – Intermediate State-Goal
D 15	Cooperation of local people	Driver	Outputs (3) – Intermediate State-Goal
AS 16	Media interested and willing to cooperate	Assumption	Outputs (1) – Outcomes (4)
D 17	Coverage of the mercury mining in Khaidarkan done in a professional manner	Driver	Outputs (1) – Outcomes (4)
AS 18	Report to be endorsed by national authorities	Assumption	Outputs (2) – Outcomes (4)
AS 19	Local people available and willing to participate	Assumption	Outputs (2) – Outcomes (4)
D 20	Key stakeholders interested in participating in project events/workshops	Driver	Outputs (3) – Outcomes (4)
D 21	Materials address key concerns from stakeholders	Driver	Outputs (4) – Outcomes (4)

Evaluation findings

5.1. Strategic Relevance[8]

5.1.1. Alignment to MTS and POW

55. The rationale for the proposed project has its roots in the international attempt to take global action to reduce the release of mercury into the environment as well as in UN Environment's Programme of Work on harmful substances and hazardous waste. In 2003, the UN Environment mercury programme was established under the auspices of the United Nations, recognising the need for the coordination of global action on the reduction of mercury pollution in the environment. In 2009, some 140 countries supported the UN Environment Governing Council decisions to launch negotiations on an international mercury treaty.

56. UN Environment's Medium-Term Strategy (MTS) is a document that guides UN Environment's programme planning. It identifies UN Environment's thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes [known as Expected Accomplishments (EAs)] of the sub-programmes. The project started in 2012 when MTS 2010-2013 was valid, but most of the project work was done in 2014-2017 when the next MTS (2014-2017) was adopted. Therefore, for the purposes of this evaluation relevance of the project to both MTS 2010-2013 and MTS 2014-2017 was assessed.

57. At the time of the project design and start Biennial Programme of Work (PoW) for 2012–2013 was in effect which guided the implementation of MTS 2010-2013 in 2012-2013. However the main project activities occurred after 2013. Therefore relevance of the UN Environment Programme of Work (PoW) for the biennium 2014-2015 was evaluated. The PoW 2014-2015 built on the results framework in MTS 2014-2017 and the Strategic Framework 2014-2015. Based on the PoW (2014-2015) UN Environment delivered its work within 7 priority areas for the biennium 2014-2015. The relevant priority area for the evaluated project was chemicals and waste. As indicated in PoW (2014-2015) as a part of system-wide efforts by the United Nations and in close collaboration with the entities involved in the Strategic Approach to International Chemicals Management, the Minamata Convention on Mercury and the secretariats of the other chemicals with appreciation and waste-related multilateral environmental agreements, UN Environment worked to lessen the environmental and human health impacts of chemicals and waste.

[8] See Annex 9 for a detailed table

58. Table in Annex IX assesses the project's tangible/plausible contribution to the Expected Accomplishments specified in the MTS 2010-2013, MTS 2014-2017 and/or outputs in the PoW 2012-2013 and PoW 2014-2015.

Alignment to MTS and POW Sub-Evaluation Rating: Satisfactory (S)

5.1.2. Alignment to UN Environment and GEF Strategic Priorities

59. According to GEF-5 programme document the activities on mercury related issues fall under the Chemicals Focal Area Strategy. The GEF-5 Chemicals strategy's long term goal is **"to promote the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the global environment."**

60. The evaluated project was developed in line with the third Chemical's Strategy objective (CHEM-3): "Pilot sound chemicals management and mercury reduction". The evaluated project contributed to the Outcome 3.1 "*Country capacity built to effectively manage mercury in priority sectors*" and Outcome 3.2 "*Contribute to the overall objective of the SAICM of achieving the sound management of chemicals throughout their life-cycle in ways that lead to the minimization of significant adverse effects on human health and the environment."*

61. The Bali Strategic Plan for Technology Support and Capacity-building addresses the provision of technology support and capacity-building to developing countries as well as to countries with economies in transition. It was as adopted by the High-level Open-ended Intergovernmental Working Group on an Intergovernmental Strategic Plan for Technology Support and Capacity-building at its third session, in Bali, Indonesia, on 4 December 2004. Among other objectives, the Plan aims to provide a framework for capacity-building to ensure the effective participation of developing countries as well as countries with economies in transition in negotiations concerning multilateral environmental agreements.

62. In view of the evaluator the evaluated project is particularly relevant to the Bali Strategic Plan for Technology Support and Capacity-building objective (a): "*to strengthen the capacity of Governments of developing countries as well as of countries with economies in transition, at all levels."* Particularly the project work emphasised parts (v) and (vi) of the objective: "*(v) To use and sustain the capacity or technology obtained through training or other capacity-building efforts after such efforts have been completed; (vi) To develop national research, monitoring and assessment capacity to support national institutions in data collection, analysis and monitoring of environmental trends and in establishing infrastructure for scientific development and environmental management, in order to ensure sustainability of capacity-building efforts."* During the evaluated project implementation a set of advanced analytical equipment (LUMEX PA-915 mercury analyzer) was purchased and local specialists were trained to use it for environmental data collection, analysis and monitoring. The equipment and acquired skills will be used in Kyrgyz Republic after the project.

63. The Bali Strategic Plan for Technology Support and Capacity-building includes a section on South-South Cooperation which is one of the UN Environment priorities. But there is no evidence that the current project participated in any exchange of expertise, experiences, information and documentation between the institutions of the South.

64. In addition, an evaluation is briefly made on whether the project is aligned with the UN Environment's Gender Policy and Strategy, and whether the project has applied the UN Common Understanding on Human Rights based approaches (HRBA) (see Annex 9).

Alignment to UN Environment and GEF strategic priorities Sub-Evaluation Rating: Satisfactory (S)

5.1.3. Relevance to Regional, Sub-regional and National Issues and Needs

65. Mercury is a global pollutant which can be transported over long distances and across borders in the form of gaseous emissions or via waste streams and waterways. Airborne pollution is one of the main contamination pathways. Not only can exposure to mercury severely affect the health of people living and working around a mercury source, the danger of mercury pollution can also spread far and wide. It cannot be excluded that Khaidarkan mercury could reach the Arctic or tropical ecosystems. For example, mercury is widely used by artisanal gold miners around the world, including the sensitive river ecosystems, causing great damage to biodiversity and affecting health of thousands of people. There is an issue of artisanal small scale gold mining in Kyrgyz Republic. The miners obviously use mercury from Khaidarkan and contribute to mercury contamination of not only Kyrgyz Republic, but also neighbouring Uzbekistan and Tajikistan and possibly other countries in the region. This is why it is very important to introduce better environmental monitoring and control over mercury contamination one of the outputs of the project.

66. As primary mining introduces new mercury from geological formations into the global mercury supply and ultimately into the environment, it is recognized as the least desirable source of mercury for use in products and processes. After the closure of mercury mines in Slovenia and Spain, the Khaidarkan mine became the only facility in the world to mine mercury for export. At the October 2009 meeting of the Ad-Hoc Open-Ended Working Group on Mercury, held in Bangkok, Thailand, the representatives of the Kyrgyz Government announced country's willingness to consider the closure of the world's last remaining exporting mercury mine, at Khaidarkan, if a number of the social, environmental, and economic consequences of the phasing out of its national mercury industry could be addressed. Considering that the project was designed in 2010 and started in 2012 it was very timely and well aligned with the declared priorities of the Kyrgyz Republic government at that time. Later the national government changed substantially after the revolution in 2010 and even though the declared priorities of

the Kyrgyz government did not officially change, in fact there was actual hesitance in the government to act on this which led to complications and delay in the project implementation.

67. The evaluated project was meant to reduce primary mercury mining and supply to the global market and curbing mercury emissions and releases to reduce direct local and global environmental impact. This brings global environmental benefits. The decrease in the global mercury supply means that less mercury will be available to use in products and processes, such as destructive artisanal gold mining practices in sensitive ecosystems. In addition, preparation for remediation of contaminated sites and risk reduction measures was supposed to help with the subsequent reduction of mercury that is released from Khaidarkan into the global environment.

68. The project has been also very relevant considering country's future participation in the Minamata Convention on Mercury. It is a global treaty to protect human health and the environment from the adverse effects of mercury.[9] So far only 4 countries of the Former Soviet Union signed the Convention and none has ratified yet. Despite the fact that Kyrgyz Republic hasn't yet joined the Minamata convention, from the global perspective it is highly relevant that the only primary mercury exporter joins it. The current project brought up the issue of mercury production and pollution for new discussions in the government. It is expected that Kyrgyz Republic would sign the Convention in the near future. If this happens it will be one of the major contributions of the evaluated project.

Relevance to regional, sub-regional and national issues and needs Sub-Evaluation Rating: Satisfactory (S)

5.1.4. Complementarity with Existing Interventions

69. It was mentioned in the ProDoc that the evaluated project will have strong synergies with an on-going Kyrgyz hazard mitigation project with a component on remediation and risk reduction at the Maili-Suu former uranium mines, which is partly GEF-funded and being implemented by the World Bank. According to the ProDoc: "whilst uranium mine legacies present different challenges to mercury pollution, the lessons learnt from experience of Maili-Suu can be obtained and applied to the proposed project at Khaidarkan." It was also confirmed by the evaluation interviews that the staff of the *supporting executing partner* of the project - Centre on Ecological Safety within the State Agency for Environmental Protection and Forestry prior to this project worked in Maili-Suu and used that experience.

[9] It was agreed at the fifth session of the Intergovernmental Negotiating Committee on mercury in Geneva, Switzerland at 7 a.m. on the morning of Saturday, 19 January 2013 and adopted later that year on 10 October 2013 at a Diplomatic Conference (Conference of Plenipotentiaries), held in Kumamoto, Japan. By now the Minamata Convention has been signed by 128 countries and was ratified by 84 nations.

70. It was anticipated in the ProDoc that the evaluated project would use the experience of and knowledge from mercury remediation/cleanup efforts in the Nura river basin in neighbouring Kazakhstan. At one workshop organized in 2013 the experience of Kazakhstan was presented to the project team and invited Kyrgyz specialists.

71. The project was developed with idea to link its activities to the UNDP-administrated programme of creating alternative jobs for the Khaidarkan community. This programme was assisting in setting up small businesses and is encouraging economic diversification with the goal of poverty reduction. This was written in as Output 1.3: UNDP Report on progress in facilitating the diversification of Khaidarkan economy, including the promotion of alternatives to mining developed. But such cooperation did not happen in the project.

72. Due to delayed actual start of the project the there was no cooperation with a few other international projects in Kyrgyz Republic in 2012-2014: "Institutional Strengthening" and "Hydrochlorofluorocarbons Phase-out Management Plan" of UN Environment, "Globally Harmonized System of Classification and Labelling of Chemicals" of UNITAR, and "Poverty-Environment Initiative" of UN Environment and UNDP.

Complementarity with existing interventions Sub-Evaluation Rating: Moderately Satisfactory (MS)

The overall Strategic Relevance of the project is rated Satisfactory (S). The evaluated project has contributed to the fulfilment of UN Environment's mandate and priorities. It has also supported towards meaningfully contributing to the fulfilment of GEF strategy and priorities. The project could have been better complementary with UNDP activities

5.2. Quality of Project Design

73. The assessment of the Project Design Quality followed the UN Environment procedure and template that is presented in Annex I. The main items of the project design and ratings are presented below based on the main criteria.

74. **Nature of the External Context:** The ProDoc addresses risks of operating in the area. But the issue of political instability and change of the government was clearly underestimated.

75. **Project preparation:** The Prodoc contains accurate problem analysis, adequate situation analysis, and proper stakeholder analysis. It is not clear how stakeholders consulted the development of the project. The ProDoc text indicates that information was obtained from Kyrgyz Republic at the government level, but no details of such consultations are available at this stage. The issues of sustainability and gender are mentioned briefly in the ProDoc. No attention is paid to issues of indigenous people probably because the local people are

indigenous to the area. Issues of local minorities – non-Kyrgyz people – are also not addressed in any way. The area is home to Tajik, Uzbek, Russian, and other minority groups.

76. **Strategic Relevance:** The Prodoc indicates the alignment of project objectives and outputs with UN Environment, GEF global priorities on reducing dangers from mercury pollution and national level processes and policies. Linkages to other GEF and non-GEF interventions are addressed in detail.

77. Intended Results and Causality: The ProDoc does not contain the Theory of Change, but contains risk analysis, project targets and lists of assumptions. However there is no clear explanation how the project activities would make it possible to achieve the major intended impact on phasing out mercury production and enabling transition of the Khaidarkan economy. The steps described in the ProDoc do not ensure such long term effect. There is also a problem in the logic of achieving Outcome 3. From the ProDoc text the intended work does not directly lead to the achievement of this Outcome.

78. **Logical Framework and Monitoring:** Logical framework contains the objective, outcomes, "SMART" indicators of outputs and outcomes with baselines, mid-term and end-of-the-project targets. Monitoring and evaluation procedures are described in sufficient detail, clear separation of responsibilities between project participants. Budget for monitoring and evaluation allocated.

79. **Governance and Supervision Arrangements:** This part is written well in the Prodoc with good description of the roles and responsibilities of governance and implementation bodies within the project. However the process of the project implementation and delays that occurred indicate that this system does not run smoothly. The main reason could be that by project design the project implementation relies heavily on the State Agency of Environmental Protection. It would be fine if such agency had enough capacity, but there was no assessment of their capacity in the ProDoc.

80. **Partnerships:** Distribution of roles between partners in the project is clear and concise in the Prodoc.

81. **Learning, Communication and Outreach:** Component 4 and its outcome and outputs are about communication and outreach. This work is described in detail.

82. **Financial Planning / Budgeting:** The budget is clear and concise, per partner overall contribution stated. There isn't a particular resource mobilization strategy presented nor a cash flow forecast in the document.

83. **Efficiency:** The ProDoc contains the division of donor and partner contributions and builds on existing capacities. The ProDoc has Incremental Costs Analysis (3.7), overview of co-financing (7.2) and cost effectiveness (7.3).

84. **Risk identification and Social Safeguards:** Risks are addressed in section 3.5. The risks of political instability and government change were identified but underrated. In 2005 and 2010 there were two revolutions in Kyrgyz Republic. New president was elected in 2011 and the government was not very stable in recent years.

85. **Sustainability / Replication and Catalytic Effects:** The ProDoc contains a separate part on sustainability, addresses economic and socio-political sustainability issues. No provision exit strategy, or promoting the catalytic action.

Quality of Project Design is rated as Satisfactory (S). The terminal evaluation finds that the project rationale was well-founded. The project document contains all necessary sections that contain information on structure, risks, assumptions, sustainability and stakeholders. The logical framework contains indicators, baselines, targets for each outcome.

5.3. Nature of the External Context

86. The project implementation was delayed because of the issues of government instability and changes of people in key government structures. The country went through a revolution in 2010 (second revolution within a decade) and it took a few years for the government structures to get through changes and reorganisations. This had a negative impact on the project which was mitigated by adjusting the project duration and schedule.

87. Another incident of external context that significantly influenced the project implementation was flooding of the mine in 2015. The mine equipment failed which led to flooding of the mine and stopped mercury production. The factory continued to operate and did not close after the incident. In 2016 the factory produced mercury using ore that was possible to reach from the surface. But the volume of production was very low and the number of jobs at the mine and factory greatly decreased. It appears that because of this the administration of the mine became less active in resisting the project after they had the decrease and faced stopping mercury production.

Nature of the External Context Evaluation Rating: Moderately Unfavourable (MU)

5.4. Effectiveness

88. The evaluation assessed effectiveness across three dimensions: achievement of outputs, achievement of direct outcomes and likelihood of impact. The achievement of outputs was assessed based on measureable indicators listed in ProDoc and also following the project

logic on intended content of the outputs. In some cases even if the specified target values of indicators were not met the output could still be considered achieved or partially achieved if the conducted work contributed to achieving appropriate direct outcome and the project objective. In other cases the indicator target value of particular outputs could be formally met, but did not lead to intended results. This would mean that the output was partially achieved. The achievement of direct outcomes and the likelihood of impact were assessed based on reconstructed Theory of Change (Chapter 4).

5.4.1. Achievement of outputs

89. According to ProDoc each output was characterized by specific measurable indicators listed in the Results Framework. The end of the project targets and values of actually achieved results are listed in Appendix VI.

Output 1.1. Report on socio-economic analysis, environmental impact assessment and roadmap for the implementation of mining alternatives to mercury mining elaborated and endorsed.

90. There is a good quality detailed report on socio-economic analysis and mining alternatives produced by Ken-Too research centre based in Bishkek available. The report is named "Potential alternatives of changing the profile of the Khaidarkan mercury plant". The report has 141 pages, includes data on the social and economic situation in Khaidarkan and provides analysis of 6 mining alternatives with quick calculations of potential economic return. The alternatives include mining and production of: (1) aluminum, (2) gypsum, (3) chalcedony, (4) clay bricks, (5) semi-precious stones, and (6) gold. All these alternatives require substantial investments and additional feasibility studies. The assessment conducted in the project concluded that gold processing is the most feasible way for the Khaidarkan plant to switch to from mercury production. The main idea is to bring ore from several gold deposits of the region and use the existing infrastructure for ore processing and production of gold.

91. The process of conducting the analyses included gathering data on the socio-economic situation from available sources and working with experts of the mining industry. The main strength of the report as it provides analysis of economic feasibility of the alternatives and make a quick assessment of whether or not it is economically viable. The report is not a roadmap for the development of the area, because it only lists options and analyses development opportunities. A commercial company or the government should make use of this information to make a decision on whether or not to invest in Khaidarkan mining.

92. The target for this output was to analyze 10 mining alternatives. Even though the targeted number of alternatives was not met in the report the result was satisfactory, particularly considering that it focused on the most feasible alternatives. The output was achieved.

Picture 1. Steering Committee meeting in August 2017 where results of the project were reported to project stakeholders

Output 1.2. Report on identified priority alternatives for non-mining economic activities.

93. The same subcontractor Ken Too research centre produced a 35-page report on non-mining economic activities that could substitute mercury production in the Khaidarkan region. The list includes: (1) production of construction materials, (2) local food processing and (3), packaging, (4) making clothes, (5) preparing dowry items, (6) making souvenirs, (7) tourism, (8) agriculture. Agriculture and food processing were identified as economic activities with the biggest potential. It was stressed in the report that the Kadamzhai District (where Khaidarkan is located) requires investments and support of small and medium-size businesses for developing the listed economic activities.

94. The process of preparing the report included contacting local stakeholders and analyzing actual economic activities of people in Khaidarkan. According to the reconstructed Theory of Change this output was supposed to contribute to Direct outcome “Alternative diversified employment opportunities identified and available to the communities” According to the Exucuting Agency the report was provided to Batken regional administration, Kadamzhai District administration, municipality of Khaidarkan, and the mercury mine. In reality development of the proposed alternatives requires additional driving factors, such as investments, subsidies, helping with marketing, training, education, giving tax incentives. Local people mostly engage in agriculture or travel to work in other places of the country or abroad.

95. The target for this output was to analyze 10 non-mining alternatives. The result may be rated satisfactory as substantial number of viable economic activities were identified and described in detail. This output was achieved.

Output 1.3. UNDP Report on progress in facilitating the diversification of Khaidarkan economy, including the promotion of alternatives to mining developed.

96. The work on this output is ongoing and therefore no report was available at the time of evaluation. The Executing Agency announced a small grants program and collected 13 proposals from small businesses. According to the Executing Agency this work should be concluded by the end of March 2017. At the time of the evaluation report preparation milk processing was considered as the most likely candidate for support. Another candidate was a mercury recycling centre. This output is assessed as "to be achieved" with in the official (extended) project timeframe[10].

Output 1.4. National development plans and national strategies for development include the outcomes of the analysis and programmes on alternatives to mercury mining.

97. As a result of the project work the Khaidarkan mine switching to non-mercury production was included in the "Government Plan on Implementation of the Program on Transition of Kyrgyz Republic to Sustainable Development for 2013 – 2017 years" in Chapter 5, Section 5.1, sub-task 10. This document was approved by the national parliament and signed by the president. The Chapter 5 "Environmental protection for sustainable development" states: Item 142 "Build a basis for the proper management of waste production and consumptions" Subtask 10 "Assessment of primary mercury mining, prepare and conduct remediation works at the pilot sites in Khaidarkan" Duration: 2013-2016

98. The ProDoc target for this output was 4 national development plans and strategies that include mercury reduction. But it is unclear what documents exactly were discussed at the time of project preparation. The "Government Plan …" is not a specific national strategy on mercury reduction, but it is an important achievement of the project that Khaidarkan mercury is mentioned in such high level document. This output was partially achieved.

Component 1 outputs rating: Moderately Satisfactory (MS)

Output 2.1. Training reports from 10 experts and 4 local laboratories and results from intercalibration studies available.[11]

[10] The project was extended after initiation of the terminal evaluation process

[11] Evaluator believes the core of this output is conducting the trainings.

99. According to the Executing Agency information the trainings and intercalibration studies were conducted. The following 4 national laboratories participated: Kadamzhai SSES, Profmedicina (Bishkek), Environmental Monitoring in Bishkek, and Chui Environmental Laboratory. At the workshop local specialists (2 from each laboratory and 4 from Kadamzhai SSES) were trained in field sampling. Kadamzhai SSES and Profmedicina labs participated in intercalibration studies. This information from the executing agency indicates that project met the project targets. The evaluator met with specialists of Kadamzhai SSES and Profmedicina and they indicated that they were satisfied with the trainings. The executing agency also provided reports about the training of local specialists on how to use the mercury analyzer. The output is achieved.

Output 2.2. Report containing qualitative and quantitative assessment of environmental and health risks and impacts in the primary mercury mining area available.

100. The project prepared a good quality report "Monitoring and Assessment of Health Effects of Mercury". It was prepared by Dr Ainash Sharshenova from the subcontractor research organization "Prophylactic Medicine". The medical study was conducted in 2015-2017. The preparatory activities took place in 2015, actual study in 2016, follow up and report preparation in 2017. The work had other partners: Kadamzhai Centre of Disease Prophylactics of State Sanitary and Epidemiologic Service (SSES) Sanitary Hygiene Laboratory (SSES), Aidarken Centre of General Medical Practice, and Osh Interregional United Clinical Hospital. The report contains full description of the conducted work, methods, health data analysis, and results including data on exposure of people to mercury in Khaidarkan.

