

Terminal Evaluation Review form, GEF Independent Evaluation Office, APR 2015

1. Project Data

Summary project data			
GEF project ID		3032	
GEF Agency project ID		3685	
GEF Replenishment Phase		GEF-4	
Lead GEF Agency (include all for joint projects)		UNDP	
Project name		Environmental Remediation of Dioxin Contaminated Hotspots in Vietnam	
Country/Countries		Vietnam	
Region		Asia	
Focal area		Persistent Organic Pollutants	
Operational Program or Strategic Priorities/Objectives		Operational Program 14-Persistent Organic Pollutants	
Executing agencies involved		Ministry of Natural Resources and Environment	
NGOs/CBOs involvement		Co-financing provided by international NGOs	
Private sector involvement		None given	
CEO Endorsement (FSP) /Approval date (MSP)		September 15 th , 2009	
Effectiveness date / project start		August 2010	
Expected date of project completion (at start)		December 2014	
Actual date of project completion		December 2014	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding	0.03	.03
	Co-financing	.45	.45
GEF Project Grant		4.98	4.86
Co-financing	IA own		
	Government	11	12.7
	Other multi- /bi-laterals	9.5	43.58
	Private sector		
	NGOs/CSOs	11.39	11.39
Total GEF funding		5	4.9
Total Co-financing		32.34	68.11
Total project funding (GEF grant(s) + co-financing)		37.34	73.01
Terminal evaluation/review information			
TE completion date		March 2 nd , 2015	
Author of TE		Carlo Lupi and Nghiem Kim Hoa	
TER completion date		2/29/2016	
TER prepared by		Molly Watts	
TER peer review by (if GEF IEO review)		Caroline Laroche	

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	S	S	NR	S
Sustainability of Outcomes		M/L	NR	ML
M&E Design		HS	NR	S
M&E Implementation		S	NR	MS
Quality of Implementation		S	NR	S
Quality of Execution		S	NR	S
Quality of the Terminal Evaluation Report		-	NR	MS

3. Project Objectives

3.1 Global Environmental Objectives of the project:

As a result of the US Viet Nam war, Viet Nam has among the worst TCDD (Tetra-chloro dibenzo-dioxin, or Agent Orange) contaminated sites in the world. The Global Environmental Objective of the project was to “prevent the release of significant quantities of TCDD, estimated to be in excess of 1736 g I-TEQ, the current conservative estimate of the total dioxin load in the three prioritized hotspots. In essence the project will render harmless, contain (or de-contaminate), very significant amounts of POPs chemicals.” (Project document p.32)

3.2 Development Objectives of the project:

The project’s development objective was “to minimize disruption of ecosystems and health risks for people from environmental releases of TCDD contaminated hotspots” (PD p.12)

The project planned to achieve this objective by working toward three outcomes:

1. Dioxin in core hotspot areas contained and remediated
2. Land use on and around hotspots eliminates risks and contributes to environmental recovery
3. Strengthened national regulations and institutional capacities

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

There were no changes to the project’s global environmental objective and development objective. Outcome 2: Land use on and around hotspots eliminates risks and contributes to environmental recovery, was modified after the midterm, as it was reported that land use of the military areas was outside the control of the project (and under responsibility of the MOD). The Midterm evaluation suggested drafting site-specific guidance documents related to suggested land use of the military area. (TE p.25)

4. GEF IEO assessment of Outcomes and Sustainability

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

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

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
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The TE rates relevance as Highly Satisfactory. This TER, which uses a different scale, rates relevance as Satisfactory. The project is relevant to the GEF goals under the Persistent Organic Pollutants focal area to protect human health and the environment by assisting countries to reduce and eliminate production, use and releases of POPs, and contribute generally to capacity development for the sound management of chemicals. The project is also consistent with GEF’s Strategic Program 3 “Generating and Disseminating Knowledge to Address Future Challenges in Implementing the Stockholm Convention.” (PD p.11)

The project is highly relevant to country priorities as well. Vietnam ratified the Stockholm Convention, and is active in implementing projects to phase out persistent organic pollutants as well as the management of hazardous waste and chemicals. (TE p.40)

4.2 Effectiveness	Rating: Satisfactory
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The TE rates project results as Satisfactory, and rates effectiveness and efficiency jointly as Satisfactory. Almost all project objectives were achieved by project end. The project’s achievements under its three main outcomes are outlined below:

1. Dioxin in core hotspot areas contained and remediated. The project’s target under this outcome was that all contaminated soil at concentrations greater than 1,000ppt and sediment at concentrations greater than 150ppt will have been treated adequately, and residual contamination will be safely landfilled. This would be accomplished at the Bien Hoa project site by the end of 2010, at the Da Nang project site by the end of 2012, and at the Phu Cat project site by the end of 2011. The project estimates that an amount in the range of 610 to 4000 g I-Teq have been contained by interim measures introduced by the project in Bien Hoa nad Phu Cat, while data are not available for the Da Nang project site as remediation is still ongoing. Exposure to PCDD/F was reduced for around 120,000 people living near the Bien Hoa airbase, and 47,000 people living in the surrounding area of the PHU Cat airbase. (TE p.32) All planned outputs were achieved, and the project has met its target for this outcome.
2. Land use on and around hotspots eliminates risks and contributes to environmental recovery. The project’s target for this outcome was that by the end of the project, appropriate land uses would be introduced for at least 10ha at the Bien Hoa project site, 8ha at the Da Nang project site, and 4ha at the Phu Cat project site. This outcome was partially achieved, as the MOD has responsibility for

management of military areas. Thus, rather than creating action plans for each site, the project carried out workshops on land use to facilitate communications with the military, while the action plans remain by necessity the responsibility of the military. Additionally, the project carried out several communication events covering the population in Bien Hoa.

3. Strengthened national regulations and institutional capacities. The project’s first target under this outcome is that by the end of the project, at least 70% of officials have received training or awareness raising on dioxin and less than 5% of officials are unable to access information on policies and laws related to dioxin. A second target was that, by the end of the project, less than 15% of respondents are unable to name agencies responsible for management of contaminated areas. Survey findings at project end reported that 57.5% of residents in the surveyed area could name agencies responsible for management of contaminated areas, thus less than expected. The TE notes that standards on PCDD/F contaminated soil were implemented and that standard limits for industrial emission were under approval in the country. A standard of 1000ppt for PCDD/F contaminated soil and 150ppt for sediment is currently adopted as the target for all remediation/containment activities. Two laboratories were working for the project at the time of the TE, the laboratory of Vietnam-Russian Tropical Centre, and the VEA Dioxin Lab, to undertake state of the art analysis of dioxin contamination. As part of a communication strategy, communication events and workshops were held, comprehensive thematic reports and newsletters were produced for international dissemination, and two articles were presented in international conferences. The TE states that 90-99 reports were produced.

4.3 Efficiency	Rating: Satisfactory
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The TE rates efficiency and effectiveness jointly as satisfactory, and this TER agrees with that rating. Almost all activities were carried out within the expected timeframe, or with limited delay. The project was completed within the original time frame and slightly under budget. Additionally, the project successfully leveraged greater than expected co-financing.

4.4 Sustainability	Rating: Moderately Likely
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The TE rates overall sustainability of outcomes as moderately likely, and this TER agrees with that rating.

Financial sustainability: The TE rates risks to financial sustainability as moderate, and this TER, which uses a different scale, rates financial sustainability as moderately likely. Project activities in Bien Hoa and Da Nang will continue in the coming years thanks to funds and technical assistance provided by USAID and the Vietnamese government. The TE notes that the project has increased the sustainability of actions aimed at remediating dioxin contaminated hotspots by integrating its actions into government plans and institutions, such as Office 33 of the Ministry of Natural Resources & Environment. A financial risk exists to the continuation of some monitoring activities, as currently no resources have been dedicated for the implementation of a monitoring plan prepared by the Czech embassy.

Sociopolitical Sustainability: The TE rates risks to sociopolitical sustainability as Low, and this TER rates sociopolitical sustainability as likely. Vietnam is a very stable country with very low socio-political risk.

The project has been beneficial to both local communities and governmental bodies. Socio-political risk therefore does not appear to be an issue.

Institutional framework and governance: The TE rates risks to institutional framework and governance as Low, and this TER rates sustainability of to institutional framework and governance as likely. The project was well integrated with governmental structures, which should facilitate sustainability after project end.

Environmental: The TE rates risks to environmental sustainability as moderate, with different risks affecting the project's three sites. This TER rates environmental sustainability as moderately likely. Lack of environmental monitoring is a risk to the Da Nang project site. The Bien Hoa site faces a risk of inadequate maintenance of the containment infrastructures. Based on information presented in the TE the sustainability of the Phu Cat site appears highest, as the landfill is equipped with monitoring wells and a leakage well, and requires periodic analysis of water and sediment in the leakage and water monitoring well. (TE p.42)

5. Processes and factors affecting attainment of project outcomes

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

The project achieved much higher than expected levels of co-financing, which has increased the sustainability of actions aimed at remediating dioxin contaminated hotspots. The remediation in Da Nang was supported by co-financing secured by USAID, and co-financing from bilateral donors were dedicated to sampling, monitoring and analytical testing of dioxin contaminated soil. The leveraging of co-financing may also have strengthened country ownership, as funds secured by the Ministry of Defense will remain available after the project ends.