101. During the study 201 people were examined (target 5000) and samples of hair, blood and urine were taken and analyzed for mercury and other heavy metals content. The medical study was participated by: 78 people who worked at the mercury mine and processing facilities; 49 children age 5-7 from kindergarten; and 74 adults from Khaidarkan and nearby villages who volunteered to take the test. It was found that 48% of people who work at the mercury factory had elevated levels of mercury, which indicates increased exposure to mercury. Among adults about 4% of tested local people had elevated levels of mercury, however the investigated cases indicated exposure to mercury from old dental filling. No evidence of high exposure of children to mercury was found. At the same time analysis of available health data showed that the general morbidity in Khaidarkan area is 1.7 times higher than the national average, which potentially may be attributed to local environmental factors.

102. The report, interviews with key stakeholders, and the presentation given by Dr Sharshenova at the Steering Committee lead to the conclusion that the work was done at a very high professional level and collected valuable and valid data collected in accordance with national and international standards. In order to provide high quality the analyses of samples were done a certified laboratory in Moscow, Russia ("Micronutrients" Centre) which had the required analytical capabilities in comparison to those available in Kyrgyz Republic. In order to

get a full picture of the situation the researchers analysed not only on mercury as the primary investigated pollutant, but also on other 32 elements.

103. The main critique on this project output concerns the number of examined residents that is much smaller than the original target – 201 against 5000. This was explained by the inability to do as many tests within the allotted budget and also low participation from the local residents. As a result although it was confirmed that significant portion of people working at the mercury factory are exposed to mercury, but there was almost no evidence that the local people have increased exposure. In opinion of the evaluator it is very likely that exposed people did not participate in the study. It is very important that the medical team did not have data on contamination of residencies of people they tested and therefore could not identify sources of residential exposure. Such issue maybe resolved in future initiatives by a more detailed medical monitoring that would involve much more people, e.g. the target number and testing primarily people who live in most contaminated parts of Khaidarkan.

Picture 2. Children in the kindergarten of Khaidarkan, the health study did not indicated any of them being substantially exposed to mercury

104. Another key activity under Output 2.2 was the assessment of environmental risks. This work was conducted by the Kadamzhai SSES Sanitary and Hygiene Laboratory. They produced a detailed 112 page report named “Final Report on Complex Studies of the Impacts of Primary Mercury Mining in Aidarken”. This report contains data on mercury contamination of water, soil, food, and air.

105. The conducted study followed national standards and regulations as it was performed by a state laboratory. The overall quality of work was very good and some valuable data was collected. However this cannot be considered a comprehensive study. The findings confirmed that there were high concentrations of mercury in different environmental media, but did not determine the extent of contamination of the area. In addition the study did not manage to collect enough data for mapping areas of different levels of contamination. Such information is necessary for planning remediation activities and reconstructing exposure pathways of people in health risk assessment. For instance only 36 soil samples were collected in the area, which is not enough for the above stated purposes. In the survey some data on air mercury pollution was collected, but it was not done in the season of the highest temperatures (summer) and therefore the highest concentrations of mercury vapours were not observed, which is admitted in the report.

106. The main reasons for the drawbacks in the environmental study lie in planning of the operation. The Kadamzhai Lab team successfully completed the task of finding and assessing mercury pollution in different environmental media, while following the project logic they should have made a detailed quantitative assessment of mercury pollution of the area suitable for the needs of remediation planning and health risk assessment. The output is achieved.

Output 2.3. Low cost and easy-to-use monitoring system installed and capacity to collect and disseminate environment and health risk information available.

107. For the purposes of creating a low cost and easy-to use monitoring system the project team purchased mercury analyzer PA-915M by Lumex (from Russia). The equipment was installed in a room specially constructed for it in the Kadamzhai SSES Lab. As indicated in a report from Kadamzhai SSES Lab the specialists of the laboratory received special training on 23-25th of April 2015 from a Lumex specialist from St-Petersburg, Russia how to operate the analyzer and used it for conducting the environmental assessment (Output 2.2). This monitoring system is indeed low cost and easy to use. For good operation it only needs additional funding for collecting environmental and biological media samples. The Project Manager of SAEPF indicated that the equipment will be used for environmental monitoring after the end of the project. But presently there are no documents confirming such plans and appropriate budget. It appears that the project team did not understand the term “monitoring” because only a single study was sponsored in 2015. Proper environmental monitoring implies regular collection of data, but no efforts were made to collect more data in 2016 and 2017. The output is achieved.

Component 2 outputs rating: Moderately Satisfactory (MS)

Picture 3. PA-915M by Lumex in SSES Kadamzhai Laboratory

Output 3.1 Report on remediation targets and priorities available at UN Environment's website

Output 3.3 Strategy and guidelines for remediation of highly mercury contaminated areas prepared and highlights reduction of mercury emissions into the local and global environment and also reflected in decontamination report.

108. The subcontractors Ken-Too Research Centre and MARIT Ltd. prepared a comprehensive 119 page report "Project of Remediating Khaidarkan Mining Area." The project team identified the piles of ignition residues as the primary remediation target area. The pile contains about 14 million tonnes of wastes occupying area of 38 ha. The mean mercury concentration is about 200 mg/kg which means the pile holds about 2800 tonnes of mercury. The report describes the remediation strategy for this targeted area. Feasibility and financial costs of such remediation project were analyzed and the project laid out in detail. In short it was suggested to cover the area with clean filling soil and turn it into a nice artificial hill with a view point on top. This would cost about 1 million USD.

109. In the report the authors rightfully identify the problem of mercury vapours and mercury leaking from the pile of ignition residues among the biggest environmental problems. However the suggested method of remediation does not address these issues. The layer of clean soil would not prevent mercury vapours from going up, especially in hot summer conditions. The permeable layer of soil would not prevent water from going through the pile and washing off

mercury to continue contaminate the area downhill from the pile. Therefore the suggested plan will only address how the area looks and will not deal with actual environmental problems. This raises concern about the value and necessity of such work. The evaluators view is that it would have been much more productive if the specialists of Ken-Too and MARIT worked on some more environmentally meaningful solutions. For instance the experience of Almaden in Spain and Temirtau, Kazakhstan could be used to design storage of highly contaminated materials that prevent spreading of mercury. This would include encapsulating big volumes of wastes, e.g. ignition residues with impermeable materials that prevent leaking and vaporization of mercury. The project supported a visit of a specialist of Ken-Too to Almaden in 2016. However Ken-Too in the report did not suggest to use in Khaidarkan the in-situ encapsulation methods employed in Almaden.

110. One of the indicators for this output is the fenced area. The project designers intended to fence some of the most contaminated areas to limit access of people and domestic animals. This is a relatively cheap and effective action. The most contaminated area is near the pile of ignition residues. Presently it is used by local people for cattle grazing. If this area were fenced, it would have decreased exposure of people and animals and reduce health risks. It would have been a step to the main project goal. But it was not done. The outputs 3.1 and 3.3 are partially achieved.

Picture 4. Pile of ignition residues at the entrance of Khaidarkan

Output 3.2 Workshops and training reports on training on mercury remediation available.[12]

111. On 1-2nd of October 2013 a training workshop was held in Bishkek on mercury environmental assessment and remediation. The workshop was led by invited experts from ZOI and Almaty Technical University. According to the Executing Agency 10 people were trained at the workshop including specialists from SAEPF, Ken-Too, Profmedicina, and Chui Laboratory.

112. On 4-7th of May 2016 a delegation from Kyrgyz Republic including 11 people visited Almaden (Spain) and Idrija (Slovenia) where they received some knowledge about mercury remediation. The delegation included 2 representatives of SAEPF, 3 members of Kyrgyz Republic parliament, 3 mining experts, a government representative in Batken region and the vice-mayor of Khaidarkan. The executing agency provided a written 9 page report describing the details of the mission and lessons learned. The mission was coordinated by UN Environment. One of the experts participating in the mission was working on the report on remediation in Khaidarkan. According to the verbal evidence from the 4 interviewed mission participants the trip provided good information about mercury contaminated areas and strategies of remediation.

113. In the fall 2017 another training was conducted in Idrija, Slovenia at Jožef Stefan' Institute. The training was participated at different times by 13 people and topics included environmental assessment and remedation of mercury. The list of participants includes representatives of Aidarken Medical Centre, Osh hospital, Profmedicina, Kadamzhai SSES Laboratory, SAEPF, Chui Environmental Laboratory, and Khaidarkan mine. This activity contributed to both Output 2.1 and Output 3.2.

114. Based on the available information in evaluator's opinion the output is achieved.

Component 3 outputs rating: Moderately Satisfactory (MS)

Output 4.1 Media material produced and disseminated.

115. According to the project progress report of 2016 the project team produced and disseminated 32 communication products through different websites, local newspapers, and handed out information sheets. The list includes 4 instances of TV broadcasting on local channels. The target value for this output is 25 materials, so the number appears sufficient. The titles of materials indicate that most of them are about the project procedures and aspects. The intended impact of this output was to raise awareness of the local residents about mercury health issues and to help the local community form public opinion in favour of switching from mercury production to alternative economic activities. There are 9 communication products that could be considered related to that. Evaluator was shown 15 communication products from the list. The output is achieved.

[12] Evaluator believes the core of this output is conducting the trainings

Output 4.2 Report on social impacts of alternatives to mercury mining available.

116. RichResearch Ltd. was the subcontractor that conducted social surveys in the area. The study was participated by 1000 local residents (project target was 600). About half of respondents were from Khaidarkan and others were from nearby villages. The methods of the study included random sampling to select 1000 people to answer a set of questions and 20 more detailed interviews with people gathered using "snow-ball" technique. The researchers recorded age, gender, education level and other parameters of the respondents. The results show that most local people do not believe there are mercury related environmental problems in the area and there is not particular need to switch from mercury production as the main future economic activity. For instance 72% of respondents believed that the environmental situation in Khaidarkan is good; 63% did not believe the mercury factory impacts the environment; 59% said there is no need for the factory to switch from mercury production.

117. The results of the survey are confirmed by direct observations in town and at the factory. People let their domestic animals (cows, goats, sheep, birds) graze in the most contaminated areas. People do that because they are not aware of contamination and its health risks. At the factory there is an open volume of mercury that is not believed to produce hazardous vapours. This is actually a violation of safety rules at the factory possible because of people's ignorance.

118. RichResearch Ltd produced a fairly detailed good quality report providing description of methods, main results, and analysis of the collected information. The evaluator considers that the report was produced in a very professional manner and gathered good baseline information about the social situation and public opinion in Khaidarkan. Ideally the results of this work would have been used for designing the awareness campaign (output 4.1) and it was also recommended in the report. Conducting another survey after such campaign would have shown whether or not it was effective. But neither awareness campaign nor a second survey were actually conducted in the project.

119. As indicated above the output 4.1 was meant to produce communications materials, but only 9 out of 32 communication products focused on actual mercury awareness issues. This happened because the results of the sociological survey were not used in preparing the communication materials and the project team did not intend to measure the changes in public awareness after they make efforts to educate people. The output is partially achieved.

Picture 5. Open volume of mercury at the Khaidarkan factory.

Output 4.3 Reports of awareness raising workshops and events available.

120. On 14th of November 2013 the project team held a meeting with workers of the mercury mine. At the meeting the workers were informed about the project and its objectives. The meeting was also attended by the administration of Khaidarkan, representatives of the government, mercury mine and regional media. The report on the meeting in Russian was provided by the executing agency.

121. Another meeting with workers of the mercury mine and administration was held on 2nd of July 2015 to inform about the upcoming project activities in the area: environmental assessment and medical monitoring. The report on the meeting in Russian was provided by the executing agency.

122. The number of conducted awareness raising workshops and events was limited. Also the project team talked mainly to the workers of the factory and mine. According to the executing agency and other project participants the work was complicated by the mine administration. The administration of the mine and factory complex denies they were obstructing the work, although they openly disapprove the way the project was implemented and complain about lack of information and lack of coordination of the project activities with them. The output was partially achieved.

Output 4.4 Communication materials in local language available.

123. The project team produced 10 information materials including: brochures, posters and information sheets. The materials were prepared in Russian and English. The contents included information about health risks of mercury and information about the project conducted by SAEPF and UN Environment. In addition the project team prepared 10 more information sheets and reports on mercury environmental issues and Minamata Convention for decision-makers and distributed among government agencies, members of the parliament and municipalities.

124. Preparation of some of those materials used 5 high quality popular language brochures in Russian: "Primary Mercury Production in Kyrgyz Republic, Environmental Risks, Alternatives;" "Environmental and Health Assessment;" "Analysis of Remediation Options;" and "Khaidarkan Mercury Literature Review" prepared in 2013 by UN Environment and ZOI Network . The output was achieved.

Component 4 outputs rating: Moderately Satisfactory (MS)

Overall rating of the output delivery: Moderately Satisfactory (MS). The project has delivered 8 outputs fully and 6 outputs partially. The last remaining output is planned to be finished by the end of the new project extension. Based on an evaluation of available reports, coupled with key stakeholder consultation in Kyrgyz Republic, the delivery of outputs has contributed to studying the issue of mercury contamination of the area and mercury health risks.

5.4.2. Achievement of Direct Outcomes

125. The Evaluation has assessed to what extent the delivery of the outputs has produced short to medium-term institutional changes and systemic effects (outcomes). The direct outcomes listed below are drawn from the reconstructed Theory of Change developed based on project documentation (see section 4).

Direct Outcome 1: Alternative diversified employment opportunities identified and available to the communities

126. The project team did identify and analyze the employment opportunities alternative to mercury mining. The analysis was substantially based on the work that was previously done in the area by ZOI Network and Mining Association. It was rightfully pointed out that investments and support are necessary in order to realize those alternative opportunities. It means that such new employment opportunities are not yet available to people. From the observations in the area and information collected in interviews it turned out that in the absence of investments after the mine was flooded and mercury production actually stopped many people of working age, especially young men started leaving the area and look for jobs elsewhere - in other mining areas in Kyrgyz Republic, Tajikistan, or low-qualified work in Russia. As was discussed in the output's section (Output 1.3, paragraph 94) the project may have contributed

or will contribute to creating a few new jobs in the area. But at the time evaluator does not have knowledge if this has happened. The outcome is partially achieved.[13]

Direct Outcome 2: Enhanced human health and environment monitoring

127. This outcome was partially achieved. The project team conducted on environmental and one health assessment in the area. These studies may be considered the beginning of "Enhanced human health and environment monitoring." It is important to note that *monitoring* means to observe and check the progress or quality of something over a period of time; keep under systematic review. So the *monitoring* system is not actually in place yet and the activity was limited to two single studies as opposed to monitoring and checking the status again. The main achievement in this project component is training of specialists and purchasing proper analyzing equipment. This is a great step forward. This allows doing the human health and environment monitoring in the future, but it would require additional support. At present there is no structure to pay for conducting regular monitoring activities.

Direct Outcome 3: National partners utilize the information on remediation

128. This outcome was partially achieved. The available information on contaminated areas and priorities for remediation was delivered to project partners at the Steering Committee meeting in August 2017. Later on, this information should be available from the UN Environment website. The project team put a lot of efforts into Component 3, but in evaluator's opinion much more should be done, because the present remediation plan would not solve the issue of spreading mercury contamination and would not decrease the mercury health risks to people.

Direct Outcome 4: Stakeholder/community awareness and participation raised

129. This outcome was partially achieved. Some awareness work was conducted and communication materials prepared. Nonetheless the social assessment conducted by the project team revealed that most local residents would prefer to continue engage in mercury production as compared to other economic activities. The administration of the mercury mine also declared intentions to continue mining. It was announced in January 2018 by the governor of Batken that Khaidarkan factory received investments from Severstal company and started working to pump out the water and restore mine production. The main products would include fluorites, antimony and mercury.

[13] Evaluation office does not agree with the view that this direct outcome was 'partially achieve'. Despite the outcome statement has two parts (opportunities identified and available), following the generally accepted definition of outcome the focus should in the use of the outputs.

Achievement of Direct Outcomes Evaluation Rating: Moderately Satisfactory (MS). The direct outcomes were achieved partially. The project work notably contributed to the assessment and publicizing the problem of mercury contamination of the area and its impacts on human health.

5.4.3. Likelihood of impacts

130. As stated in the ToR (see Annex I), a Decision Tree to guide the rating likelihood of impact along a causal pathway was used to assess the likelihood of impact. This evaluation hereby assesses to what extent the project has (to date) contributed, and is likely in the future to further contribute, to intermediate states, and the likelihood that those changes in turn to lead to positive changes to benefit the environment and human well-being.

Long Term Outcome 1: Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities

131. The associated Direct Outcome (Alternative diversified employment opportunities identified and available to the local community) was partially achieved. Without continued funding no new jobs will appear in the area. Therefore the likelihood of impact is Highly Unlikely (HU). In reality the community reliance on mercury mining reduced drastically as the production of mercury stopped for economic and external context reasons. Presently people rely mostly on working in other areas of the country and abroad and those who live in villages continue to work in agriculture. This year (2018) it is expected that the mine would resume operation using the investments from Russia. As expressed by the mine administration there is some indication that after re-starting the mine activities the main focus will be in fluorite production. This direction is also supported by the Program on Transition of Kyrgyz Republic to Sustainable Development for 2013 – 2017 years indicating transition to non-mercury production in Khaidarkan. This is to be seen in the near future.

Intermediate State 2: Information utilized to make an assessment to support remediation and cleaning work

Long Term Outcome 2: Impacts of mercury mining evaluated through enhanced human health and environment monitoring

132. The associated Direct Outcome (Enhanced human health and environment monitoring) was partially achieved. This Direct Outcome was designed to feed into a process that would last beyond the life of the project. The assumption was that local specialists were eager to train and work. This assumption holds true. The main identified driver was that the government was willing to support monitoring efforts. In fact the government does provide core funding to the Kadamzhai SSES Laboratory equipped to do the monitoring. However the government

presently has not provided additional funding to sponsor regular monitoring of environment and health – for the monitoring team to go to Khaidarkan and take samples. This is yet something to discuss with Kyrgyz Republic authorities. Therefore the likelihood of impact is Unlikely (U).

Intermediate State 3: Cleanup project implemented

Long Term Outcome 3: Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures

133. The associated Direct Outcome (National partners utilize the information on remediation) was partially achieved. However it is not designed to feed into a continuing process after project funding. Therefore the likelihood of impact is Highly Unlikely (HU).

Intermediate State 4.1: Actions of policy makers
Intermediate State 4.2: Influence of community on policy/decision makers

Long Term Outcome 4: Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine alternatives

134. The associated Direct Outcome (Stakeholder/community awareness and participation raised) was achieved partially. But people in the area still believe in continued work of the mine. Therefore the likelihood of impact towards these longer term results is Highly Unlikely (HU).

Likelihood of impact Rating: Highly Unlikely (HU)

5.5. Financial Management

135. According to financial figures of the project documents, despite initial challenges the project followed the approved budget. The summarized spending (see Annex V) shows that at the time of preparing this evaluation report 17.3% of the GEF funds have not yet been spent for implementation. Most of unspent funds were supposed to fund remaining activities of Component 1 (small grants program) and Component 3 (remediation). From spreadsheets and financial reports available to the evaluator, the project appears to have made use of funds consistently within the project budget. Minor budget overruns or mistakes in financial reporting were effectively communicated from the PSC to UN Environment and no evidence of any major dissent to this was recorded during the TE consultations held.

5.5.1. Completeness of project financial information

136. Regarding the realised co-financing expenditures, the provided table reflected in-kind and financial contributions only from SAEPF in the amount of 100,000 USD. The co-financing from UN Environment was declared as provided fully according to the Task Manager. The amount of planned co-financing from UN Environment in Prodoc was 439,000 USD. However this co-financing as well as contributions from other donors if they existed were not properly accounted for in the project's co-financing tables. Other than that the co-financing information appears to be complete as reflected in financial reports of the Executing Agency and available to the evaluation team. The project financial administration was audited by independent organizations in 2013 and 2014 and reports indicating no deviations was made available to the evaluation.

Completeness of project financial information rating: Moderately Satisfactory (MS)

5.5.2. Communication between finance and project management staff

137. Interviews with FMO and project management staff along with provided communication documents (e.g. UN Environment feedback to progress reports) indicate that the communication was regular and to mutual satisfaction. The financial requests were performed on time and arising questions resolved promptly.

Communication between finance and project management staff Sub-Evaluation Rating: Satisfactory (S)

Table 6. Evaluation of Financial Management Performance

GEF PROJECTS		
Attention paid to compliance with procurement rules and regulations		S
Contact/communication between the TM & FMO		S
TM & FMO knowledge of the project financials		MS
FMO responsiveness to financial requests		S
TM & FMO responsiveness to addressing and resolving financial issues		S
Were the following documents provided to the evaluator:		
A.	An up to date co-financing table	N
B.	A summary report on the projects financial management and expenditures during the life of the project - to date	Y

GEF PROJECTS				
	C.	A summary of financial revisions made to the project and their purpose	Y	
	D.	Copies of any completed audits	Y	
Availability of project financial reports and audits				S
Timeliness of project financial reports and audits				S
Quality of project financial reports and audits				S
FMO knowledge of partner financial requirements and procedures				S
Financial Management Overall rating				**S**

Overall rating of financial management: Satisfactory (S)

5.6. Efficiency

138. The original project's duration was 36 months (2012–2016). The project implementation was supposed to start in 2012, but officially started in May 2013 following the signing of the agreement between UN Environment and SAEPF. The project was delayed by almost a year since GEF approval in July 2012 due to Government restructuring, resistance from the Management of Khaidarkan Mercury Joint Stock Company, and a review at the Parliament's Committee. After a review and approval, the project has progressed with revised timeline: the National Project Team was established and has been running since August 2013; the National Coordinating Committee was established and met twice in 2013 to advise on the project and recommend on country's position to the Minamata Convention; and a follow-up meeting to the inception workshop was held in October 2013 to train the National Project Team.

139. In February 2016 the duration of the project was extended through December 2016. But the project implementation of some activities, particularly parts of Component 1 and Component 3 were not finished by October 2017. All this indicates that timeliness and following the schedule were not the strong side of the project. This appears to be the result of the project not having full support of the government which manifested in open opposition of the mine administration to the project implementation. This has delayed and generally slowed the project.

140. A good example of project cost-effectiveness is the implementation of Output 2.3. The project team selected to purchase an easy to maintain and operate analyzer with great capabilities and a portable section that allows conducting quick and precise analyses of environmental media. This made it possible to conduct the environmental assessment of the area. This equipment was set up in Kadamzhai SSES Laboratory that utilized already existing space and personnel. This was the most logical and efficient way to establish low cost and easy-to use monitoring system.

Picture 6. Herds of livestock pass by and graze right next to the pile of ignition residues – the most contaminated area in Khaidarkan

Picture 7. The fenced area is used for making reserves of forage for feeding cattle in wintertime, it is contaminated by mercury and such use should not be allowed.

141. In conducting the health survey it was possible to test only 200 people instead of planned 5000. This was partially due to financial limitations as not all anticipated co-financing was realized. The evaluator's view is that in such situation it would have made sense to limit the survey to test people that live in most contaminated parts of Khaidarkan. Such effort would have required additional work to identify and work with those. And if successful it would have been a better way to provide more accurate information whether or not residential (not occupational) exposure to mercury is significant in the area. This way the result would have been achieved without conducting extensive tests of thousands of people. But this was not done and it remains unclear if there are people in Khaidarkan that are highly exposed to mercury in residential areas.

142. In Component 3 the efficiency of the project would have increased if some of the most contaminated areas were fenced to limit access of people and domestic animals.

143. Another problem is late accomplishment of project outputs and the related late submission of documents in English. The health study, environmental assessment, remediation plan, sociological study, economic analysis and other reports are big lengthy documents that require time for translation. But without the translation the Implementing Agency was not able to review the substance of the main delivered outputs before the TE. This is an issue of the project implementation and efficiency.

Efficiency Evaluation Rating: Moderately Satisfactory (MS). The project showed examples of both fair and low efficiency depending on the project component and activity

5.7. Monitoring and Reporting

5.7.1. Monitoring design and budgeting

144. Prodoc contains Monitoring and Evaluation Plan that included updates to the Steering Committee, project oversight of the Task Manager, periodic progress reports, mid-term management review and terminal evaluation. The Project Results Framework includes SMART indicators for each expected outcome as well as mid-term and end-of-project targets. These indicators were intended to be the main tools for assessing project implementation progress and whether project results are being achieved.

145. According to the project budget US$60,000 were set for conducting project evaluations that include Mid-Term Review and Terminal Evaluation. As described under previous sections, project indicators (see Annex VI) and the results framework have been well-thought and proved conducive towards effective monitoring, managing, and evaluating of the project, but no indicator level monitoring plan with data collection means and budget was established as such.

Monitoring design and budgeting Sub-Evaluation Rating: Satisfactory (S)

5.7.2. Monitoring implementation

146. The project team generally followed the Monitoring and Evaluation Plan described in Prodoc. The Task Manager supervised the project implementation and all regular reports and updates were provided on time to UN Environment and Steering Committee.

147. The main problem identified in this section was the lack of Mid-Term Review. Such exercise was planned for 2015, but it was skipped because of the delays in project implementation and lack of achievements at that time. Evaluator's view is that a Mid-Term Review would have been an important step that would have helped the project implementation. The national project team badly needed support and guidance from experienced experts. In this case Mid-Term Review could provide a substantial input and point out existing weak spots. At the time of this terminal evaluation the Executing Agency was not expecting thorough accounting and verification of the project indicators and outputs. It is important for people implementing the project to know that the list of outputs is not something where you merely put the check marks saying the work was done. The quality review may reveal that the work took the wrong direction and did not contribute to achieving the intended outcomes.

Monitoring implementation Sub-Evaluation Rating: Moderately Unsatisfactory (MU)

5.7.3. Project reporting

148. The Executing Agency submitted regular reports on time throughout the project implementation. The list includes Full Technical Progress Report 2013, Half Year Progress Report 2013, Project Implementing Report (PIR) 2013-2014, Technical Progress Report 2014, Technical Progress Report 2015, Technical Progress Report Q1-Q3 2016, PIR 2015, and PIR 2016. UN Environment and SAEPF had additional communication regarding the contents of the reports and SAEPF provided additional explanations and information. The Final Report is not yet available. The terminal evaluation finds that suitable monitoring reporting took place, as planned, in a timely fashion and with adequate attention to detail and content. At the same time no particular gender issues were highlighted in project reports.

Project reporting Sub-Evaluation Rating: Moderately Satisfactory (MS)

5.8. Sustainability

149. The Sustainability of the project has been addressed in four main aspects as follows: a) Socio-political sustainability, b) Financial sustainability, c) Institutional sustainability.[14]

5.8.1. Socio-political sustainability

150. There is a substantial risk of lack of follow-up after the end of the project because of a changing political agenda and commitment. The country just went through presidential elections in October 2017 and a new government will be formed. So far it is unclear how environmental issues will be managed in the period of transition but the first impression is that the new administration will continue the agenda of the previous president. It should mean positive attitude towards the results of the evaluated project.

151. More detailed examination of achieved direct outcomes and related socio-political implications suggest that for Component 1 the alternative diversified employment opportunities require substantial investments in order to reduce the area's reliance on mercury production. No doubt the regional and national government would desire to improve the economic situation in the district particularly after the mercury production has now stopped (see paragraph 88). The most important negative factor is that Khaidarkan is only one of many former mining areas that experience poverty and suffer from unemployment.

[14] All these dimensions of sustainability are deemed critical. Therefore, the overall rating for sustainability will be the lowest rating on the separate dimensions.

152. Under Component 2 the system of health and environmental monitoring has not actually started operating yet and additional political efforts are necessary to make it function. SAEPF and Kadamzhai SSES Laboratory definitely firmly own this system and ready to operate it. So the forecast on sustainability here is most favourable. Remediation activities planned in Component 3 are strongly backed by SAEPF.

Socio-political sustainability is rated as: Moderately Unlikely (MU).

5.8.2. Financial Resources

153. Financial sustainability is not particularly strong. For both economic development of the area and potential remediation project the national government would look for outside support. There are no funds in the area now and in the foreseeable future to work on remediation. Developing alternative mining and non-mining economic activities also presently has no funding. Some private funding may come in not so near future if some of the mining alternatives become attractive for national or international businesses.

154. The most likely project component to be financially sustainable is the system of health and environment monitoring. This requires relatively small amount of funding and could be feasible for Kyrgyz Republic to cover. With available equipment (see output 2.2) and specialists that received necessary training evaluator estimates that about US$10,000 would be enough to take plenty of environmental - particularly soil and air samples - to characterize the area for instance next year. The equipment also allows analyzing biological media. If collection of urine in Khaidarkan is organized locally using existing hospital and its personnel, than it would be very cheap. The sum of US$5,000-15,000 would allow testing hundreds if not thousands of people every year and collect actual data. The question still is if those funds will be appropriated by the government or donated by some donors. At present such allocations and plans unfortunately do not exist. Additional efforts must be taken.

Financial resources criterion is rated as: Moderately Unlikely (MU).

5.8.3. Institutional sustainability

155. The Batken Region government as well as national government are interested in sustainable economic development of the area and plan to work on this. SAEPF as a government agency is also interested in sustainability of the project achievements. The weak spot here is lack of driven-ness by any particular stakeholder to work specifically on Khaidarkan. The most interested parties are local farmers and businesses. The mercury factory is still the biggest industry in the area and its management so far do not do not

consider options for economic development without mercury scenario. They announced plans of restoring the work of the mine to produce fluorite and mercury. Production of fluorite is one of marginally profitable options acceptable for the future with mercury for the area and based on the project report (Output 1.1) one of the scenarios of switching production of the factory. It is anticipated that mercury will also be produced as a by-product.

156. The main conclusion is that the project's institutional achievements (such as governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc.) are modest and not robust enough to continue delivering the benefits associated with the project outcomes after project closure.

Institutional Sustainability is rated as: Moderately Unlikely (MU).

5.9. Factors and Processes Affecting Project Performance

5.9.1. Preparation and Readiness

157. The project inception workshop was held on 12-15th of December 2012. At the inception meeting the administration of the mine dismissed the project as irrelevant and was supported by the State Property Committee – the government structure that owns the mercury mine and factory. The Steering Committee was formed and held two meetings in 2013 to adopt the project workplan and discuss the signing of Minamata Convention by Kyrgyz Republic. The last meeting of the Steering Committee was held on 23rd of August 2017 to discuss the results of the project.

158. The start of the project was rather difficult because of the existing opposition of the administration of the mercury factory to the project activities. Since "phasing out primary mercury production" was stated as the main goal of the project naturally the mine administration believed it means closing the mine in the near future. So they decided to fight against the project. This involved lobbying interests of the factory in the government, initiating local public campaign in the media and other actions. The mercury factory is the main industry in Khaidarkan therefore based on evaluator's observations in the field people were scared to lose jobs and were willing to listen to the administration calling to protect mercury production.

159. The project team took some measures to mitigate the negative effects of the situation. ZOI network was an NGO that contributed to the project development and worked in Khaidarkan on development of communication materials (funded by Norway). This activity was received very negatively by the mine and factory administration. So the SAEPF distanced themselves from ZOI network and some other people involved in the

project development and initial implementation.). Certainly this way some existing expertise was lost for future work, but it was a way to demonstrate that "new" people will be working in the project and they have nothing in common with past work. The national project team also coordinated with UN Environment a more suitable translation of the project goal. The new version instead of "phasing out" said "switching from" mercury production. The focus of communication in the project's inception phase changed to explaining local people that the project is not about leaving them without jobs. These actions helped and the main project activities were started in 2015.

160. The Executive Agency SAEPF operated through Centre on Ecological Safety within the Agency was a *supporting executing partner* of the project and in fact the Centre became the main national project operator reporting its activities to heads of SAEPF and UN Environment. The agency's decision-makers made a smart move inviting a Project Manager who had the experience of working on Mailuu-Suu Uranuim Project. Given that SAEPF had practically no experience in managing this type of project it was important that the agency involved to implementation a person with most similar background.

161. All these actions did not happen fast. The inception phase stretched to at least two years – 2013-2014 before the main project work has started. Considering the situation the project team did a decent job.

Preparation and Readiness Evaluation Rating: Moderately Satisfactory (MS)

5.9.2. Quality of Project Management and Supervision

162. The Executing Agency SAEPF through its Centre on Ecological Safety managed the project daily operations in Kyrgyz Republic. The project workplan and achievements were presented to the Steering Committee which worked as a consulting entity without actual supervision duties. This is consistent with Prodoc which stated that Steering Committee will receive periodic reports on progress and will make recommendations to UN Environment concerning the need to revise any aspects of the Results Framework or the M&E plan.

163. The Executing Agency performed its duties and responsibilities in accordance to the legal agreement that was set up between UN Environment and the SAEPF. UN Environment's implementing agency role was supportive which resulted in a positive working relationship between UN Environment and the SAEPF. This is confirmed by evaluator's observation of the work in August 2017 and the "UN Environment feedback to the 2013 H2 Progress Report" containing communication between SAEPF and UN Environment.

164. Main project activities were implemented by subcontractors and administrated by Centre on Ecological Safety SAEPF according to the national legislation and standards and regular reporting to UN Environment. MARITA, Ltd and Ken Too Research were hired to work on Component 1 and 3, Kadamzhai SESS Laboratory and Centre of Prophylactic Medicine were contracted to work on Component 2, Centre of Sociological Studies was hired to work on Component 4. The Executing Agency did not "micro-manage" the subcontractors mainly relying on their expertise. In evaluator's view the main reason for this was lack of necessary expertise of Executing Agency. Additional trainings were provided to specialists of the subcontracted organizations, including workshops and trips to Spain and Slovenia (Output 2.1, paragraph 97 and Output 3.2, paragraph 109). The Executing Agency maintained good working relationships with subcontractors and at the end received reports of sufficient technical quality.

165. The Executing Agency could perform better if they identified specialists and organizations to help with each project output. The evaluation concludes that in case external expertise were available most likely all outputs would have been at least partially achieved. Centre on Ecological Safety has limited staff and could not on its own perform the remaining tasks of the project which in evaluator's opinion resulted in delays in 2016-2017. Nonetheless with regards to management procedures and operation the project generally performed fairly well.

Project Implementation and Management Evaluation Rating: Satisfactory

5.9.3. Stakeholder Participation and Cooperation

166. The interests and participation of stakeholders had a great influence on the project development and implementation. While SAEPF was working with UN Environment to start the project and launch its activities, other government agencies worked towards different direction. State Property Management Fund (formerly Ministry for State Property) has 99.9 percent of governmental share holdings of Khaidarkan mercury factory. They could have used their influence on the administration of the factory to convince them cooperate with this government endorsed project. But in reality the evaluation did not find any indication of support to help the project in this sense. This resulted in project delay at the Executing Agency had to apply significant efforts to overcome local resistance to the project implementation from the mercury factory administration.

167. In Component 1, the activity of "creating alternative job opportunities in Khaidarkan" was supposed to be managed by UNDP. According to SAEPF there was coordination with UNDP representative based in Batken. But at the end SAEPF assumed leading role in this activity and worked on this without UNDP support. This activity was administered by SAEPF directly and until November 2017 the achievements were modest.

In August 2017 the Executing Agency reported that they finished collecting proposals from local businesses for support from the project. Considering good experience and initial interest of UNDP in this project component perhaps it would have been better to resolve the issue of their participation and help to the project.

168. The project was participated by the laboratories of Kyrgyz Republic through provided training and intercalibrating studies. The project received substantial political support from the Batken regional administration. Some members of Khaidarkan community put their efforts to overcome the local resistance and promote the project field work. As to other stakeholders their part was limited to some meetings. The project managers elected who they were willing to work with. Some NGOs, e.g. Environmental Expertise complained there was little or no information exchange about the project activities and achievements.

Stakeholder Participation and Cooperation Evaluation Rating: Moderately Unsatisfactory (MU). Lack of cooperation with UNDP is the main drawback in this section, other issues were more or less resolved, including high resistance to the project from the mercury factory, which has to be considered.

5.9.4. Responsiveness to Human Rights and Gender Equity

169. The equal and inalienable rights of all human beings provide the foundation for freedom, justice and peace in the world, according to the Universal Declaration of Human Rights, adopted by the UN General Assembly in 1948. The project's goal was "to protect human health …from the toxic exposure to mercury…" In evaluator's view it means that the project was essentially about realization of human rights to clean environment. The actions of the project were aimed to provide people clean environment and enlighten them about it, involve in the process.

170. The project implementation did demonstrate some elements of good practices inline with human rights-based approach. One of those: *"people are recognized as key actors in their own development, rather than passive recipients of commodities and services."* For instance in Component 1 the project team addressed the local people calling to submit proposals on developing local businesses. The project team counted on people to come up with initiatives and later develop those. Another example is "*participation is both a means and a goal.*" The project aimed to involve participation of local people in components 1, 2, and 4. This is actually not only related to following some international standards but refers substantially to the traditional Kyrgyz culture. The opinion and will of the people means a lot here. This is why they had two revolutions in this century. Kyrgyz people respect and are used to freedom.

171. The project team never thought of separate issue of indigenous people, because the population of Khaidarkan area is comprised mainly of Kyrgyz who are the indigenous people of the area. Even though there are minorities like Tajik, Russian, and Uzbek the observation and experience of the evaluator in the area indicate that cultural differences minimal and social needs are very similar to the majority of Kyrgyz population.

172. Gender equality and women's empowerment is recognized as a cross-cutting priority across all aspects of UN Environment's work. UN Environment promotes men and women's participation in all environmental protection and sustainable development activities. In the evaluated project the project team definitely did not consider gender in decisions whom to hire for the performing particular tasks. Nonetheless two of four main contractors were led by women. The independence and active position of women in Kyrgyz Republic take roots in both Soviet legacy and traditional culture.

173. The project design accounts for gender issues. ProDoc says "Consider gender issues in decision-making and project implementation" in section "3.11 Environmental and Social Safeguards". Gender was also considered in the sociological survey in Output 1.1. The researchers recorded gender of the respondents and indicated that 41% of those who complained of chronic diseases in Khaidarkan area were women.

Responsiveness to Human Rights and Gender Equity Evaluation Rating: Moderately Satisfactory (MS).

5.9.5. Country Ownership and Driven-ness

174. The main government agency involved in the project was obviously SAEPF. State Sanitary and Epidemiologic Service of the Ministry of Health was also a project partner, though limited mainly at the level of Kadamzhai Laboratory. State Property Management Fund is a structure that owns the mercury factory and it should have been a project partner, but it did not help the project. The evaluator is under impression that the State Property Management Fund and the Ministry of Economy would prefer that such project did not happen, because they considered it a threat to mining industry. As already mentioned the Batken regional administration helped the project and hopefully will continue provide political support. So there is a situation where some government structures actively worked on the project and some did not cooperate. (For additional details see Section 5.8.3)

Country Ownership and Driven-ness Evaluation Rating: Moderately Unsatisfactory (MU).

5.9.6. Communication and Public Awareness

175. The communication of learning and experience sharing between project partners and interested groups arising from the project happened mainly between laboratories that participated in trainings and project activities. Particularly the Kadamzhai SSES Laboratory was the beneficiary of the project experience and knowledge sharing. In general SAEPF had good communication with UN Environment and the project participants – subcontractors. In order to facilitate the project implementation the Executing Agency conducted many meetings that involved various stakeholders and particularly representatives of government structures.

176. The public awareness activity was mainly done through website of SAEPF, publications in the local media, TV, and meetings with workers of the mercury mine. The results of sociological survey conducted under Component 4 indicate that this campaign was not particularly successful. People in Khaidarkan remained generally ignorant of mercury health risks and supportive of future mercury production.

Communication and Public Awareness Evaluation Rating: Moderately Satisfactory (MS).

CONCLUSIONS, LESSONS AND RECOMMENDATIONS

6.1. Conclusions

177. The project struggled throughout its duration to start the work and produce meaningful results. Given the circumstances, the project achievements presented at the Steering Committee meeting in August 2017 is the maximum of what Executing Agency was capable of doing. The project did well in some parts but in most could not produce in full the results anticipated by the project design.

178. Regarding **Strategic Relevance**, the project has contributed towards delivering key global, regional and national environmental issues plus also to the fulfilment of UN Environment's mandate and policy and meaningfully contributing to the fulfilment of GEF strategy and priorities. The project design has been strategically relevant towards addressing national challenging issues and needs.

179. On the **Quality of the Project Design**, this evaluation finds that the project rationale was well-founded and that activities address an important local environmental health issue. However the project targets and indicator values may have been a bit ambitious given the situation in the country the political risks to the project implementation were not fully accounted for.

180. With regards to the **Nature of the External Context,** the government instability and changes of people in key government structures had a negative impact which delayed the project start and implementation. Another important factor was the economic situation at the mercury international market and physical flooding of the mine which stopped the mercury production in the area.

181. Regarding the **Achievement of Outputs**, the project has delivered 8 outputs fully and 6 outputs partially out of 14 total planned outputs. Based on an evaluation of available reports, coupled with key stakeholder consultation in Kyrgyz Republic, the delivery of outputs has significantly contributed to studying the issue of mercury contamination of the area and mercury health risks. However the solutions to solve these problems were hardly started by the project actions.

182. On the **Achievement of Direct Outcomes**, the project produced some results in all 4 components. The project work notably contributed to the assessment and publicizing the problem of mercury contamination of the area and its impacts on human health, however the project has not yet contributed to initiating the process of improving the situation.

183. With regards to the **Likelihood of Impact** (linked to the 5 Intermediate States identified within this evaluation), it appears that long term impacts of the project are highly unlikely. One exception is Component 2 where for Intermediate State 2 (*Information utilized to make an assessment to support remediation and cleaning work)* and Long-Term Outcome 2 (*Impacts of mercury mining evaluated through enhanced human health and environment monitoring*) have some potential to contribute towards the impact. However, it is necessary that a system of health and environmental monitoring functions. No funds for it are presently allocated which makes an impact here also unlikely. But given that relatively small additional resources are necessary it is possible that this system will function in the future and produce results.

184. Regarding **Project Efficiency**, in different components the project implementation demonstrated varying levels. The overall conclusion is that there is room for improvement in this area. For instance in Component 3 the efficiency of the project would have increased if some of the most contaminated areas were fenced to limit access of people and domestic animals.

185. On the **Monitoring and Reporting** criteria, the terminal evaluation finds that suitable monitoring reporting took place, as planned, in a timely fashion and with adequate attention to detail and content. The project should perhaps have had Mid-Term Evaluation/reviews as originally planned to benefit the project implementation.

186. Regarding **Sustainability**, this is a weak point, because both institutional and financial sustainability are rated as moderately unlikely. The current situation in Kyrgyz Republic and the level of achievement of project outcomes do not allow making positive prediction.

187. With regards to the **Factors and Processes Affecting Project Performance** the project had issues with stakeholder participation and cooperation. Human rights were properly addressed in the project. Gender issues received no particular attention in project implementation.

188. The ratings of the project are presented together in the table below (Table 6.1), with a brief justification for each main headers rating (cross-referenced to findings within report). The overall rating of the project is **Moderately Satisfactory.**[15]

Overall Project Evaluation Rating: <u>Moderately Satisfactory (MS).</u>

[15] Evaluation Office has rated the project as **Moderately Unsatisfactory**. See table 7, page 71 for details

Table 7. Terminal Evaluation Ratings

Criterion	Summary Assessment	Evaluation Rating	Evaluation office rating	Evaluation Office (EO) comment
A. Strategic Relevance		**S**	**S**	
1. Alignment to MTS and POW	The project is well aligned with MTS and POW. All components of the project contribute to either MTS or POW or relevant to both. (see Section 5.1.1)	**S**	**S**	Concurs
2. Alignment to UNEP/GEF/Donor strategic priorities	The project primarily contributes to the GEF-6 chemical and waste strategy's long term goal "to prevent the exposure of humans and the environment to harmful chemicals and waste of global importance, including …mercury, through a significant reduction in the production, use, consumption and emissions/releases...." The project work is consistent with UN Environment priorities. (see Section 5.1.2)	**S**	**S**	Concurs
3. Relevance to regional, sub-regional and national issues and needs	The evaluated project was meant to reduce primary mercury mining and supply to the global market and curbing mercury emissions and releases to reduce direct local and global environmental impact. This brings regional and national global environmental benefits. (see Section 5.1.3)	**S**	**S**	Concurs
4. Complementarity with existing interventions	There was direct complementarity with the project or hazard reduction at Maili-Suu former uranium mines in Kyrgyz Republic, which was implemented by the World Bank and partly GEF-funded. It was anticipate that that Component 1 would have been implemented jointly with existing UNDP programme, but it did not work out as planned. (see Section 5.1.4)	**MS**	**MS**	Concurs
B. Quality of Project Design	The Prodoc contains all necessary sections that contain information on structure, risks, assumptions, sustainability and stakeholders. The logical framework contains indicators, baselines, targets for each outcome.	**S**	**S**	Concurs

	(see Section 5.2)			
C. Nature of External Context	The project implementation was delayed because of the issues of government instability and changes of people in key government structures. This had a negative impact on the project which was mitigated by adjusting the project duration and schedule. This did not prevent the project from being implemented. Flooding of the mine temporarily stopped mercury production and actualized the project agenda in the area (see Section 5.3)	**MU**	**MU**	Concurs
D. Effectiveness		**MU**	**U**	
1. Achievement of outputs	The project has delivered 8 outputs fully and 6 outputs partially. The last remaining output is planned to be finished by the end of the new project extension. Based on an evaluation of available reports, coupled with key stakeholder consultation in Kyrgyz Republic, the delivery of outputs has significantly contributed to studying the issue of mercury contamination of the area and mercury health risks. (see Section 5.4.1)	**MS**	**MU**	Based on the analysis in this report The Evaluation Office concludes that 8[16] out of 14 outputs were fully delivered in a satisfactory manner by the end of the project (March 2018). This equals to 'moderately unsatisfactory' rating.
2. Achievement of direct outcomes	The direct outcomes were achieved partially. The project work notably contributed to the assessment and publicizing the problem of mercury contamination of the area and its impacts on human health. (see Section 5.4.2)	**MS**	**MU**	Based on the purpose of the project and analysis in this report the Evaluation Office concludes that Direct Outcome 1 was not achieved. This outcome would have been vital for contributing towards the project objective/intermediate states.
3. Likelihood of impact	The assessment of the likelihood of impact conducted using provided Decision Tree tool indicated that long term impact of the project results as highly unlikely. In addition, the mercury production is being restored in the area, but according to the government plans the main product of the factory would be fluorite. The mercury would be the by product, but not the main focus of production.	**HU**	**HU**	Concurs

[16] Evaluation Office assessment is based on the analysis presented in this report: Output 1.3 will be achieved by the end of the project, Output 2.3 is considered as achieved as the technical capacity was provided by the project

E. Financial Management		**S**	**S**	Concurs
1. Completeness of project financial information	With the exception co-financing information the provided financial information appears complete. (see Section 5.5.1)	**MS**	**MS**	Concurs
2. Communication between finance and project management staff	Communication was regular and arising questions resolved promptly. Both finance and project management staff indicated they had no issues in this department. (see Section 5.5.2)	**S**	**S**	Concurs
3. Compliance with UN Environment standards and procedures	The project complied with UN Environment Standards and procedures. (see Section 5.5.3)	**n/a**	**n/a**	Following the revised Evaluation office guidelines (end of 2017) compliance is no longer rated.
F. Efficiency	The project showed examples of both fair and low efficiency depending on the project component and activity. (see Section 5.6)	**MS**	**MS**	Concurs with the rating considering the unfavourable conditions and related delays (see section 5.3) 'Moderately satisfactory' rating is well justified.
G. Monitoring and Reporting		**MS**	**MS**	
1. Project reporting	Terminal evaluation finds that suitable monitoring reporting took place, as planned, in a timely fashion and with adequate attention to detail and content, though without attention to gender issues. (see Section 5.7.3)	**MS**	**MS**	Concurs
2. Monitoring design and budgeting	The project monitoring design and budgeting were adequate. (see Section 5.7.1)	**S**	**S**	Concurs
3. Monitoring implementation	MTE was not conducted, which deprived the project of valuable inputs and timely check. (see Section 5.7.2)	**MU**	**MU**	Concurs
H. Sustainability		**MU**	**MU**	
1. Socio-political	The most favourable forecast with regards to socio-political sustainability is the follow-up functioning of the system of health and environmental monitoring that has chances to operate after the project. (see Section 5.8.1)	**MU**	**MU**	Concurs
2. Financial	Financial sustainability is in question. No confirmed sources of financial support identified to sustain project achievements. (see Section 5.8.2)	**MU**	**MU**	Concurs
3. Institutional	The project's institutional achievements (such as governance structures and processes, policies, sub-	**MU**	**MU**	Concurs

	regional agreements, legal and accountability frameworks etc.) are modest and not robust enough to continue delivering the benefits associated with the project outcomes after project closure. (see Section 5.8.3)			
I. Factors affecting project performance				
1. Preparation and readiness	The inception phase stretched to at least two years – 2013-2014 before the main project work has started. Considering the situation with political risks and instability the project team did a decent job at preparing and starting the project. (see Section 5.9.1)	**MS**	**MS**	Concurs
2. Quality of project management and supervision	With regards to management procedures and operation the project generally performed fairly well. (see Section 5.9.2)	**S**	**S**	Concurs
3. Stakeholder participation and cooperation	Stakeholder Participation and Cooperation Evaluation Rating: Lack of cooperation with UNDP is the main drawback in this section, other issues were more or less resolved, including high resistance to the project from the mercury factory, which has to be considered Moderately Unsatisfactory. (see Section 5.9.3)	**MU**	**MU**	Concurs
4. Responsiveness to human rights and gender equity	The project design accounted for gender issues; it is stated in ProDoc "consider gender issues in decision-making and project implementation". The project generally appears to be in line with the human rights-based approach. (see Table 5.1 and Section 5.9.4)	**MS**	**MS**	Concurs
5. Country ownership and driven-ness	There is little evidence of Kyrgyz Republic's ownership and driven-ness demonstrated by executive bodies other than those like SAEPF directly involved in the project implementation. (see Section 5.9.5)	**MU**	**MU**	Concurs
6. Communication and public awareness	There were some awareness activities implemented though the results of sociological survey conducted under Component 4 indicate that this campaign was not particularly successful. Most people in Khaidarkan remained generally ignorant of mercury health risks and supportive of future mercury production. (see Section	**MS**	**MS**	Concurs

	5.9.6)			
Overall Project evaluation rating		**Moderately Satisfactory**	**Moderately Unsatisfactory**	Evaluation Office acknowledges the project delivery in some areas, and contribution to the increased capacity. However, considering the limited achievements under Component 1 in comparison to the intended objective *Moderately Unsatisfactory* overall rating is justified. Unexpected unfavourable events mainly influenced the efficiency of the project.

6.2. Lessons Learned

189. In general project terms, the most important lessons learned are listed below, as all of them have already been captured and discussed in detail in respective sections and sub-sections of the report and are cross referred accordingly).

Lesson 1: Carefully assess the local capacity and its potential to grow in order to set more realistic targets for project dealing with environmental monitoring and remediation.

190. The project underachieved in some indicators and this could be attributed to several factors. One of those is over ambitious indicator targets that did not match local capacity. For instance in Component 2 the number of people monitored on health and environmental impacts was set at 5000 while the project team was able to monitor only 200. It is possible that more people could have been monitored, but still the value of 5000 did not match the capacity for such work in Kyrgyz Republic. In Component 3 one of the indicators was 47 hectares of fenced or remediated area. It proved too difficult to implement.

Lesson 2: Do not underestimate existing risks to the project implementation.

191. The project implementation was delayed because of the issues of government instability and changes of people in key government structures. The country went through a revolution in 2010 (second revolution within a decade) and it took a few years for the government structures to get through changes and reorganisations. This had a direct effect on the project. In present case the actual start of the project was postponed and the project schedule was adjusted with an extension which were adequate mitigation measures

Lesson 3: Ensure correct capacity assessment and sufficient support with external expertise.

192. This was the first such project in the country to conduct a detailed health and environmental assessment and also work on economic issues and start remediation actions. There was not enough experience in the country how to conduct such work. As a result some deliverables did not match what was anticipated by the project design. For instance the environmental assessment conducted as part of Component 2 activities provided good reports and interesting data. The main purpose of conducting the assessment was to gather data for planning and even starting remediation. However these data do not allow delineation of contaminated areas and indicating levels of contamination with enough detail. The study was conducted as a qualitative rather than quantitative assessment. Therefore the data are

insufficient for development of remediation plans. This could have been corrected if an expert in such assessments were invited to assist with planning and conducting the study.

193. Another example is the report on remediation strategy prepared in Component 3. It is a very good quality report with detailed analysis of one identified remediation strategy. But this strategy does not lead to the reduction of mercury emissions from contaminated area or decrease of exposure of people to mercury. In this case a specialist on risk assessment and an engineer with experience of mercury contamination remediation could have helped to identify suitable effective strategies that should have been developed in detail by national specialists.

Lesson 4: Ensure working relationship with the industry.

194. This is often a sensitive issue in such projects because an active mining industry tends to work against strict environmental regulations or efforts to identify actual health effects of contamination from mining and ore processing. Even though the Khaidarkan mining enterprise belongs to the government there was little cooperation or even conflicts observed between members of the project team and the mine administration. This indicates there were disagreements in the national government about supporting the project which contributed to the project delays and problems in field work. Such issues should be cleared before the project.

6.3. Recommendations

195. Taking into account the scope of the evaluation and based on the main findings, conclusions and lessons learned, the recommendations that follow are principally addressed to UN Environment (as Implementing Agency) to help development of any future follow up or similar projects in Kyrgyz Republic or other countries in the region.

Recommendation 1. *Prepare a Continuation Strategic Plan to structure the follow up project to achieve the decrease of health risks of people in Khaidarkan.*

196. Creation and implementation of such plan considering all lessons learned in this project could provide results that would be sustainable in the long run. Upon reviewing this evaluation review one may rightfully conclude that this project's implementation was difficult and in many instances the outputs were not fully achieved and the long term impact is unlikely. But this report also shows the main value of the project: national environmental agency gained first very valuable experience of initiating and managing such projects. Now a proper follow up is due in order not to lose what was done and build upon existing achievements and learn from mistakes made. If this is not done the actual impact of the project will easily remain very small, which is not acceptable for the scale of the problem in Khaidarkan.

Recommendation 2. *Include in the next project other areas in south of Kyrgyz Republic with similar contamination issues: Chauvai, Kadamzhai, Ulu-Too, Terek-Sai and other places where high mercury, antimony and arsenic contamination is known or suspected. The properly structured environmental and health assessment work would allow prioritizing remediation and health risk mitigation work in order to be more efficient and ensure success*

197. Khaidarkan area is only one place in the list of very similar sites in Southern Kyrgyz Republic. In Chauvai, Kadamzhai, Ulu-Too mercury production has stopped earlier, but the problems of environmental contamination and health risks remain. With properly structured work a list of such sites can be populated and actions planned in priority areas. Given that the problems are very similar and using the experience from Khaidarkan project it would actually be feasible to do several sites for a price not much bigger than one site. In evaluator's opinion the capacity built in Khaidarkan project would help immensely in saving resources and becoming much more efficient.

Recommendation 3. *As part of the follow up project design an effective and realistic remediation strategy that could be implemented in the future to solve the problem of mercury contamination of Khaidarkan and other similar sites.*

198. The evaluated project was supposed to create a basis for a future bigger remediation initiative in order to reduce health and environmental risks from mercury contamination. In order to demonstrate the immediate effectiveness some most contaminated sites should have been identified and either cleaned up or fenced in order to decrease human health risks. Since none of this was done it should be the part of the future project. Considering the experience of the evaluated project the development of remediation strategy and conducting pilot remediation should be a two-stage process. First the experts need to use collected environmental data to suggest several remediation strategies. Then a decision must be made consulted with other qualified international experts on which remediation strategy should be worked on further and which solutions are optimal for pilot projects given the levels of contamination and available resources. Considering that Kyrgyz Republic has limited experience in remediation which was demonstrated in the evaluated project the decisions on this should not be left solely to national specialists.

Recommendation 4. *Kyrgyz Republic legislation and its application should be analyzed for any obstacles to conducting remediation. If such exist a set of recommendations must be developed based on best known international practices on how to improve the legislative framework or its use.*

199. Given that Kyrgyz Republic does not have experience of regulating remediation projects except for the Maili-Suu initiative the future project containing a remediation component may run into risks of being delayed or substantially increased in cost by bureaucracy. Any official coming across an unfamiliar issue would prefer not to sign it in order to avoid responsibility. This refers to all levels of the government because conducting some operations by law or even through arbitrary understanding of law might require authorizations from unexpected agencies. Not only this risk should be accounted for but an effort should be made to ensure that all remediation projects go through transparent and quick procedure of approval by authorities. The need for this is confirmed in the evaluated project because the position of some government structures led to delays of the project implementation and at the end none of the planned remediation actions took place.

Recommendation 5. *Provide ample support with expertise to national specialists and use results based management framework to ensure the project outputs lead to intended outcomes and lasting impacts.*

200. In evaluator's view the national project team should have had more support and guidance from experts experienced in such projects. At the time of this terminal evaluation the Executing Agency was not expecting thorough accounting and verification of the project indicators and outputs. It is important for people implementing the project to know that the list of outputs is not something where you merely put the check marks saying the work was done. The quality review may reveal that the work took the wrong direction and did not contribute to achieving the intended outcomes and did not result in significant positive impacts. The management of the project should be result-based with enough feedback from the project participants and consultants to verify if the project work contributes to achieving the project outcomes and goal.

Recommendation 6. *Support better cooperation of government structures relevant to the project and participation of stakeholders.*

201. As indicated in the evaluation findings the project faced significant resistance from the mercury factory administration. The State Property Management Fund that formally holds most of the factory shares and the Ministry of Economy also did not support the project activities (See section 5.9.3). This led to delays and problems in project implementation. There were issues with participation of NGOs and collaboration with UNDP (See section 5.9.3). Therefore, in similar future projects (i.e. in Kyrgyz Republic) UN Environment should together with the executing partners ensure that there is an agreement among key government structures and stakeholders regarding the project goals and implementation process.

Recommendation 7. *Improve publicity and transparency of the project implementation.*

202. There were some good efforts to maintain communication with project stakeholders (See section 5.9.6). However, issues remained regarding the sharing the project information and data and conducting wider public outreach (See sections 5.9.3, 5.9.6). In evaluator's view the project could have benefitted from being more transparent and allowing public access to documents that constitute the project achievements. It is recommended that UN environment, together with its partner, will ensure that key deliverables of this project (such as studies) are made available to the public (to extend possible).

Annex I. TERMS OF REFERENCE FOR THE EVALUATION

OBJECTIVE AND SCOPE OF THE EVALUATION

Key Evaluation principles

1. Evaluation findings and judgements should be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) as far as possible, and when verification is not possible, the single source will be mentioned (whilst anonymity is still protected). Analysis leading to evaluative judgements should always be clearly spelled out.

2. **The "Why?" Question.** As this is a terminal evaluation and a follow-up project is likely [or similar interventions are envisaged for the future], particular attention should be given to learning from the experience. Therefore, the "*Why?*" question should be at the front of the consultants' minds all through the evaluation exercise and is supported by the use of a theory of change approach. This means that the consultants need to go beyond the assessment of "*what*" the project performance was, and make a serious effort to provide a deeper understanding of "*why*" the performance was as it was. This should provide the basis for the lessons that can be drawn from the project.

3. **Baselines and counterfactuals**. In attempting to attribute any outcomes and impacts to the project intervention, the evaluators should consider the difference between *what has happened with, and what would have happened without, the project*. This implies that there should be consideration of the baseline conditions, trends and counterfactuals in relation to the intended project outcomes and impacts. It also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions, trends or counterfactuals is lacking. In such cases this should be clearly highlighted by the evaluators, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

4. **Communicating evaluation results.** A key aim of the evaluation is to encourage reflection and learning by UN Environment staff and key project stakeholders. The consultant should consider how reflection and learning can be promoted, both through the evaluation process and in the communication of evaluation findings and key lessons. Clear and concise writing is required on all evaluation deliverables. Draft and final versions of the main evaluation report will be shared with key stakeholders by the Evaluation Office. There may, however, be several intended audiences, each with different interests and needs regarding the report. The Evaluation Manager will plan with the consultant(s) which audiences to target and the easiest and clearest way to communicate the key evaluation findings and lessons to them. A presentation in Russian language will be also prepared to reach the national level stakeholders.

Objective of the Evaluation

5. In line with the UN Environment Evaluation Policy[17] and the UN Environment Programme Manual[18], the Terminal Evaluation (TE) is undertaken at completion of the project to assess project

[17] https://wedocs.unep.org/rest/bitstreams/9801/retrieve

performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UN Environment and main project partners. Therefore, the evaluation will identify lessons of operational relevance for the formulation and implementation of the up-coming mercury related project in Kyrgyz Republic.

Key Strategic Questions

6. In addition to the evaluation criteria outlined in section 10 below, the evaluation will address the **strategic questions/issues** listed below. These are questions of interest to UN Environment and to which the project is believed to be able to make a substantive contribution:

(a) Considering the socio-economic significance of the mining industry in Batken, this evaluation should especially pay attention to the **sustainability** of the project outcomes. To what extent the project contributed to the lessening reliance on mercury mining and how sustainable the achieved results actually are.

(b) This evaluation should draw lessons learned that could support implementation of the future UN Environment projects in countries with similar socio-economic and political conditions as in the project country; especially in the post-soviet region.

(c) This project also deals with issues related to economic development, livelihoods and alternative income sources that are not directly in the core of UN Environment's expertise. The evaluation should pay attention to UN Environment's role/value in addressing these issues within the project context.

Evaluation Criteria

7. All evaluation criteria will be rated on a six-point scale. Sections A-I below, outline the scope of the criteria and a link to a table for recording the ratings is provided in Annex 1). A weightings table will be provided in excel format (link provided in Annex 1) to support the determination of an overall project rating. The set of evaluation criteria are grouped in nine categories: (A) Strategic Relevance; (B) Quality of Project Design; (C) Nature of External Context; (D) Effectiveness, which comprises assessments of the achievement of outputs, achievement of outcomes and likelihood of impact; (E) Financial Management; (F) Efficiency; (G) Monitoring and Reporting; (H) Sustainability; and (I) Factors Affecting Project Performance. The evaluation consultants can propose other evaluation criteria as deemed appropriate.

A. Strategic Relevance

8. The evaluation will assess, in line with the OECD/DAC definition of relevance, '*the extent to which the activity is suited to the priorities and policies of the target group, recipient and donor*'. The evaluation will include an assessment of the project's relevance in relation to UN Environment's mandate and its alignment with UN Environment's policies and strategies at the time of project approval. Under strategic

[18] http://www.unep.org/QAS/Documents/UNEP_Programme_Manual_May_2013.pdf . *This manual is under revision.*

relevance an assessment of the complementarity of the project with other interventions addressing the needs of the same target groups will be made. This criterion comprises four elements:

i. *Alignment to the UN Environment Medium Term Strategy[19] (MTS) and Programme of Work (POW)*

9. The evaluation should assess the project's alignment with the MTS and POW under which the project was approved and include reflections on the scale and scope of any contributions made to the planned results reflected in the relevant MTS and POW.

ii. *Alignment to UN Environment /GEF/Donor Strategic Priorities*

10. Donor, including GEF, strategic priorities will vary across interventions. UN Environment strategic priorities include the Bali Strategic Plan for Technology Support and Capacity Building[20] (BSP) and South-South Cooperation (S-SC). The BSP relates to the capacity of governments to: comply with international agreements and obligations at the national level; promote, facilitate and finance environmentally sound technologies and to strengthen frameworks for developing coherent international environmental policies. S-SC is regarded as the exchange of resources, technology and knowledge between developing countries. GEF priorities are specified in published programming priorities and focal area strategies. The evaluation will also briefly consider the project's alignment with the priorities of the Swiss Federal Office for Environment, Ministry of Foreign Affairs of Norway and US Environment Protections Agency which all have been funding the project.

iii. *Relevance to Regional, Sub-regional and National Environmental Priorities*

11. The evaluation will assess the extent to which the intervention is suited, or responding to, the stated environmental concerns and needs of the countries, sub-regions or regions where it is being implemented. These include national or sub-national development plans and commitments listed in the Prodoc, as well as regional agreements. The evaluation needs to consider any revisions to the national priorities during the project implementation. (contradiction in development goals and livelihoods aspects?)

iv. *Complementarity with Existing Interventions*

12. An assessment will be made of how well the project, either at design stage or during the project mobilization, took account of ongoing and planned initiatives (under the same sub-programme, other UN Environment sub-programmes, or being implemented by other agencies, such as UNDP in this case) that address similar needs of the same target groups . The evaluation will consider if the project team, in collaboration with Regional Offices and Sub-Programme Coordinators, made efforts to ensure their own intervention was complementary to other interventions, optimized any synergies and avoided duplication of effort. Examples may include UNDAFs or One UN programming. Linkages with other interventions should be described and instances where UN Environment's comparative advantage has been particularly well applied should be highlighted.

13. *Factors affecting this criterion may include:* stakeholders' participation and cooperation*;* responsiveness to human rights and gender equity and country ownership and driven-ness.

[19] UN Environment's Medium Term Strategy (MTS) is a document that guides UN Environment's programme planning over a four-year period. It identifies UN Environment's thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes, known as Expected Accomplishments (EAs), of the Sub-programmes.

[20] http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf

B. Quality of Project Design

14. The quality of project design is assessed using an agreed template during the evaluation inception phase, ratings are attributed to identified criteria and an overall Project Design Quality rating is established. This overall Project Design Quality rating is entered in the final evaluation ratings table as item B. In the Main Evaluation Report a summary of the project's strengths and weaknesses at design stage is included.

15. *Factors affecting this criterion may include (at the design stage):* stakeholders participation and cooperation and responsiveness to human rights and gender equity.

C. Nature of External Context

16. At evaluation inception stage a rating is established for the project's external operating context (considering the prevalence of conflict, natural disasters and political upheaval). This rating is entered in the final evaluation ratings table as item C. Where a project has been rated as facing either an Unfavourable or Highly Unfavourable and unexpected external operating context, the overall rating for Effectiveness may be increased at the discretion of the Evaluation Consultant and Evaluation Manager together. A justification for such an increase must be given.

D. Effectiveness

17. The evaluation will assess effectiveness across three dimensions: achievement of outputs, achievement of direct outcomes and likelihood of impact.

i. Achievement of Outputs

18. The evaluation will assess the project's success in producing the programmed outputs (products and services delivered by the project itself) and achieving milestones as per the project design document (ProDoc). Any *formal* modifications/revisions made during project implementation will be considered part of the project design. Where the project outputs are inappropriately or inaccurately stated in the ProDoc, a table should be provided showing the original formulation and the amended version for transparency. The achievement of outputs will be assessed in terms of both quantity and quality, and the assessment will consider their usefulness and the timeliness of their delivery. The evaluation will briefly explain the reasons behind the success or shortcomings of the project in delivering its programmed outputs and meeting expected quality standards.

19. *Factors affecting this criterion may include:* preparation and readiness and quality of project management and supervision[21].

ii. Achievement of Direct Outcomes

20. The achievement of direct outcomes is assessed as performance against the direct outcomes as defined in the reconstructed[22] Theory of Change. These are the first-level outcomes expected to be

[21] In some cases 'project management and supervision' will refer to the supervision and guidance provided by UN Environment to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UN Environment.

[22] UN Environment staff are currently required to submit a Theory of Change with all submitted project designs. The level of 'reconstruction' needed during an evaluation will depend on the quality of this

achieved as an immediate result of project outputs. As in 1, above, a table should be used where substantive amendments to the formulation of direct outcomes is necessary. The evaluation should report evidence of attribution between UN Environment's intervention and the direct outcomes. In cases of normative work or where several actors are collaborating to achieve common outcomes, evidence of the nature and magnitude of UN Environment's contribution should be included.

21. *Factors affecting this criterion may include:* quality of project management and supervision; stakeholders' participation and cooperation; responsiveness to human rights and gender equity and communication and public awareness.

iii. Likelihood of Impact

22. Based on the articulation of longer term effects in the reconstructed TOC (i.e. from direct outcomes, via intermediate states, to impact), the evaluation will assess the likelihood of the intended, positive impacts becoming a reality. The Evaluation Office's approach to the use of TOC in project evaluations is outlined in a guidance note available on the EOU website, web.unep.org/evaluation and in annex, and is supported by an excel-based flow chart called, Likelihood of Impact Assessment (see Annex 1). Essentially the approach follows a 'likelihood tree' from direct outcomes to impacts, taking account of whether the assumptions and drivers identified in the reconstructed TOC held. Any unintended positive effects should also be identified and their causal linkages to the intended impact described.

23. The evaluation will also consider the likelihood that the intervention may lead, or contribute to, unintended negative effects. Some of these potential negative effects may have been identified in the project design as risks or as part of the analysis of Environmental, Social and Economic Safeguards.[23]

24. The evaluation will consider the extent to which the project has played a catalytic role or has promoted scaling up and/or replication[24] as part of its Theory of Change and as factors that are likely to contribute to longer term impact.

25. Ultimately UN Environment and all its partners aim to bring about benefits to the environment and human well-being. Few projects are likely to have impact statements that reflect such long-term or broad-based changes. However, the evaluation will assess the likelihood of the project to make a substantive contribution to the high level changes represented by UN Environment's Expected Accomplishments, the Sustainable Development Goals[25] and/or the high level results prioritised by the funding partner.

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initial TOC, the time that has lapsed between project design and implementation (which may be related to securing and disbursing funds) and the level of any changes made to the project design. In the case of projects pre-dating 2013 the intervention logic is often represented in a logical framework and a TOC will need to be constructed in the inception stage of the evaluation.

[23] Further information on Environmental, Social and Economic Safeguards (ESES) can be found at http://www.unep.org/about/eses/

[24] *Scaling up* refers to approaches being adopted on a much larger scale, but in a very similar context. Scaling up is often the longer term objective of pilot initiatives. *Replication* refers to approaches being repeated or lessons being explicitly applied in new/different contexts e.g. other geographic areas, different target group etc. Effective replication typically requires some form of revision or adaptation to the new context. It is possible to replicate at either the same or a different scale.

[25] A list of relevant SDGs is available on the EO website web.unep.org/evaluation

26. Factors affecting this criterion may include: stakeholders participation and cooperation; responsiveness to human rights and gender equity; country ownership and driven-ness and communication and public awareness.

E. Financial Management

27. Financial management will be assessed under three broad themes: *completeness* of financial information, *communication* between financial and project management staff and *compliance* with relevant UN financial management standards and procedures. The evaluation will establish the actual spend across the life of the project of funds secured from all donors. This expenditure will be reported, where possible, at output level and will be compared with the approved budget. The evaluation will assess the level of communication between the Task Manager and the Fund Management Officer as it relates to the effective delivery of the planned project and the needs of a responsive, adaptive management approach. To extent possible, the evaluation will verify the application of proper financial management standards and adherence to UN Environment's financial management policies. Any financial management issues that have affected the timely delivery of the project or the quality of its performance will be highlighted.

28. Factors affecting this criterion may include: preparation and readiness and quality of project management and supervision.

F. Efficiency

29. In keeping with the OECD/DAC definition of efficiency, the evaluation will assess the cost-effectiveness and timeliness of project execution. Focussing on the translation of inputs into outputs, cost-effectiveness is the extent to which an intervention has achieved, or is expected to achieve, its results at the lowest possible cost. Timeliness refers to whether planned activities were delivered according to expected timeframes as well as whether events were sequenced efficiently. The evaluation will also assess to what extent any project extension could have been avoided through stronger project management and identify any negative impacts caused by project delays or extensions. The evaluation will describe any cost or time-saving measures put in place to maximise results within the secured budget and agreed project timeframe and consider whether the project was implemented in the most efficient way compared to alternative interventions or approaches.

30. The evaluation will give special attention to efforts by the project teams to make use of/build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency. The evaluation will also consider the extent to which the management of the project minimised UN Environment's environmental footprint.

31. Factors affecting this criterion may include: preparation and readiness; quality of project management and supervision and stakeholders participation and cooperation.

G. Monitoring and Reporting

32. The evaluation will assess monitoring and reporting across three sub-categories: monitoring design and budgeting, monitoring implementation and project reporting.

i. Monitoring Design and Budgeting

33. Each project should be supported by a sound monitoring plan that is designed to track progress against SMART[26] indicators towards the achievement of the projects outputs and direct outcomes. The evaluation will assess the quality of the design of the monitoring plan as well as the funds allocated for its implementation. The adequacy of resources for mid-term and terminal evaluation/review should be discussed if applicable.

ii. Monitoring Implementation

34. The evaluation will assess whether the monitoring system was operational and facilitated the timely tracking of results and progress towards projects objectives throughout the project implementation period. It will also consider how information generated by the monitoring system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensure sustainability. The evaluation should confirm that funds allocated for monitoring were used to support this activity.

iii. Project Reporting

35. UN Environment has a centralised Project Information Management System (PIMS) in which project managers upload six-monthly status reports against agreed project milestones. This information will be provided to the Evaluation Consultant(s) by the Evaluation Manager. Some projects have additional requirements to report regularly to funding partners, which will be supplied by the project team. The evaluation will assess the extent to which both UN Environment and donor reporting commitments have been fulfilled.

36. *Factors affecting this criterion may include:* quality of project management and supervision and responsiveness to human rights and gender equity.

H. Sustainability

37. Sustainability is understood as the probability of direct outcomes being maintained and developed after the close of the intervention. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of achieved direct outcomes. Some factors of sustainability may be embedded in the project design and implementation approaches while others may be contextual circumstances or conditions that evolve over the life of the intervention. Where applicable an assessment of bio-physical factors that may affect the sustainability of direct outcomes may also be included.

i. Socio-political Sustainability

38. The evaluation will assess the extent to which social or political factors support the continuation and further development of project direct outcomes. It will consider the level of ownership, interest and commitment among government and other stakeholders to take the project achievements forwards. In particular the evaluation will consider whether individual capacity development efforts are likely to be sustained.

ii. Financial Sustainability

39. Some direct outcomes, once achieved, do not require further financial inputs, e.g. the adoption of a revised policy. However, in order to derive a benefit from this outcome further management action may still be needed e.g. to undertake actions to enforce the policy. Other direct outcomes may be

[26] SMART refers to indicators that are specific, measurable, assignable, realistic and time-specific.

dependent on a continuous flow of action that needs to be resourced for them to be maintained, e.g. continuation of a new resource management approach. The evaluation will assess the extent to which project outcomes are dependent on future funding for the benefits they bring to be sustained. Secured future funding is only relevant to financial sustainability where the direct outcomes of a project have been extended into a future project phase. The question still remains as to whether the future project outcomes will be financially sustainable.

iii. Institutional Sustainability

40. The evaluation will assess the extent to which the sustainability of project outcomes is dependent on issues relating to institutional frameworks and governance. It will consider whether institutional achievements such as governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. are robust enough to continue delivering the benefits associated with the project outcomes after project closure.

41. Factors affecting this criterion may include: stakeholders participation and cooperation; responsiveness to human rights and gender equity; communication and public awareness and country ownership and driven-ness.

I. Factors and Processes Affecting Project Performance

(These factors are rated in the ratings table, but are discussed as cross-cutting themes as appropriate under the other evaluation criteria, above).

i. Preparation and Readiness

42. This criterion focuses on the inception or mobilisation stage of the project. The evaluation will assess whether appropriate measures were taken to either address weaknesses in the project design or respond to changes that took place between project approval, the securing of funds and project mobilisation. In particular the evaluation will consider the nature and quality of engagement with stakeholder groups by the project team, the confirmation of partner capacity and development of partnership agreements as well as initial staffing and financing arrangements.

ii. Quality of Project Management and Supervision

43. In some cases 'project management and supervision' will refer to the supervision and guidance provided by UN Environment to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping and supervision provided by UN Environment.

44. The evaluation will assess the effectiveness of project management with regard to: providing leadership towards achieving the planned outcomes; managing team structures; maintaining productive partner relationships (including Steering Groups etc.); communication and collaboration with UN Environment colleagues; risk management; use of problem-solving; project adaptation and overall project execution.

iii. Stakeholder Participation and Cooperation

45. Here the term 'stakeholder' should be considered in a broad sense, encompassing all project partners, duty bearers with a role in delivering project outputs and target users of project outputs and any other collaborating agents external to UN Environment. The assessment will consider the quality and effectiveness of all forms of communication and consultation with stakeholders throughout the project life and the support given to maximise collaboration and coherence between various stakeholders, including sharing plans, pooling resources and exchanging learning and expertise.

iv. Responsiveness to Human Rights and Gender Equity

46. The evaluation will ascertain to what extent the project has applied the UN Common Understanding on the human rights based approach (HRBA) and the UN Declaration on the Rights of Indigenous People. Within this human rights context the evaluation will assess to what extent the intervention adheres to UN Environment's Policy and Strategy for Gender Equality and the Environment.

47. In particular the evaluation will consider to what extent project design, implementation and monitoring have taken into consideration: (i) possible gender inequalities in access to and the control over natural resources; (ii) specific vulnerabilities of women and children to environmental degradation or disasters; and (iii) the role of women in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation.

v. Country Ownership and Driven-ness

48. The evaluation will assess the quality and degree of engagement of government / public sector agencies in the project. The evaluation will consider the involvement not only of those directly involved in project execution and those participating in technical or leadership groups, but also those official representatives whose cooperation is needed for change to be embedded in their respective institutions and offices. This factor is concerned with the level of ownership generated by the project over outputs and outcomes and that is necessary for long term impact to be realised.

vi. Communication and Public Awareness

49. The evaluation will assess the effectiveness of: a) communication of learning and experience sharing between project partners and interested groups arising from the project during its life and b) public awareness activities that were undertaken during the implementation of the project to influence attitudes or shape behaviour among wider communities and civil society at large. The evaluation should consider whether existing communication channels and networks were used effectively and whether any feedback channels were established. Where knowledge sharing platforms have been established under a project the evaluation will comment on the sustainability of the communication channel under either socio-political, institutional or financial sustainability, as appropriate.

EVALUATION APPROACH, METHODS AND DELIVERABLES

50. The TE of the Project will be conducted by an independent consultants under the overall responsibility and management of the Evaluation Office of UN Environment (EOU), represented by an Evaluation Manager, in consultation with the UN Environment Task Manager and the Sub-programme Coordinators (as deemed necessary).

51. It will be an in-depth evaluation using a participatory approach whereby key stakeholders are kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methods will be used as appropriate to determine project achievements against the expected outputs, outcomes and impacts. It is highly recommended that the consultant(s) maintains close communication with the project team and promotes information exchange throughout the evaluation implementation phase in order to increase their (and other stakeholder) ownership of the evaluation findings.

52. The findings of the evaluation will be based on the following:

(a) A **desk review** of:

- Relevant background documentation, inter alia publications concerning mercury mining in Kyrgyz Republic (UN Environment and others);
- Project design documents (including minutes of the project design review meeting at approval); Annual Work Plans and Budgets or equivalent, revisions to the project (Project Document Supplement), the logical framework and its budget;
- Project reports such as six-monthly progress and financial reports, progress reports from collaborating partners, meeting minutes, relevant correspondence etc.;
- Project outputs such as reports / studies /publications / communications materials;
- Mid-Term Review or Mid-Term Evaluation of the project;
- Evaluations/reviews of similar projects.

(b) **Interviews** (individual or in group) with:

- UN Environment Task Manager (TM);
- Project management team;
- UN Environment Fund Management Officer (FMO);
- Project partners, including Swiss Federal Office for the Environment (FOEN), Ministry of Foreign Affairs of Norway, U.S. Environmental Protection Agency, UNDP, State Agency for Environmental Protection and Forestry, Kyrgyz Mining Association, Osh Aarhus Environmental Information Centre, Zoi Environment Network, Almaty University of Power Engineering and Telecommunications (AUPET), University of Castilla La-Mancha (Spain), UNITAR
- Community representatives in Khaidarkan (will be specified in the inception phase)
- Relevant resource persons.

(c) **Surveys** (if deemed necessary)

(d) **Field visit to Khaidarkan and Bishkek (Osh if considered useful)**

(e) **Other data collection tools** specified in the inception phases

Evaluation Deliverables and Review Procedures

53. The evaluation team will prepare:

- **Inception Report:** (see Annex 1 for links to all templates, tables and guidance notes) containing an assessment of project design quality, a draft reconstructed Theory of Change of the project, project stakeholder analysis, evaluation framework and a revised evaluation schedule.

- **Preliminary Findings Note:** typically in the form of a powerpoint presentation, the sharing of preliminary findings is intended to support the participation of the project team, act as a means to ensure all information sources have been accessed and provide an opportunity to verify emerging findings.

- **Draft and Final Evaluation Report:** (see links in Annex 1) containing an executive summary that can act as a stand alone document; detailed analysis of the evaluation findings organised by evaluation criteria and supported with evidence; lessons learned and recommendations and an annotated ratings table.

- **Evaluation Bulletin:** a 2-page summary of key evaluation findings for wider dissemination in Russian (for national partners and possibly other audiences as deemed useful).

54. **Review of the draft evaluation report**. The evaluation team will submit a draft report to the Evaluation Manager and revise the draft in response to their comments and suggestions. Once a draft of adequate quality has been peer-reviewed and accepted, the Evaluation Manager will share the cleared draft report with the Task Manager, who will alert the Evaluation Manager in case the report contains any blatant factual errors. The Evaluation Manager will then forward revised draft report (corrected by the evaluation team where necessary) to other project stakeholders, for their review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions as well as providing feedback on the proposed recommendations and lessons. Any comments or responses to draft reports will be sent to the Evaluation Manager for consolidation. The Evaluation Manager will provide all comments to the evaluation team for consideration in preparing the final report, along with guidance on areas of contradiction or issues requiring an institutional response.

55. Based on a careful review of the evidence collated by the evaluation consultants and the internal consistency of the report, the Evaluation Manager will provide an assessment of the ratings in the final evaluation report. Where there are differences of opinion between the evaluator and the Evaluation Manager on project ratings, both viewpoints will be clearly presented in the final report. The Evaluation Office ratings will be considered the final ratings for the project.

56. The Evaluation Manager will prepare a **quality assessment** of the first and final drafts of the main evaluation report, which acts as a tool for providing structured feedback to the evaluation consultants. The quality of the report will be assessed and rated against the criteria specified in template listed in Annex 1.

57. At the end of the evaluation process, the Evaluation Office will prepare a **Recommendations Implementation Plan** in the format of a table, to be completed and updated at regular intervals by the Task Manager. The Evaluation Office will track compliance against this plan on a six monthly basis.

1.1 The Consultants' Team

58. For this evaluation, the evaluation team will consist of one international evaluation consultant who will work under the overall responsibility of the Evaluation Office represented by an evaluation manager Saila Toikka, in consultation with the UN Environment Task Manager Ludovic Bernaudat, Fund Management Officer Anuradha Shenoy and the Sub-programme Coordinators of the relevant UN Environment Sub-programme(s). The consultants will liaise with the Evaluation Manager on any procedural and methodological matters related to the evaluation. **It is, however, the consultants' individual responsibility to arrange for their travel, visa, obtain documentary evidence, plan meetings with stakeholders, organize online surveys, and any other logistical matters related to the assignment.** The UN Environment Task Manager and project team will, where possible, provide logistical support (introductions, meetings etc.) allowing the consultants to conduct the evaluation as efficiently and independently as possible.

59. The **consultant** will be hired over the period 15 April to 14 October, 2017 and should have: an advanced university degree in environmental sciences, international development or other relevant political or social sciences area; a minimum of 12 years of technical / evaluation experience, including demonstrated ability to conduct evaluations at national/regional; a broad understanding of environmental and health risks of heavy metals; proficiency in Russian along with excellent writing

skills in English; preferably knowledge of the UN system, specifically of the work of UN Environment. The consultant will conduct the evaluation missions to Kyrgyz Republic.

60. The consultant will be responsible, in close consultation with the Evaluation Office of UN Environment, for overall management of the evaluation and timely delivery of its outputs, described in Section 11 Evaluation Deliverables, above. The consultant will ensure together that all evaluation criteria and questions are adequately covered.

61. The consultants will be responsible, in close consultation with the Evaluation Office of UN Environment, for overall management of the evaluation and timely delivery of its outputs, described above in Section 11 Evaluation Deliverables, above. The consultant will ensure that all evaluation criteria and questions are adequately covered.

Schedule of the evaluation

62. Table 3 below presents the tentative schedule for the evaluation.

Table 3. Tentative schedule for the evaluation

Milestone	**Deadline**
Contractual process	April 20
Inception Meeting (Skype)	April 20
Inception Report (draft submission)	May 30
Inception Report (final submission)	June 9
Mission preparations	June 16
Evaluation Mission to Kyrgyz Republic (3 – 5 days)	**June 30**
Telephone interviews, surveys etc.	August 11
Powerpoint/presentation on preliminary findings and recommendations	August 11
Draft report to Evaluation Manager (and Peer Reviewer)	August 25
Draft Report shared with UN Environment Task Manager and project team	September 8
Draft Report shared with wider group of stakeholders	September 22
Final Report	October 13

ANNEX II. EVALUATION ITINERARY AND STAKEHOLDERS INTERVIEWED

	Description	Date and Time
1	Meetings for in person interviews: 1) Kubanychbek Noruzbaev (Environmental Agency Committee on Chemical Safety) 2) Ainash Sharshenova (Profmedicina) 3) Talgat Tashibekov (Richresearch Consulting) 4) Svetlana Moldogazieva (Richresearch Consulting) 5) Bakytbek Kozhogulov (Ken-Too Research Center) 6) Muratbek Kalykov (Environmental Agency Committee on Chemical Safety) 7) Baigabyl Tolongutov (Environmental Agency Committee on Chemical Safety) 8) Pechenuk NGO Independent Expertise	21.08.2017 Monday 10:00-11:00 11:00-12:00 12:00-13:30 14:30-15:30 15:30-16:30 18:30-19:30
2	Meetings for in person interviews: 9) Indira Zhakipova (NGO EKOIS) 10) Kenneth Davis (UN Environment)	22.08 Tuesday 10:00-11:00 18:00-19:00
3	Khaidarkan Steering Committee Meeting Meetings for in person interviews: 11) Valentin Bogdetsky (Mining Association) 12) Chynara Tadzhibaeva (Batken Oblast Administration) 13) Ludovic Bernaudat (UN Environment)	23.08 Wed 09:00-17:00 12:00-12:30 16:00-16:20 17:00-18:30
4	Meetings for in person interviews:	24.08 Thursday

	14) Baglan Salykmambetova (Environmental Agency Dept of International Relations) 15) Chynychbek Abdykaparov (Khaidarkan community) 16) Zakir Sharapov (Khaidarkan community) 17) Abdykalyk Rustamov (Environmental Agency)	10:00-11:00 11:00-12:00 12:00-13:00 14:30-15:30
5	Visit to Kadamzhai/Khaidarkan Meetings for in person interviews: 18) Mahmud Israilov (Kadamzhai Labooratory fo Sanitary and Epidemiologic Service) 19) Nurlan Mamataliev (Kadamzhai Labooratory fo Sanitary and Epidemiologic Service) 20) Tolubai Saliev (Khaidarkan Mercury Mine) 21) Nurkamal Ormanova (Khaidarkan Mercury Mine)	25.08 Friday 13:30-14:30 16:00-20:00
6	Meetings for in person interviews: 22) Milena Khorvat (Josef Stefan Institute) 23) David Kuchman (Josef Stefan Institute) 24) Asel Ablesova (Osh Hospital)	26.08 Saturday 09:00-10:00 10:00-11:00
	Skype or phone interviews: 25) Kenneth Davis (UN Environment) (also there was in person meeting) 26) Gunnar Futsaeter (UN Environment) 27) Viktor Novikov (ZOÏ Environment) 28) Brenda Koekkoek (UN Environment) 29) Timur Dosmambetov (Environmental Agency Committee on Chemical Safety) 30) Anuradha Shenoy (UN Environment)	27.07.2017 28.07.2017 30.08.2017 20.09.2017 26.10.2017 26.10.2017

Contact info:
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address: Lenina Square 5/1-8, Artem, Primorskyi krai, 692760, Russia
web-site: http://blacksmithinstitute.org/

Education:

Candidate of Biologic Sciences (Ph.D.), Far Eastern State University, Institute of Graduate Programs, Department of Ecology, Vladivostok, Russia, defended in **June 2006**
• Emphasis in Environmental Health Risk Assessment

Master of Science (M. S.), Environmental Science, University of Idaho, Moscow, ID, graduated in **August 2002**
• Emphasis in Environmental Risk and Remediation

Specialist of Ecology (M.S.), Far Eastern State University, Academy of Marine Biology, Ecology, and Biotechnology, Vladivostok, Russia, graduated in **June 2000**
• Emphasis in Biological Sciences, Ecosystems, and Environmental Law

Bachelor of Science (B. S.), Environmental Science, Washington State University, Pullman, WA, graduated in **May 1999**
• Emphasis in Natural Resources Management, Environmental Policy

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Qualifications

- Geographic Information System ArcGIS, able to create maps, conduct spatial analysis
- Experienced in chemical laboratory work
- Expert field group leader for environmental contamination assessments
- Able to communicate fluently and write in English and Russian, understand and speak some Japanese.

Work Experience

Blacksmith Institute: New York, USA, February 2014 - now
Position: Regional Director of Eastern Europe and Central Asia Program
• management of projects in Russia, Central Asia, and Eastern Europe

Blacksmith Institute: Artem, Primorye, Russia, March 2010 – February 2014
Position: Regional Coordinator of FSU Projects
• coordination of projects in Russia, Central Asia, and Eastern Europe

Far Eastern Environmental Health Fund: Artem, Primorye, Russia, December 2002 - March 2010
Position: Director of Programs
• leading organization, coordinating programs

Regional environmental newspaper "Fresh Wind": Artem, Primorye, April 2007 – October 2012
Position: Chief Editor
• leading production, managing staff, editing and writing articles

World Wide Fund for Nature Russia: Vladivostok, Primorye, April 2003 – December 2006
Position: Salmon Conservation Projects Coordinator
• coordinating conservation programs activities, fundraising, reporting

Far Eastern State University, Dept of Ecology: Vladivostok, January 2003 – January 2005, September 2007 – December 2010
Position: Lecturer
• teaching GIS, Environmental Mapping, Environmental Economics, and Use of Modeling in Ecology

Wild Salmon Center: Portland, Oregon, May-September 2002
Position: Russia Programs Assistant
• working with spatial data, mapping, translating, writing and editing reports

TerraGraphics Environmental Engineering: Moscow, Idaho, April-May 1999, May-December 2001
Position: Assistant Environmental Engineer
• databases compiling, mapping, reports preparing

Committee of Natural Resources of Primorskiy Krai Regional Administration: Vladivostok, Primorskyi Krai August-October 1999
Position: Practicing Specialist

• office work, correspondence, documents

University of Idaho Environmental Science Program Field Research: Dalnegorsk, Primorskiy krai, June-July 1997
Position: Field Sampler and Translator
• assistance in soil sampling and site characterization in Russian Far East.

Participation in International Programs

Kinship Conservation Fellows, Use of Market Tools in Conservation Projects: Bellingham, Washington, USA, June-July 2008

Fellowship Program for Young Russian Policy and Opinion Makers: Warsaw, Poland, July 2006

Tahoe-Baikal Institute Environmental Science and Policy Summer Program: Lake Tahoe Area, California and Nevada, USA; Lake Baikal Area, Irkutsk and Buryatia Regions, Russia, June-August 2001

Russian-American Environmental Exchange Program at Western Washington University: Bellingham, Washington, USA, January-March 1998

Young Leaders of Democracy International Camp: Rabka, Poland, January-February 1995

Global Youth Forum of the United Nations Environmental Programme: Matsue, Shimane, Japan, August 1994

Main publications

(48 total in Russian, English, and Japanese)

Sharov P. O. 2005. “Lead Contamination of Environment in Rudnaya Pristan and Associated Health Risks.” Vladivostok. Dalnauka. 132 p.

Novomodny G.V., Sharov P.O., Zolotukhin S.F. 2004. “Amur Fish: Wealth and Crisis.” Vladivostok. Apelsin Publishers. 64 p.

Sharov P. O. 2000. “Optimization of Management for Solving Environmental Problems of the Amur Bay, Gulf of Peter the Great, Sea of Japan.” Report for Committee of

Natural Resources of Primorsky krai Administration. Vladivostok. Far Eastern State University. 60 p.

Projects Designed and Managed

"Salyan Obsolete Pesticides CLeanup," Salyan, Azerbaijan; 2016-2017; 50,000 USD; funded by UNIDO/ EU.

"Reducing Lead Health Risk of Children in Sovetskoe," Batken Oblast, Kyrgyz Republic; 2016-2017; 45,000 USD; funded by UNIDO/ EU

"Building the Capacity of Mongolian Non-State Actors to Promote Sustainable Livelihoods and Poverty Reduction in Rural Artisanal Gold Mining Areas," Mongolia; 2013-2016; 580,000 USD; funded by EU and Blacksmith Institute

"North Tajikistan Uranium Contamination Assessment," Khudjand, Tajikistan; 2014-2015; 55,000 USD; funded by Green Cross Switzerland.

"Sumgait Pilot Persistent Organic Pollutants Cleanup of Public Area," Sumgait, Azerbaijan; 2014-2015; 120,000 USD; funded by UNIDO, EU, Azerkymia.

"Clean Sea in Vladivostok," Vladivostok, Russia; 2008, 11,000 USD; funded by USAID

"Rudnaya River Valley Lead Health Risk Reduction Program," Primorsky krai, Russia; 2005- 2010; 500,000 USD; funded by Blacksmith Institute and Green Cross Switzerland

"Kamchatka Salmon Conservation," Kamchatka, Russia; 2005-2006, 2.4 million USD; funded by Gordon and Betty Moore Foundation, USA

Projects Managed

"Toxic Sites Identification Program," Armenia, Georgia, Azerbaijan, Uzbekistan, Ukraine, Kazakhstan, Tajikistan, Kyrgyz Republic, Mongolia; 2013-now; 1.5+ million USD; funded by UNIDO, EU, Green Cross Switzerland, USAID (Mongolia)

"Improving capacities to eliminate and prevent recurrence of obsolete pesticides as a model for tackling unused hazardous chemicals in the former Soviet Union," Armenia, Georgia, Azerbaijan, Belarus, Ukraine, Kazakhstan, Tajikistan, Kyrgyz Republic; 2013-2015; 414,000 USD; funded by FAO/ EU

“Solutions for the Palestinian E-waste Industry: Preserving Health, Livelihood, and Environment Through Community-based Reform and Contaminant Removal,” Israel/Palestine; 2015-2016; 370,000 USD; funded by SIDA

“Environmental Health Assessment and Intervention in Mailuu-Suu,”Kyrgyz Republic; 2011-2013; 46,000 USD; funded by Green Cross Switzerland

Annex IV. List of Documents Consulted

List of Project documents and reports

- Economic non-viable alternatives to the development of Aidarken. 2015. Design and Research Center "Ken-Too". p. 35.
- Final report on comprehensive studies of the impact of primary mercury mining on the environment in the Aidarken region. Kadamzhai. 2015 г. SGL KRTSPZiGSEN M. Israilov. p112
- GEF REQUEST FOR CEO ENDORSEMENT
- GEF SECRETARIAT REVIEW FOR FULL/MEDIUM-SIZED PROJECTS* THE GEF/LDCF/SCCF TRUST FUNDS
- Potential alternatives to the redevelopment of the Khaidarkan mercury plant. 2015. P. 141
- Report on "Monitoring and evaluation of mercury health effects. Bishkek. 2017. Sharshenova, A.A.
- The project of reclamation of disturbed lands of Khaidarkan GOK. LLC "MARIT", Design and Research Center "Ken-Too". p119.
- United Nations Development Programme Corporate Services Section (CSS)/ MSP Mercury Mining Kyrgyz
- United Nations Development Programme Project Document, Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic
- United Nations Environmental Programme Routing Slip
- Workplan for the Kyrgyz Republic Project Appendix 5
- Workplan for the Kyrgyz Republic Project Appendix 5, Component 1
- Workplan for the Kyrgyz Republic Project Appendix 5, Component 2
- Workplan for the Kyrgyz Republic Project Appendix 5, Component 3
- Workplan for the Kyrgyz Republic Project Appendix 5, Component 4

List of Additional documents

1. Agrochemistry Number 9, 2007/ Ilyin V.B., The question of working with allowable concentrations of heavy metals in soil. The Journal of Agrochemistry Number 10, 1985
2. Alternative standard procedures for determining general levels of mercury in hair, blood and urine. Project Document ERB VOZ
3. Atlas of the Kyrgyz Republic
4. Basel convention about the control and transportation of dangerous wastes and their disposal (1996)
5. Bogdetsky V.N., Ibraev K.E., Novikov V, and others. Analytical report version 1 on the alternative solutions of the settlement Adarken near the Khaidarkan mine processing center. Bishkek 2010.

6. Concept of risk assessment for the environment and health by the production of mercury in Khaidarkan, Southern Kyrgyz Republic. Prepared by GEF/UNEP
7. Davletov K, Kamarova O.M., Report on the result of the geological exploration at the Aktash-Arpalyks licensed plateau in 2004-2010. Bishkek 2011.
8. Guidance for identifying population at risk from mercury exposure. Geneva: United Nations Environment Programme and World Health Organization; 2008 (http://www.who.int/foodsafety/publications/risk-mercury-exposure/en/)
9. Hygienic standard on "the concentration of allowable toxic material in the air in the workplace." Adopted on 11 April 2016, Number 201.
10. Ilyin V.B. Heavy metals in the system of soil and plants/ "Nauka" Novosibirsk, 1991. Page 151.
11. Kabata-Pendias A., Pendias H. Microelements in soils and plants/ M. Mir 1989.
12. Land codes of the Kyrgyz Republic Number 45 from 02.06.1999.
13. Law of the KR "general technical guide for ensuring the ecological safety of the Republic of Kyrgyz Republic" 2009. (updated 2012)
14. Law of the KR about protecting the environment Number 53 from 16.06.1999 (updated 2014)
15. Law of the Kyrgyz Republic from 13 November 2001, Number 89, about waste from factories and plants.
16. Law of the Kyrgyz Republic from 24 July 2009, Number 248 on the "Protection of Public Health."With amendment of 29 December 2014."
17. Law of the Kyrgyz Republic from 9 January 2015, Number 6 on "The protection of the health of citizens of the Kyrgyz Republic." With amendments of 6 July 2017.
18. Law of the Kyrgyz Republic Number 34 from 30 May 2011 about the safety of drinking water.
19. M 03-06-2004. The methodology of measuring massive concentrations of mercury vapors in open air, inside dwellings, and manufacturing plants using the "atomic absorption" method with the Zeeman correction with non selective absorption of the mercury analysis. PA915+ methodology attributed to FGU "VNIIM D.I.Mendeleev"
20. Media Article—Strategies for re-profiling and reducing mercury related health risk, can Khaidarkan live and develop without mercury?
21. Media Article—Why is Mercury of Khaidarkan, utilized for decades, now considered illegal?
22. UN Environment. Gender Equality and the Environment Policy and Strategy
23. UNEP-ZOI Information on the production of primary mercury in Kyrgyz Republic, environmental risks and prospects for alternative development of Khaidarkan (in Russian 2015)
24. UNEP-ZOI Mercury in Khaidarkan— Environmental and health assessment Concept and scope of work for conducting mercury monitoring, assessment and control measures for environmental and health risks (in Russian 2015)
25. UNEP-ZOI Mercury in Khaidarkan—Assessment of the environment and health. Overview in Maps and Charts (in Russian 2015)

26. UNEP-ZOI Mercury in Khaidarkan—Brief information on the production of primary mercury in Kyrgyz Republic, environmental risks and prospects for alternative development (Russian in 2015)
27. UNEP-ZOI Mercury production in Khaidarkan, Analysis of opportunities and options for remediation Preliminary recommendations (in Russian 2015)

Annex V. PROJECT FINANCIAL SUMMARY

Project number:	GFL-2310-2760-4C70
Project title:	Reducing Global and Local Environmental Risks from Primary Mercury Mining in Khaidarkan, Kyrgyz Republic
Executing agency:	The Government of Kyrgyz Republic, State Agency on Environment Protection and Forestry

APPROVED BUDGET AND RECORDED EXPENDITURES

As at **16.11.2017**

	Approved budget	Recorded expenditure	Balance
Executing agency expenditures	884 000	730 647	153 353
UNEP/DGEF direct expenditures and mid-term and Terminal evaluation	60 000		60 000
Total:	944 000	730 647	213 353

Expenditures by project components[27]

	Comp 1	Comp 2	Comp 3	Comp 4	PM	M&E
GEF Budget	250,000.00	155,000.00	258,000.00	120,000.00	80,000.00	81,000.00
Revised Budget	220,000.00	176,789.00	297,475.00	83,000.00	85,736.00	81,000.00
Actual Exp	130,000.00	176,789.00	243,219.44	73,913.99	82,548.16	18,493.40

Project co-financing table[28]

Cost of project	**US$**	**Realized funds**
Cost to the GEF Trust Fund	944 000	Realized
Co-financing		
Cash:		
Swiss Federal Office for the Environment (FOEN)*	645 000	-[29]
Ministry of Foreign Affairs of Norway	800 000	Realized
U.S. Environmental Protection Agency	175 000	-
UN Environment	200 000	Realized

[27] June 30th 2017

[28] According to the information from the Financial Management Officer and Task Manager

[29] Items marked with "-" were reported as funds and in-kind contributions not provided to the project

UNDP	30 000	-
Sub-total (cash)	***1 405 000***	
In-kind and other inputs:		
State Agency on Environmental Protection and Forestry	100 000	Realized
Kyrgyz Mining Association	50 000	-
Osh Aarhus Environmental Information Centre	30 000	-
Zoi Environment Network	120 000	-
Almaty University of Power Engineering and Telecommunications (AUPET)	50 000	-
University of Castilla La-Mancha (Spain)	100 000	-
UNITAR	40 000	-
UN Environment	439 000	Realized
UNDP	228 000	-
Sub-total (in kind)	***862 000***	
Total	**3 951 000**	

Annex VI. Project Results Framework: Plans vs. Achievements

Indicator	Units	Baseline	End of Project Target	Achievements
Outcome 1: Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities				
1.1 Number of alternatives undergoing requiring socio economic analysis, environmental impact assessment and roadmap developed for the implementation of identi-fied mining alternatives.	# of mining alternatives	Preliminary socio-economic analysis of primary mercury production at Khaidarkan Preliminary report on Environmental issues related to primary mining in Khaidarkan	10 mining alternatives analysed	**6 mining alternatives analysed**
1.2 Number of priority alternative non-mining economic activities identified; socio-eco-nomic analysis, environmental impact assessment undertaken	# of non-mining alternatives identified	Preliminary socio-economic analysis of primary mercury production at Khaidarkan.	10 non-mining alternatives identified and analysed	**8 non-mining alternatives identified and analysed**
1.3 Number of alternative job opportunities (small business projects) created in Khaidarkan under the UNDP programme **Did not contact UNDP**	# of trainings; # of small business projects # of employment opportunities	0 trainings 0 small business projects 0 employment opportunities identified in the project	At least 6 trainings and roundtables, At least 10 small business development projects At least 800 employment opportunities for miners, poor farmers and unemployed (women not less than 30%) identified in the project	**219 potential employment opportunities identified in collected proposals for small grants program**
1.4 Number of national plans and strategies	# of national plans and strategies for development and chemicals management	• Action plan for mercury management developed but needs update. • Country Development Plan for 2009-2011	4 national development plans and strategies include mercury reduction	**The Khaidarkan factory switching to non-mercury production was included in the "Government Plan on Implementation of the Program on Transition of Kyrgyz Republic to Sustainable Development for 2013 – 2017 years"**
Outcome 2: Impacts of mercury mining evaluated through enhanced human health and environment monitoring				
2.1 Number of laboratories able to perform mercury analysis in humans and environment in Kyrgyz Republic	# of national laboratories # of local specialists trained # of laboratories participating in an inter-calibration study	Limited national capacities capable of performing mercury monitoring in humans and/or the environment 0 local specialist trained 0 intercalibration studies	4 national laboratories 10 local specialists trained to field sampling 4 laboratories participating in an intercalibration studies	**4 national laboratories** **10 local specialists trained to field sampling** **2 laboratories participated in intercalibration studies.**
2.2 Number of people and villages monitored on health and environmental impacts of mercury mining in Khaidarkan area	# of people monitored # of villages monitored	Preliminary report on environmental issues related to primary mining in Khaidarkan available	At least 5,000 people monitored At least 3 villages monitored	**200 people monitored** **8 villages monitored**

Indicator	Units	Baseline	End of Project Target	Achievements
2.3 Status of development of guidelines and establishment of a monitoring system for air emissions and emergency response	NA	No mercury monitoring in air and emergency response systems in place in Kyrgyz Republic	Data on air monitoring and accident response made available through the use of the equipment purchased	**Data on air monitoring obtained**
Outcome 3: Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures				
3.1 Number of sites identified for remediation targets and to establish priorities	# number of remediation sites identified	No prioritization of remediation is available	At least 3 sites identified for remediation	**1 site identified for future remediation – big pile of ignition residues**
3.2 Number of technicians and experts trained on mercury remediation	#of trainees	No previous training on remediation	20	**In 2013 a local training was done, then a delegation from Kyrgyz Republic went to Slovenia and Spain for additional training, No reports provided**
3.3 Number and spatial extent of facilities fenced and subject to remediation measures., number of structures reinforced	# of hectares and structures	0ha / 0 structures / 0 m3	47ha / 5 structures / 200m3	**None yet**
Outcome 4: Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine alternatives				
4.1 Number of media articles/ reports/videos/radio emissions produced	# media materials	No media coverage known to date	25 media material produced and disseminated	**32 various materials posted and/or disseminated**
4.2 Number of local inhabi-tants participating in the study on social impacts of transition to non-mercury alternatives identified	# of local inhabitants participating in the social impacts study	No report of social impacts of transition to non-mercury alternatives	600 inhabitants participating (through surveys, workshops, etc) on the social impacts study on non-mercury alternatives	**1000 people participated in sociological study**
4.3 Number of events/ activities to raise awareness and disseminate information to key stakeholders: a) government; (decision making officers)b) research institu-tions; c) private sector; d) local residents; e) journalists	# of events	No awareness raising participatory activities known	At least 12 events (workshops, seminars, training sessions, etc) , 3 per stakeholder group	**No reports of the events supplied**
6.4 Number of awareness raising materials (mercury information kits) in local language developed	# of awareness raising materials developed # of awareness raising materials distributed	3 awareness raising materials developed by intergovernmental organizations	20 awareness raising materials developed 500 awareness raising materials distributed	**No awareness raising materials developed yet**

Preliminary Findings

Terminal Evaluation of the UN Environment/Global Environment Facility project
"Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic"

Petr Sharov
Vladivostok,
2017

Contents

- **Project performance**
  - **A. Strategic Relevance**
  - **B. Quality of Project Design**
  - **C. Nature of External Context**
  - **D. Effectiveness**
    - ***Achievement of Outputs***
    - ***Achievement of Direct Outcomes***
    - ***Likelihood of Impact***
  - **E. Financial Management**
  - **F. Efficiency**
  - **G. Monitoring and Reporting**
  - **H. Sustainability**
  - **I. Factors and Processes Affecting Project Performance**

Contents

C. **Key Strategic Questions**

- **Sustainability** of the project outcomes; to what extent the project contributed to the lessening reliance on mercury mining and how sustainable the achieved results actually are
- **Lessons learned** that could support implementation of the future UN Environment projects in countries with similar socio-economic and political conditions
- **UN Environment's role/value in addressing** economic development, livelihoods and alternative income sources

- **Strategic Relevance**

The Project is in line with UNEP goal of reducing global emissions of mercury

The Project is in line with national declared priorities of environmental and health protection. However some parts of the government did not support the project: Ministry of Economy

- **Quality of Project Design**

The overall rating for the project is "Satisfactory". The project document contains all necessary sections that contain information on structure, risks, assumptions, sustainability and stakeholders. The logical framework contains indicators, baseline, targets for each outcome.

C. Nature of External Context

The issue of political instability and change of the government was clearly underestimated. This led to delays in project implementation.

Another issue of external context was important in the project area. The mine equipment failed which led to flooding of the mine and stopped mercury production

D. Effectiveness

- ***Achievement of Outputs***
- ***Achievement of Direct Outcomes***
- ***Likelihood of Impact***

1. **Component 1:** Identification and implementation of local economic opportunities, not reliant on mercury mining
2. **Component 2:** Assessment and monitoring of environment and health impacts from primary mercury mining and pollution
3. **Component 3:** Explore and prepare remedial and risk prevention measures for mercury-contaminated sites
4. **Component 4:** Awareness rising at national and community level and public transparency

Component 1: Identification and implementation of local economic opportunities, not reliant on mercury mining

Outcome 1: Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities

Output 1.1. Report on socio-economic analysis, environmental impact assessment and roadmap for the implementation of mining alternatives to mercury mining elaborated and endorsed.

There is a good quality detailed report on socio-economic analysis and mining alternatives. Gold processing is suggested as one of the main alternatives to mercury production. No impact assessment yet.

Output 1.2. Report on identified priority alternatives for non mining economic activities.

There is a good quality detailed report on non mining alternatives. Agriculture and food processing are identified as economic activities with the biggest potential.

Component 1: Identification and implementation of local economic opportunities, not reliant on mercury mining

Output 1.3. UNDP Report on progress in facilitating the diversification of Khaidarkan economy, including the promotion of alternatives to mining developed.

No report obtained. Milk processing is currently considered by the executing agency to support.

Output 1.4. National development plans and national strategies for development includes the outcomes of the analysis and programmes on alternatives to mercury mining

National Strategy on Sustainable Development has a line about the Khaidarkan mine switching to non-mercury production.

Component 1: Identification and implementation of local economic opportunities, not reliant on mercury mining

Outcome 1: Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities	
1.1 Number of alternatives undergoing requiring socio economic analysis, environ-mental impact assessment and roadmap developed for the implementation of identified mining alternatives.	Target: 10 mining alternatives analysed **Achieved: 6 mining alternatives analysed**
1.2 Number of priority alter-native non-mining economic activities identified; socio-economic analysis, environmental impact assessment undertaken	Target: 10 non-mining alternatives identified and analysed **Achieved: 8 non-mining alternatives identified and analysed**
1.3 Number of alternative job opportunities (small business projects) created in Khaidarkan under the UNDP programme	At least 6 trainings and roundtables, At least 10 small business development projects At least 800 employment opportunities for miners, poor farmers and unemployed (women not less than 30%) identified in the project **Identified possible 219 job opportunities, not feasible to support all Did not work with UNDP**
1.4 Number of national plans and strategies	4 national development plans and strategies include mercury reduction *Russian version differs* **National Sustainable Development Strategy adopted**

Component 2: Assessment and monitoring of environment and health impacts from primary mercury mining and pollution

Outcome 2: Impacts of mercury mining evaluated through enhanced human health and environment monitoring

Output 2.1. Training reports from 10 experts and 4 local laboratories and results from intercalibration studies available.

- No reports obtained - Gap

Output 2.2. Report containing including qualitative and quantitative assessment of environmental and health risks and impacts in the primary mercury mining area available.

-**There is a report on conducted health study. It contains limited data on exposure of people to mercury. 200 people were examined (target 5000).**

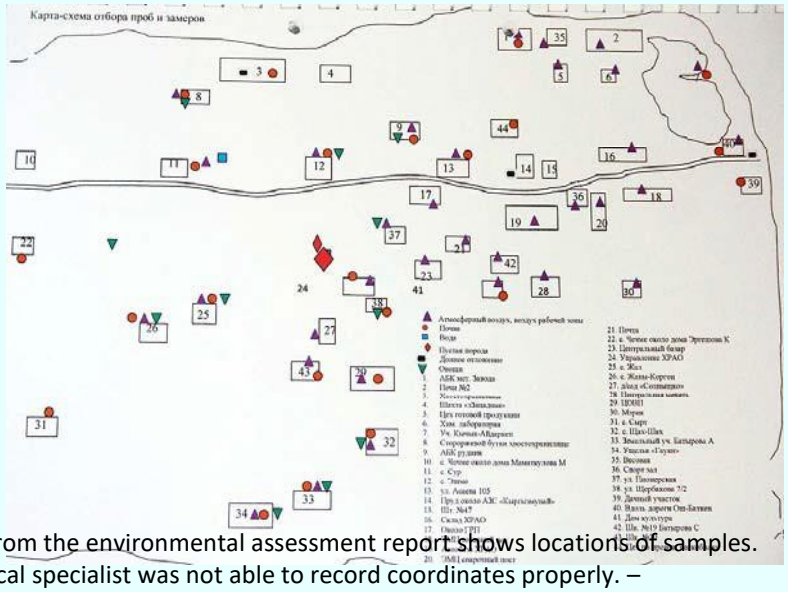
-**A separate report exists on environmental mercury contamination of soil, food, and air. The data is very limited – only 36 soil samples.* Air pollution was assessed once in the fall, so the highest concentrations of mercury vapors were not observed.**

Environmental risks were not analysed in the report.

Output 2.3. Low cost and easy-to use monitoring system installed and capacity to collect and disseminate environment and health risk information available.

-**No system in place yet. But good analysing equipment was purchased which makes it possible to create such system in the future. Local specialists need more training and funding in order to use this equipment properly.**

Component 2: Assessment and monitoring of environment and health impacts from primary mercury mining and pollution



Map from the environmental assessment report shows locations of samples. The local specialist was not able to record coordinates properly. – cofinancing aspect – norway funds to supptr more training

Component 2: Assessment and monitoring of environment and health impacts from primary mercury mining and pollution

Outcome 2: Impacts of mercury mining evaluated through enhanced human health and environment monitoring	
2.1 Number of laboratories able to perform mercury analysis in humans and environment in Kyrgyz Republic	Target: 4 national laboratories **Achieved: 4 labs, 2 specialists from each lab were trained** Target: 10 local specialists trained to field sampling **4 specialists from Kadamzhai lab we trained** Target: 4 laboratories participating in an intercalibration studies **Achieved: 2 laboratories participated in intercalibration studies**
2.2 Number of people and villages monitored on health and environmental impacts of mercury mining in Khaidarkan area	Target: At least 5,000 people monitored **Achieved: About 200** Target: At least 3 villages monitored **Achieved: 8 villages**
2.3 Status of development of guidelines and establishment of a monitoring system for air emissions and emergency response	Data on air monitoring and accident response made available through the use of the equipment purchased **A study of mercury environmental pollution was conducted**

Component 3: Explore and prepare remedial and risk prevention measures for mercury-contaminated sites

Outcome 3: Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures

Output 3.1 Report on remediation targets and priorities available at UNEP's website **There is a report in Russian on planned remediation of the mountain of ignition residues.**

Output 3.2 Workshops and training reports on training on mercury remediation available.
In May 2016 a group of people from Kyrgyz Republic visited Almaden (Spain) and Idrija (Slovenia) where they received some knowledge about mercury remediation.

Output 3.3 Strategy and guidelines for remediation of highly mercury contaminated areas prepared and highlights reduction of mercury emissions into the local and global environment and also reflected in decontamination report.
The same report contains remediation strategy. However the proposed plan if implemented will not lead to the reduction of mercury emissions or decrease of exposure of people to mercury.

Component 3: Explore and prepare remedial and risk prevention measures for mercury-contaminated sites

Outcome 3: Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures	
3.1 Number of sites identified for remediation targets and to establish priorities	Target: At least 3 sites identified for remediation **Achieved: 1 site identified –pile of ignition residues**
3.2 Number of technicians and experts trained on mercury remediation	Target: 20 **Achieved: In 2013 local training was done, then people went to Slovenia and Spain**
3.3 Number and spatial extent of facilities fenced and subject to remediation measures., number of structures reinforced	Target: 47ha / 5 structures / 200m3 **Achieved: Not yet**

Component 4: Awareness rising at national and community level and public transparency

Outcome 4: Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine alternatives

Output 4.1 Media material produced and disseminated
There were some publications in local media.

Output 4.2 Report on social impacts of alternatives to mercury mining available
There is a report on social assessment conducted in the area.

Output 4.3 Reports of awareness raising workshops and events available
No reports provided. The work was allegedly complicated by the mine administration.

Output 4.4 Communication materials in local language available
No communication materials were developed.

Component 4: Awareness rising at national and community level and public transparency

Outcome 4: Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine alternatives	
4.1 Number of media articles/ reports/videos/radio emissions produced	Target: 25 media material produced and disseminated **Achieved: Not yet counted**
4.2 Number of local inhabitants participating in the study on social impacts of transition to non- mercury alternatives identified	Target: 600 inhabitants participating (through surveys, workshops, etc) on the social impacts study on non-mercury alternatives **Achieved: 1000 people participated**
4.3 Number of events/ activities to raise awareness and disseminate information to key stakeholders: a) government; (decision making officers) b) research institutions; c) private sector; d) local residents; e) journalists	Target: At least 12 events (workshops, seminars, training sessions, etc) , 3 per stakeholder group **Achieved: Not yet counted**
6.4 Number of awareness raising materials (mercury information kits) in local language developed	Target: 20 awareness raising materials developed **Achieved: None yet** 500 awareness raising materials distributed **Achieved: None yet**

E. Financial Management

The implementing national agency did not report any problems with receiving project funds.

G. Monitoring and Reporting

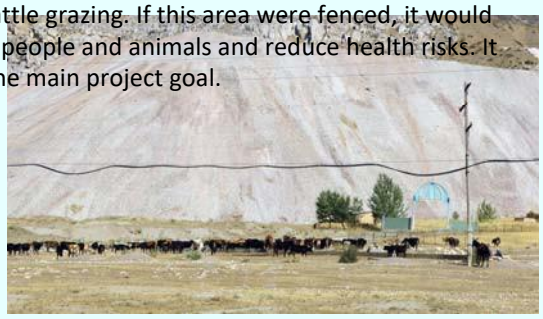
The project reporting was done on the regular basis. There is a delay in producing project documents and reports in English, particularly at the end of the project. This is not critical for the project implementation and evaluation.

F. Efficiency

The project had sufficient funding yet provided limited results. The project team did not implement the most cost-effective actions.

Example 1. In Component 3 one of the indicators is the fenced area. The project designers intended to fence some of the most contaminated areas to limit access of people and domestic animals. This is a relatively cheap and effective action.

The most contaminated area is near the pile of ignition residues. Presently it is used by local people for cattle grazing. If this area were fenced, it would have decreased exposure of people and animals and reduce health risks. It would have been a step to the main project goal.



F. Efficiency

Example 2. In Component 2 the project team measured mercury in urine, hair and blood. 200 people were examined. The study did not find that people in town were exposed to elevated concentrations of mercury, other than those who directly worked with the ore. Given the sample size it is highly likely that researchers did not study people with actual residential exposure. Let's assume the funds were not sufficient to test more people (why?). Then the most cost effective approach would have been to go door-to-door and invite people who live in most contaminated areas to participate in the study. It was not done.

Example 3. In Component 4 production and dissemination of awareness materials was planned. It is one of the cheapest actions in such projects. But it was not done, even though there was enough time and ample funding.

H. Sustainability

Sustainability of the project outcomes; to what extent the project contributed to the lessening reliance on mercury mining and how sustainable the achieved results actually are

Component 1 – identified alternatives are feasible but require investments. For mining alternatives cooperation with mine administration is necessary. The project results will not be sustainable unless with external support. But presently the reliance of the local community on mercury mining is greatly reduced since the mining has stopped after the flood. The mine administration plans to pump out the water within a year and restart mining.

Component 2 – The project provided good, though limited data on mercury pollution in the area and exposure of people. This experience and new equipment make it much easier to continue such work in the future. But it would also require government will and external support.

H. Sustainability

Sustainability of the project outcomes; to what extent the project contributed to the lessening reliance on mercury mining and how sustainable the achieved results actually are

Component 3 – Obviously the country lacks expertise in this area and this work has to be done again involving experts with knowledge of such projects.

Component 4 – project participants and outsiders indicated that there was no "targeted mercury awareness raising campaign" in place. Some efforts were applied, sociological study completed and some limited media coverage. The sustainability of these results is questionable.

Lessons learned

Lessons learned that could support implementation of the future UN Environment projects in countries with similar socio-economic and political conditions

The intent of the project was to stop further contamination (through helping the local community switch from mercury mining) and prepare for future remediation project. This required a detailed health assessment to establish a baseline and a detailed environmental assessment to map contaminated areas and plan cleanup activities.

Factors and Processes Affecting Project Performance
Lessons learned

The project did not achieve most of what was planned. “Why?” The main reasons:

2. Ambitious targets
3. Underestimation of risks
4. No experience of such projects of the implementing national agency
5. Lack of cooperation with the mine administration

The main lessons are:

6. More realistic planning
7. Operation through experienced organizations or providing enough guidance and experts’ support
8. Establish cooperation with the polluting industry

9. recommendations

UN Environment’s role/value in addressing economic development, livelihoods and alternative income sources

The issue of economic development should have been addressed in cooperation with UNDP, but this has not happened in the project. This is probably why the implementation of this component was so delayed.

Annex VIII. ToC, pathways (separate PDF document)

Annex IX. Reference to key UN Environment mandates and strategic relevant policies

Project Components		UN Environment Medium Term Strategy (2010-2013)	UN Environment Medium Term Strategy (2014-2017)	UN Environment Programme of Work (2012-2013)	UN Environment Programme of Work (2014-2015)	UN Environment Gender Policy and Strategy	Human Rights Based Approach	UN Environment Safeguards[30]
Outcomes	**Outputs**							
Outcome 1: **Community reliance on mercury mining reduced through identification of alternative diversified employment opportunities.**	**Output 1.1:** Report on socio-economic analysis, environmental impact assessment and roadmap for the implementation of mining alternatives to mercury mining elaborated and endorsed.	No direct link	No direct link	The activities of Component 1 relate to Subprogramme 5 Harmful substances and hazardous waste strategy (a): "In collaboration with UNDP and other United Nations entities through relevant inter-agency processes, the subprogramme will promote the mainstreaming of chemical safety in development agendas and the active involvement of all relevant sectors to achieve coherent and effective regulatory, voluntary and market-based policies at the national level" Also relates to Subprogramme 4 Environmental	The work of the project relates to the chemical and waste section item (b) "Keeping under review trends in the production, use and release of chemicals and waste, promoting and catalysing their sound management, including through multi-stakeholder partnerships." Particularly in Output 1.4 the evaluated project result is the government plan of	ProDoc mentions "Consider gender issues in decision-making and project implementation" in section "3.11 Environmental and Social Safeguards" Gender was considered in the sociological survey in Output 1.1. Sociological survey was led by a female specialist	No direct evidence of the project purposely applying the UN Common Understanding on HRBA. Despite this, there is no evidence to conclude that the project intentionally set out not to be in line with the UN Declaration on the Rights of Indigenous People, and has subsequently pursued the concept of free, prior and informed consent.	Section "3.11 Environmental and Social Safeguards" of the ProDoc states that environmental and social safeguards are followed. During the project the local specialists were trained to conduct field work in safe manner to reduce possible risks to themselves and local residents. The social risks to the local society after closing the mine were considered in the project. Alternative economic activities were
	Output 1.2: Report on identified priority alternatives for non mining economic activities.							
	Output 1.3: UNDP Report on progress in facilitating the diversification of Khaidarkan economy, including the promotion of alternatives to mining	Relevant to the implementing procedure (C) Capacity-building and technology support, 64 (e) "Enhancing the partnership of UNEP with the United Nations Development Programme (UNDP) and ensuring closer						

[30] UN Environment Environmental Safeguards guidance was established and became mandatory only in 2016 but this section looks at the coverage of safeguards in general terms

Project Components		UN Environment Medium Term Strategy (2010-2013)	UN Environment Medium Term Strategy (2014-2017)	UN Environment Programme of Work (2012-2013)	UN Environment Programme of Work (2014-2015)	UN Environment Gender Policy and Strategy	Human Rights Based Approach	UN Environment Safeguards[30]
	developed.	cooperation between the UNEP regional offices, UNDP resource centres and UNDP country offices"		governance, section (d) of the strategy: "To promote and support the environmental basis for sustainable development at the national level, the subprogramme will support Governments in mainstreaming the environment in their development planning processes, including through the UNEP-UNDP Poverty and Environment Initiative."	reprofiling the mercury processing enterprise in the future			suggested and switching to other mining and non-mining activities proposed.
	Output 1.4: National development plans and national strategies for development includes the outcomes of the analysis and programmes on alternatives to mercury mining	No direct link						
Outcome 2: **Impacts of mercury mining evaluated through enhanced human health and environment monitoring.**	**Output 2.1:** Training reports from 10 experts and 4 local laboratories and results from intercalibration studies available.	The outputs of Component 2 are relevant to Thematic priority Harmful substances and hazardous waste Expected accomplishment: "States and other stakeholders have increased capacities and financing to assess, manage and reduce risks to human health and the environment posed by chemicals and hazardous waste"	Relevant Expected Accomplishment 2 (EA): "Enabling environment: Countries increasingly have the necessary institutional capacity and policy instruments to manage chemicals and waste soundly including the implementation of related provisions of the multilateral environmental	Building the country's capacity in mercury contamination monitoring is part of the Subprogramme 5 Harmful substances and hazardous waste strategy (a): "To help countries to increase their capacities for sound management of chemicals and hazardous waste within a life cycle approach. Subprogramme support will cover data collection, the assessment and management of chemicals, the	The work in Component 2 also relates to the chemical and waste section item (b). The activities focused on gathering actual information about environmental contamination and exposure of people to mercury.	The work on health assessment was lead by a female specialist.		
	Output 2.2: Report containing including qualitative and quantitative assessment of environmental and health risks and impacts in the primary mercury mining							

Project Components		UN Environment Medium Term Strategy (2010-2013)	UN Environment Medium Term Strategy (2014-2017)	UN Environment Programme of Work (2012-2013)	UN Environment Programme of Work (2014-2015)	UN Environment Gender Policy and Strategy	Human Rights Based Approach	UN Environment Safeguards[30]
	area available.		agreements;" All outputs of the project's Component 2 contributed to increasing the national capacity to control and monitor mercury and other toxic chemicals.	implementation of scientifically designed hazardous waste management systems and the strengthening of chemical and hazardous waste legislation and regulatory frameworks."				
	Output 2.3: Low cost and easy-to use monitoring system installed and capacity to collect and disseminate environment and health risk information available.							
Outcome 3: **Reduced risk exposure from mercury contaminated sites through remedial and risk prevention measures.**	**Output 3.1:** Report on remediation targets and priorities available at UNEP's website.	Relevant to the MTS to Thematic priority Harmful substances and hazardous waste objective "to minimize the impact of harmful substances and hazardous waste on the environment and human beings" The purpose of all outputs and outcome of Component 3 minimize the health and environmental impacts of such harmful substance as mercury.	Relevant to the MTS Chemicals and Waste Subprogramme Objective: "to promote a transition among countries to the sound management of chemicals and waste, with a view to minimizing impacts on the environment and human health." Also relevant to	The work in Coponent 3 directly relates to the Subprogramme 5 Harmful substances and hazardous waste objective: "To minimize the impact of harmful substances and hazardous waste on the environment and human beings"	The outputs and outcome of Component 3 also relate to the chemical and waste section item (b). The activities focused on preparing future remediation of the area.	No specific gender related information		
	Output 3.2: Workshops and training reports on training on mercury remediation available.							

Project Components		UN Environment Medium Term Strategy (2010-2013)	UN Environment Medium Term Strategy (2014-2017)	UN Environment Programme of Work (2012-2013)	UN Environment Programme of Work (2014-2015)	UN Environment Gender Policy and Strategy	Human Rights Based Approach	UN Environment Safeguards[30]
	Output 3.3: Strategy and guidelines for remediation of highly mercury contaminated areas prepared and highlights reduction of mercury emissions into the local and global environment and also reflected in decontamination report.		the above mentioned EA2 The purpose of all outputs and outcome of Component 3 is to reduce health risks.					
Outcome 4: **Enhanced governance through awareness raising and stakeholders' participation on the transition to mercury mine**	**Output 4.1:** Media material produced and disseminated Output 4.2: Report on social impacts of alternatives to mercury	Relevant to the implementing procedure (B) Awareness-raising, outreach and communications: "Civil society, including children and youth, and the private sector will be reached through tailor-made outreach products and campaigns that will be developed with	Relevant to the MTS Chemicals and Waste Subprogramme Objective: "to promote a transition among countries to the sound management of chemicals and waste, with a view to minimizing impacts on the environment and	The activities of Component 4 relate to Subprogramme 5 Harmful substances and hazardous waste strategy (a): "…will also promote and facilitate public access to information and knowledge on chemicals and hazardous waste, including impacts on	The work on awareness raising in Component 4 of he project supplements the work of other components and is consistent with PoW.	No specific gender related information.		

Project Components		UN Environment Medium Term Strategy (2010-2013)	UN Environment Medium Term Strategy (2014-2017)	UN Environment Programme of Work (2012-2013)	UN Environment Programme of Work (2014-2015)	UN Environment Gender Policy and Strategy	Human Rights Based Approach	UN Environment Safeguards[30]
alternatives.	mining available. Output 4.3: Reports of awareness raising workshops and events available. Output 4.4: Communication materials in local language available	UNEP divisions and regional offices. Civil society will also be engaged to assist with UNEP outreach efforts."	human health." The activities of Component 4 were intended to directly promote through awareness to minimize the impacts on environment and human health, even though the achievements in this part of the evaluated project were below expectations.	human health and the environment."				

Краткое обобщение оценки проекта "Снижение глобальных и местных экологических рисков, возникающих в связи с добычей первичной ртути в посёлке Айдаркен, Кыргызской Республики"

Введение

Настоящее обобщение кратко представляет основные данные и выводы итоговой оценки проекта Глобального экологического фонда (ГЭФ) и Программы ООН по окружающей среде (ЮНЕП) «Снижение глобальных и местных экологических рисков, возникающих в связи с добычей первичной ртути в посёлке Айдаркен, Кыргызской Республики» [31]

В соответствие с соглашением, подписанным ГЭФ, и политикой ЮНЕП по оценке проектов, итоговая оценка проводится на заключительной стадии или по завершении проекта с целью оценки его эффективности (с точки зрения актуальности и продуктивности), а также для определения результатов и последствий (фактических и возможных), вытекающих из проекта, включая их устойчивость.

Двумя основными целями оценки проекта являются: (1) предоставление результатов проекта для удовлетворения требований отчетности, и (2) содействие оперативному улучшению работы, обучению и обмену знаниями между ЮНЕП и ее партнерами посредством полученных результатов и извлеченных уроков. Таким образом, в ходе настоящей оценки определялась практическая ценность извлеченных уроков для разработки и реализации последующих проектов, связанных с добычей ртути в Кыргызской Республике.

Оценка проводилась независимым экспертом, специалистом в области снижения рисков для здоровья населения от загрязнения окружающей среды тяжелыми металлами. Сбор данных включал обзор документации по проекту, личные встречи и интервью по Skype с рядом респондентов (всего 30 человек), визит в Кыргызстан, участие в заседании Руководящего комитета, где основные достижения проекта были доложены широкому кругу участников и заинтересованных сторон.

Краткое описание проекта

Проект был разработан в 2011-2012 гг для решения проблемы ртутного загрязнения и воздействия ртути на человека в пос. Айдаркен. Проектный документ имеет типичную структуру и включает в себя следующие задачи: а) сокращение или устранение текущих выбросов загрязняющих веществ; б) проведение оценки состояния окружающей среды и здоровья людей; в) повышение осведомленности людей; г) разработка масштабного плана по реабилитации; д) осуществление некоторых

[31] ГЭФ ID проекта: 4985

наиболее возможных мер по очистке. В дополнение к этим действиям в проекте также обращается внимание на экономическое развитие района с целью уменьшения зависимости местного населения от горнодобывающего производства.

Эти задачи были сгруппированы в 4 компонента с отдельными мероприятиями, продуктами и результатами. Компонент 1 включал мероприятия по оказанию содействия местному сообществу по переходу от производства ртути к другим альтернативным производствам, связанным или нет с горнодобычей. Компонент 2 включал работу по оценке окружающей среды и здоровья человека с целью охарактеризовать загрязнение окружающей среды и риски для здоровья населения. Компонент 3 включал действия по планированию и реализации работ по очистке и рекультивации загрязненной территории. Компонент 4 был посвящен повышению уровня образованности и осведомленности. Все эти мероприятия были направлены на достижение главной цели – «охрана здоровья человека и защита окружающей среды от токсического воздействия ртути путём перепрофилирования комбината по производству первичной ртути и сообщества».

Результаты оценки и выводы

Проект был хорошо обоснован, и вся деятельность была направлена на снижение рисков для здоровья и на сокращение зависимости от ртутного производства. Структура проекта имеет стратегическое значение для решения глобальных, региональных и национальных экологических проблем и соответствует мандату ЮНЕП, ее стратегиям и приоритетам. Деятельность по проекту способствовала достижению того, что «государства и другие заинтересованные стороны увеличили потенциал и финансирование для оценки, управления и снижения рисков для здоровья человека и окружающей среды, создаваемых химическими веществами и опасными отходами».

Проект был реализован с задержкой в начале и с последующим продлением сроков: изначально работа планировалась с 01.10.2012 по 06.05.2016, а фактически проект реализовывался с 05.05.2013 по 31.03.2018. Это было связано с организационными проблемами и сложностями во взаимоотношениях между участниками и заинтересованными сторонами.

В результате работы проекта из 14 запланированных продуктов полностью реализованы 8 и 6 частично. Был проведен большой объем работы и проект способствовал расширению возможностей в Кыргызстане по проведению анализов на содержание ртути в различных средах. Был собран значительный объем новых данных по загрязнению в пос. Айдаркен и его окрестностях и по поступлению ртути в организм людей. Вместе с достижения проекта были достаточно скромными по изменению существующей ситуации в пос. Айдаркен. В частности нельзя сказать, что стало меньше загрязнения ртутью или уменьшилось воздействие ртути на людей.

Прямой результат (1) «альтернативные многоотраслевые возможности трудоустройства выявлены и доступны для сообщества» был частично достигнут. Долгосрочный результат (1) «зависимость сообщества от добычи ртути уменьшена путем выявления альтернативных вариантов занятости» оценен как недостигнутый. Горное производство прекратилось из-за внешних факторов, но как ожидается, будет возобновлено.

Наибольшее влияние на ситуацию в стране проект оказал в компоненте 2. Местный потенциал по проведению исследований загрязнения окружающей среды был значительно увеличен благодаря обучению, приобретению современного оборудования и проведению полевых исследований. Эту работу следует продолжать, опираясь на существующие достижения. Проект способствовал достижению прямого результата (2) «улучшение мониторинга здоровья человека и окружающей среды» и долгосрочного результата (2) «воздействие добычи ртути оценивается с помощью углубленного мониторинга здоровья человека и окружающей среды». Достигнутые результаты ниже целевых значений показателей, но это было связано с поздним и неполным получением софинансирования проекта, которое должно было пойти на поддержку работы на начальном этапе.

Прямые результаты по компонентам 3 и 4 по планированию работ по ремедиации и повышению осведомленности были достигнуты частично и имеют наименьшую вероятность воздействия. В работе проекта были сложности связанные с противодействием администрации Хайдарканского ртутного комбината, особенно на начальном этапе.

Устойчивость результатов проекта за некоторыми исключениями оценивается в целом как низкая без внешней поддержки. Результат 1 по поддержке местного бизнеса, который бы создал несколько рабочих мест, - это результат, который, вероятно, будет работать дальше. Другим устойчивым достижением является увеличение лабораторного потенциала по исследованиям ртути в стране. Что касается других частей проекта, то можно опираться на существующие достижения, чтобы решить проблему воздействия ртути на здоровье в Айдаркене. Но для этого потребуется поддержка международных институтов.

Оценка показала, что проект в целом соответствовал требованиям по мониторингу и отчетности, все отчеты предоставлялись своевременно и с адекватным вниманием к деталям и содержанию. Отчеты субподрядчиков по каждому виду деятельности дали четкое описание проведенной работы. Команда проекта регулярно предоставляла доклады о ходе работ Руководящему комитету проекта и ЮНЕП. Возможно, следовало произвести среднесрочную оценку через 12 месяцев после начала реализации проекта. Это помогло бы лучше отслеживать прогресс проекта и внести своевременные изменения в реализацию.

Потенциал по воспроизводству проекта оценивается как хороший. Аналогичные работы, в частности компоненты 2-4, можно было бы реализовать в других подобных местах в Южном Кыргызстане с сокращенным или недавно прекращенным производством ртути: Чаувай или Улу-Тоо. Проект касался не только производства

ртути, но и оценки концентраций токсичного мышьяка и сурьмы. Этот опыт можно было бы использовать в будущей работе в поселках со сходным характером загрязнения: Кадамжае, Терек-Сае и других местах в Кыргызстане. При решении проблем по охране окружающей среды в Анзобе, Таджикистан также можно использовать полученный опыт настоящего проекта.

В целом, проект оценивается как **умеренно удовлетворительный.**

Извлеченные уроки

Извлеченные уроки по проекту представлены ниже:

- Урок 1: Тщательно оцените местный потенциал, чтобы ставить наиболее реалистичные цели проекта, связанные с мониторингом и рекультивацией. В ходе работы проекта ряд показателей не был достигнут, и это можно объяснить влиянием нескольких факторов. Один из них – это амбициозные целевые индикаторы проекта, которые не вполне соответствовали местным условиям. Например, в компоненте 2 количество людей в поселках, где контролировалось воздействие на здоровье, было заявлено участие 5000 человек, в то время как было фактически протестировано только 200 человек, что соответствовало имевшимся возможностям. Другой пример: в компоненте 3 одним из показателей было 47 га огороженной территории. Но это оказалось слишком сложно осуществить из-за недостатка опыта и из-за отсутствия сотрудничества с администрацией комбината.

- Урок 2: Не стоит недооценивать существующие риски для реализации проекта. Реализация проекта была отложена из-за проблем, связанных с ситуацией в стране и государственных структурах. Страна пережила революцию в 2010 году (вторая революция за десятилетие), и потребовалось несколько лет, чтобы правительственные органы прошли через изменения и реорганизацию. Это напрямую повлияло на проект. В данном случае фактическое начало было задержано в связи с чем срок работ был закономерно продлен.

- Урок 3: Следует наиболее корректно оценивать имеющиеся возможности и оказывать достаточную экспертную поддержку. Этот проект был первым комплексным проектом такого рода в Кыргызстане. В ходе проекта проводилась детальная оценка состояния окружающей среды и здоровья человека, и велась работа по экономическим вопросам и мероприятиями по рекультивации среды. В стране пока недостаточно опыта по проведению подобных работ. В итоге некоторые результаты не соответствовали изначальным планам и показателям проекта. Например, экологическая оценка, проведенная в рамках мероприятий Компонента 2, обеспечила хороший результат и интересные данные. Предполагалось, что собранные данные позволят планировать работы по рекультивации. Однако полученная

информация не позволяет картировать площади и контуры загрязненных участков, и уровни их загрязнения. Исследование производилось скорее как качественная, а не как количественная оценка. Это можно было бы исправить, если б был приглашен эксперт для оказания помощи в планировании и проведении исследования.

Вторым примером является отчет о стратегии рекультивации, подготовленный при работе по Компоненту 3. Это отчет хорошего качества с подробным анализом одной идентифицированной стратегии по реабилитации. Но эта стратегия не приводит к сокращению выбросов ртути на территории или к уменьшению воздействия ртути на людей. В этом случае, специалист по оценке рисков, и инженер, имеющий опыт восстановление загрязненных ртутью территорий, могли бы помочь выявить наиболее подходящие эффективные стратегии, которые могли бы быть подробно разработаны местными специалистами.

- Урок 4: Следует обеспечить рабочие отношения с представителями промышленного производства. Это часто является довольно деликатной проблемой в таких проектах, поскольку активная горнодобывающая промышленность имеет тенденцию противодействия строгим экологическим нормам и усилиям, направленным на выявление фактических последствий загрязнения окружающей среды добычей и переработкой руды. Несмотря на то, что Хайдарканский ртутный комбинат принадлежит государству, между членами проектной группы и администрацией комбината сотрудничество было минимальным, и даже случались открытые разногласия. Это указывает на несогласованность в правительстве относительно поддержки проекта, что отразилось на полевой работе. Подобные проблемы должны устраняться до начала проектов.

Рекомендации

Основанные на выводах, результатах и извлеченных уроках последующие рекомендации адресованы Программе ООН по защите окружающей среды (как агентству-исполнителю), чтобы помочь в разработке любых будущих подобных проектов в Кыргызской Республике или других странах региона.

Рекомендация 1. Следует подготовить стратегический план, чтобы структурировать последующий проект по снижению рисков для здоровья в Айдаркене. Создание и реализация такого плана с учетом всех извлеченных уроков, может обеспечить устойчивые в долгосрочной перспективе результаты.

Рекомендация 2. Необходимо включить в следующий проект другие поселки на юге Кыргызской Республики со сходными проблемами загрязнения: Чаувай, Кадамжай, Улу-Тоо, Терек-Сай и др., где известно или подозревается высокое содержание ртути, сурьмы или мышьяка. Правильно структурированная работа по оценке состояния окружающей среды и здоровья позволит определить приоритетность мер по

восстановлению или минимизации последствий для здоровья, чтобы они были более эффективными и успешными.

Рекомендация 3. В рамках разработки следующего проекта следует уделить внимание эффективной и реальной стратегии очистки, которая могла бы быть реализована в будущем для решения проблемы ртутного загрязнения в Айдаркене. Отдельные стратегии следует разрабатывать для каждого загрязненного участка в Южном Кыргызстане. Разработка таких стратегий и осуществление экспериментальных проектов позволили бы лучше понять возможные решения и необходимые ресурсы для снижения или устранения рисков для здоровья.

Рекомендация 4. Законодательная база Кыргызстана и ее применение должны быть проанализированы на предмет любых препятствий для проведения работ по реабилитации. Необходимо разработать ряд рекомендаций на основе наиболее известных международных практик, касающихся совершенствования законодательной базы или ее использования для облегчения реализации проектов рекультивации и очистки окружающей среды.

Рекомендация 5. Обеспечить достаточную экспертную поддержку местных специалистов, и использовать систему управления, основанную на результатах, чтобы реализация проекта приводила к планируемым результатам с долгосрочным воздействием.

Рекомендация 6. Улучшить межведомственное взаимодействие государственных структур и участие заинтересованных сторон в проекте.

Рекомендация 7. Повысить прозрачность и информационное сопровождение выполнения проекта.

Annex XI. Assessment of the evaluation report quality

Evaluation Title:

Terminal Evaluation of the Project: Terminal Evaluation of the UN Environment –Global Environment Facility Project "Reducing global and local environmental risks from primary mercury mining in Khaidarkan, the Kyrgyz Republic"

All UN Environment evaluations are subject to a quality assessment by the Evaluation Office. This is an assessment of the quality of the evaluation product (i.e. evaluation report) and is dependent on more than just the consultant's efforts and skills. Nevertheless, the quality assessment is used as a tool for providing structured feedback to the evaluation consultants, especially at draft report stage. This guidance is provided to support consistency in assessment across different Evaluation Managers and to make the assessment process as transparent as possible.

	UN Environment Evaluation Office Comments	Final Report Rating
Substantive Report Quality Criteria		
Quality of the Executive Summary: The Summary should be able to stand alone as an accurate summary of the main evaluation product. It should include a concise overview of the evaluation object; clear summary of the evaluation objectives and scope; overall evaluation rating of the project and key features of performance (strengths and weaknesses) against exceptional criteria (plus reference to where the evaluation ratings table can be found within the report); summary of the main findings of the exercise, including a synthesis of main conclusions (which include a summary response to key strategic evaluation questions), lessons learned and recommendations.	Draft report: Final report:	6
I. Introduction A brief introduction should be given identifying, where possible and relevant, the following: institutional context of the project (sub-programme, Division, regions/countries where implemented) and coverage of the evaluation; date of PRC approval and project document signature); results frameworks to which it contributes (e.g. Expected Accomplishment in POW); project duration and start/end dates; number of project phases (where appropriate); implementing partners; total secured budget and whether the project has been evaluated in the past (e.g. mid-term, part of a synthesis evaluation,	Draft report: Final report:	6

	UN Environment Evaluation Office Comments	Final Report Rating
evaluated by another agency etc.) Consider the extent to which the introduction includes a concise statement of the purpose of the evaluation and the key intended audience for the findings?		
II. Evaluation Methods This section should include a description of how the *TOC at Evaluation*[32] was designed (who was involved etc.) and applied to the context of the project? A data collection section should include: a description of evaluation methods and information sources used, including the number and type of respondents; justification for methods used (e.g. qualitative/quantitative; electronic/face-to-face); any selection criteria used to identify respondents, case studies or sites/countries visited; strategies used to increase stakeholder engagement and consultation; details of how data were verified (e.g. triangulation, review by stakeholders etc.). The methods used to analyse data (e.g. scoring; coding; thematic analysis etc.) should be described. It should also address evaluation limitations such as: low or imbalanced response rates across different groups; extent to which findings can be either generalised to wider evaluation questions or constraints on aggregation/disaggregation; any potential or apparent biases; language barriers and ways they were overcome. Ethics and human rights issues should be highlighted including: how anonymity and confidentiality were protected and strategies used to include the views of marginalised or potentially disadvantaged groups and/or divergent views.	Draft report: Final report:	6
III. The Project This section should include: • *Context:* Overview of the main issue that the project is trying to address, its root causes and consequences on the environment and human well-being (i.e. synopsis of the problem and situational analyses). • *Objectives and components*: Summary of the project's results hierarchy as stated in the ProDoc (or as officially revised) • *Stakeholders:* Description of groups of targeted stakeholders	Draft report: Final report:	6

[32] During the Inception Phase of the evaluation process a *TOC at Design* is created based on the information contained in the approved project documents (these may include either logical framework or a TOC or narrative descriptions). During the evaluation process this TOC is revised based on changes made during project intervention and becomes the *TOC at Evaluation*.

	UN Environment Evaluation Office Comments	Final Report Rating
organised according to relevant common characteristics • *Project implementation structure and partners:* A description of the implementation structure with diagram and a list of key project partners • *Changes in design during implementation:* Any key events that affected the project's scope or parameters should be described in brief in chronological order • *Project financing:* Completed tables of: (a) budget at design and expenditure by components (b) planned and actual sources of funding/co-financing		
IV. Theory of Change A summary of the project's results hierarchy should be presented for: a) the results as stated in the approved/revised Prodoc logframe/TOC and b) as formulated in the TOC at Evaluation. *The two results hierarchies should be presented as a two column table to show clearly that, although wording and placement may have changed, the results 'goal posts' have not been 'moved'.* The TOC at Evaluation should be presented clearly in both diagrammatic and narrative forms. Clear articulation of each major causal pathway is expected, (starting from outputs to long term impact), including explanations of all drivers and assumptions as well as the expected roles of key actors.	Draft report: Final report:	6
V. Key Findings **A. Strategic relevance:** This section should include an assessment of the project's relevance in relation to UN Environment's mandate and its alignment with UN Environment's policies and strategies at the time of project approval. An assessment of the complementarity of the project with other interventions addressing the needs of the same target groups should be included. Consider the extent to which all four elements have been addressed: v. Alignment to the UN Environment Medium Term Strategy (MTS) and Programme of Work (POW) vi. Alignment to UN Environment/GEF/Donor Strategic Priorities vii. Relevance to Regional, Sub-regional and National Environmental Priorities viii. Complementarity with Existing Interventions	Draft report: Final report:	6

	UN Environment Evaluation Office Comments	Final Report Rating
B. Quality of Project Design To what extent are the strength and weaknesses of the project design effectively summarized?	Draft report: Final report:	6
C. Nature of the External Context For projects where this is appropriate, key external features of the project's implementing context that may have been reasonably expected to limit the project's performance (e.g. conflict, natural disaster, political upheaval) should be described.	Draft report: Final report: Mine flooding is an interesting event but is not necessary an event that hindered project implementation.	5
D. Effectiveness **(i) Outputs and Direct Outcomes:** How well does the report present a well-reasoned, complete and evidence-based assessment of the achievement of a) outputs, and b) direct outcomes? How convincing is the discussion of attribution and contribution, as well as the limitations to attributing effects to the intervention.	Draft report: Final report:	6
(ii) Likelihood of Impact: How well does the report present an integrated analysis, guided by the causal pathways represented by the TOC, of all evidence relating to likelihood of impact? How well are change processes explained and the roles of key actors, as well as drivers and assumptions, explicitly discussed?	Draft report: Final report: Very brief section, but at the same time it is relatively well stated that there was virtually no expected progress towards the intended impact (or impact pathways). However, as the reconstructed TOC identified multiple	4

	UN Environment Evaluation Office Comments	Final Report Rating
	drivers and assumptions these could have been further elaborated here.	
E. Financial Management This section should contain an integrated analysis of all dimensions evaluated under financial management. And include a completed 'financial management' table. Consider how well the report addresses the following: • *completeness* of financial information, including the actual project costs (total and per activity) and actual co-financing used • *communication* between financial and project management staff and • *compliance* with relevant UN financial management standards and procedures.	Draft report: Final report:	5
F. Efficiency To what extent, and how well, does the report present a well-reasoned, complete and evidence-based assessment of efficiency under the primary categories of cost-effectiveness and timeliness including: • Implications of delays and no cost extensions • Time-saving measures put in place to maximise results within the secured budget and agreed project timeframe • Discussion of making use of/building on pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. • The extent to which the management of the project minimised UN Environment's environmental footprint.	Draft report: Final report:	5
G. Monitoring and Reporting How well does the report assess: • Monitoring design and budgeting *(including SMART indicators, resources for MTE/R etc.)* • Monitoring implementation *(including use of monitoring data for adaptive management)*	Draft report: Final report:	5

	UN Environment Evaluation Office Comments	Final Report Rating
• Project reporting *(e.g. PIMS and donor report)*		
H. Sustainability How well does the evaluation identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of achieved direct outcomes including: • Socio-political Sustainability • Financial Sustainability • Institutional Sustainability *(including issues of partnerships)*	Draft report: Final report:	6
I. Factors Affecting Performance These factors are <u>not</u> discussed in stand-alone sections but are **integrated in criteria A-H as appropriate**. To what extent, and how well, does the evaluation report cover the following cross-cutting themes: • Preparation and readiness • Quality of project management and supervision[33] • Stakeholder participation and co-operation • Responsiveness to human rights and gender equity • Country ownership and driven-ness • Communication and public awareness	Draft report: Final report: Sections discussed separately, but this seems to be supporting the previous sections	5
VI. Conclusions and Recommendations **i. Quality of the conclusions:** The key strategic questions should be clearly and succinctly addressed within the conclusions section? It is expected that the conclusions will highlight the main strengths and weaknesses of the project, and connect them in a compelling story line. Conclusions, as well as lessons and recommendations,	Draft report: Final report:	5

[33] In some cases 'project management and supervision' will refer to the supervision and guidance provided by UN Environment to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UN Environment.

	UN Environment Evaluation Office Comments	Final Report Rating
should be consistent with the evidence presented in the main body of the report.		
ii) Quality and utility of the lessons: Both positive and negative lessons are expected and duplication with recommendations should be avoided. Based on explicit evaluation findings lessons should be rooted in real project experiences or derived from problems encountered and mistakes made that should be avoided in the future. Lessons must have the potential for wider application and use and should briefly describe the context from which they are derived and those contexts in which they may be useful.	Draft report: Final report:	6
iii) Quality and utility of the recommendations: To what extent are the recommendations proposals for specific actions to be taken by identified people/position-holders to resolve concrete problems affecting the project or the sustainability of its results. They should be feasible to implement within the timeframe and resources available (including local capacities) and specific in terms of who would do what and when. Recommendations should represent a measurable performance target in order that the Evaluation Office can monitor and assess compliance with the recommendations.	Draft report: Final report:	6
VII. Report Structure and Presentation Quality		
i) Structure and completeness of the report: To what extent does the report follow the Evaluation Office guidelines? Are all requested Annexes included and complete?	Draft report: Final report:	6
ii) **Quality of writing and formatting:** Consider whether the report is well written (clear English language and grammar) with language that is adequate in quality and tone for an official document? Do visual aids, such as maps and graphs convey key information? Does the report follow Evaluation Office formatting guidelines?	Draft report: Final report:	5

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1. The overall quality of the evaluation report is calculated by taking the mean score of all rated quality criteria.

ANNEX XII. Evaluation Process Quality Criteria

Evaluation Process Quality Criteria	Compliance	
	Yes	No
Independence:		
1. Were the Terms of Reference drafted and finalised by the Evaluation Office?	X	
2. Were possible conflicts of interest of proposed Evaluation Consultant(s) appraised and addressed in the final selection?	X	
3. Was the final selection of the Evaluation Consultant(s) made by the Evaluation Office?	X	
4. Was the evaluator contracted directly by the Evaluation Office?	X	
5. Was the Evaluation Consultant given direct access to identified external stakeholders in order to adequately present and discuss the findings, as appropriate?	X	
6. Did the Evaluation Consultant raise any concerns about being unable to work freely and without interference or undue pressure from project staff or the Evaluation Office?		X
7. If Yes to Q6: Were these concerns resolved to the mutual satisfaction of both the Evaluation Consultant and the Evaluation Manager?		
Financial Management:		
8. Was the evaluation budget approved at project design available for the evaluation?	X	
9. Was the final evaluation budget agreed and approved by the Evaluation Office?	X	
10. Were the agreed evaluation funds readily available to support the payment of the evaluation contract throughout the payment process?	X	
Timeliness:		
11. If a Terminal Evaluation: Was the evaluation initiated within the period of six months before or after project operational completion? Or, if a Mid Term Evaluation: Was the evaluation initiated within a six-month period prior to the project's mid-point?		X
12. Were all deadlines set in the Terms of Reference respected, as far as unforeseen circumstances allowed?	X	
13. Was the inception report delivered and reviewed/approved prior to commencing any travel?	X	
Project's engagement and support:		
14. Did the project team, Sub-Programme Coordinator and identified project stakeholders provide comments on the evaluation Terms of Reference?	X	
15. Did the project make available all required/requested documents?	X	
16. Did the project make all financial information (and audit reports if applicable) available in a timely manner and to an acceptable level of completeness?	X	
17. Was adequate support provided by the project to the evaluator(s) in planning and conducting evaluation missions?	X	
18. Was close communication between the Evaluation Consultant, Evaluation Office and project team maintained throughout the evaluation?	X	
19. Were evaluation findings, lessons and recommendations adequately discussed	X	

Evaluation Process Quality Criteria	Compliance	
with the project team for ownership to be established?		
20. Did the project team, Sub-Programme Coordinator and any identified project stakeholders provide comments on the draft evaluation report?	X	
Quality assurance:		
21. Were the evaluation Terms of Reference, including the key evaluation questions, peer-reviewed?	X	
22. Was the TOC in the inception report peer-reviewed?	X	
23. Was the quality of the draft/cleared report checked by the Evaluation Manager and Peer Reviewer prior to dissemination to stakeholders for comments?	X	
24. Did the Evaluation Office complete an assessment of the quality of both the draft and final reports?		X
Transparency:		
25. Was the draft evaluation report sent directly by the Evaluation Consultant to the Evaluation Office?	X	
26. Did the Evaluation Manager disseminate (or authorize dissemination) of the cleared draft report to the project team, Sub-Programme Coordinator and other key internal personnel (including the Reference Group where appropriate) to solicit formal comments?	X	
27. Did the Evaluation Manager disseminate (or authorize dissemination) appropriate drafts of the report to identified external stakeholders, including key partners and funders, to solicit formal comments?	X	
28. Were all stakeholder comments to the draft evaluation report sent directly to the Evaluation Office	X	
29. Did the Evaluation Consultant(s) respond to all factual corrections and comments?	X	
30. Did the Evaluation Office share all comments and Evaluation Consultant responses with all those who were invited to comment?		X

Provide comments / explanations / mitigating circumstances below for any non-compliant process issues.

Process Criterion Number	Evaluation Office Comments
11	The project was extended after initiating the terminal evaluation process (due to unexpected realization of some co-funding). The terminal evaluation was initiated approx 10 months before the actual operational closure. However, the evaluation consultant was able to consider the on-going activities in his assessment work.
24	Quality assessment table was filled in the end of the evaluation process. However the quality assessment template was utilized during multiple report reviews in the evaluation office.
30	Evaluation Office/consultant responded directly to those who commented, responses were not shared with everyone.

ANNEX XIII. SHORT BIOGRAPHY OF THE CONSULTANT

The Terminal Evaluation was undertaken by Petr Sharov, a consultant working for Pure Earth Blacksmith Institute (www.pureearth.org). His main area of expertise is Human Health Risk Assessment from exposure to heavy metals. For 20 years he has worked on health risk mitigation and cleanup projects in the USA, Russia, Kyrgyz Republic, Kazakhstan, Armenia, Tajikistan, and Azerbaijan. He specializes on conducting environmental heavy metal contamination assessments, health risk assessments, designing and implementing remediation projects. A brief CV is presented in Annex III.