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

There were no project extensions or major delays noted in the project documents. The final PIR notes that the mid-term review was delayed by a few months, as "project implementation was delayed for several months. The recruitment of experts and discussion on final report took longer than initially planned." (PIR 2014)

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

Country ownership of this project can be assessed as high. As stated above, this project was well integrated with government offices and government priorities. The issue of soil contamination by chemicals is at the core of the environmental policy of the Vietnamese government. (TE p.41)

6. Assessment of project’s Monitoring and Evaluation system

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

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Satisfactory
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The TE rates M&E Design at entry as Highly Satisfactory. This TER rates M&E Design as satisfactory, as the Monitoring and Evaluation Plan provided in the project document is complete. The total M&E budget provided in the project document is US\$122,000. The M&E plan includes a timeframe and provisions for an inception workshop, mid-term external evaluation and final external evaluation, and responsible parties for all activities are identified. Baseline data is included for indicators, which are for the most part SMART.

6.2 M&E Implementation	Rating: Moderately Satisfactory
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The TE rates M&E Plan Implementation as Satisfactory. This TER rates M&E Implementation as Moderately Satisfactory, as it would appear that the project did have a functioning M&E system which was used for adaptive management, however not all data collection activities originally called for in the M&E Design took place. The project mid-term evaluation was completed in 2013, and recommendations were implemented into the program. (TE p.14-16) The mid-term evaluation was not available for review as part of this TER. Project Implementation Review Reports (PIRs) track most indicator data, however indicator data relying on planned surveys was not collected in time to be included in the PIRs, and also was not included in the Terminal Evaluation. Thus it would appear that this information was not used.

7. Assessment of project implementation and execution

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

Please justify ratings in the space below each box.

7.1 Quality of Project Implementation	Rating: Satisfactory
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The project's implementing agency was UNDP. The TE notes that there were no major issues in project implementation, and rates quality of UNDP implementation as Satisfactory. (TE p.9) UNDP CO worked in close relation with the Project Management Unit. Considering the relatively sound project design at entry and efficient supervision, this TER rates quality of project implementation as Satisfactory.

7.2 Quality of Project Execution	Rating: Satisfactory
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The TE rates quality of project execution as satisfactory, and this TER agrees with that rating. The project executing agency was the Ministry of Natural Resources and Environment (MONRE). The National Project Director was appointed by MONRE, and a project management unit consisting of four staff was responsible for day-to-day project implementation. The TE notes that the PMU team was well organized and motivated. The project worked in cooperation with Vietnam's Office 33, which examines all proposed activities related to dioxins. The PMU's coordination with Office 33 was beneficial to all, as the project was able to provide technical and financial support to it, and also benefit from the capacity of Office 33 to interact with stakeholders.

8. Assessment of Project Impacts

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

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

The project was successful in building infrastructures for containing the release of PCDD/F from three hotspots (Phu Cat, Bien Hoa, and Da Nang) to the environment. An overall amount with a lower bound estimate of 610g I-TEQ and an upper bound estimates of 4000 g I-TEq have been contained by actions directly carried out with project funds.

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

Based on estimates provided in the report “Evaluation of Dioxin Project Impact to Environment and People”, over 120,000 people residing in wards near Bien Hoa Airbase and 47,000 persons near Phu Cat Airbase are beneficiaries of reduced dioxin exposures from activities conducted under the Dioxin Project. (TE p.47)

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

a) Capacities

The project carried out a substantial number of trainings for officials and stakeholders. In terms of awareness raising, by project end 57.5% of residents in the surveyed area could name agencies responsible for management of contaminated areas, compared to a baseline of 44% of people. (TE p.10)

b) Governance

As a result of the project, standards on PCDD/F contaminated soil were implemented. Standard thresholds for industrial emission are under approval. (TE p.11)

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

No unintended impacts are described as taking place as a result of the project.

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

There is no mention of adoption of GEF initiatives at scale, however the TE notes that the project, by providing technical and financial support to the Office 33, acted as a “catalyst” of the site characterization and cleanup efforts carried out by the government and international donors. (TE p.56)

9. Lessons and recommendations

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

The TE does not provide lessons learned.

9.2 Briefly describe the recommendations given in the terminal evaluation.

First of all, there is the need to ensure the maintenance of infrastructures for the containment of dioxin contamination. Although the containment measures implemented by the project are temporary, the time necessary for a complete decontamination of the site may be long: therefore proper efforts to ensure the functionality of these infrastructures are a key requirements for securing the continuation of project benefits.

In Bien Hoa the containment infrastructures are mostly hydraulic infrastructures aimed at preventing rainfall runoff water from flowing through the most contaminates area (the Pacer Ivy are), and small dams and catchments aimed at facilitating the settling of contaminated sediment whilst allowing water - purified from the sediment - to leave the area. The main risk for this infrastructure is the clogging of the channels due to deposition transportation of branches, leaves and bushes, and the gradual filling of the catchment basins due to the solid transport with water runoff. The channels should be cleaned after each rainfall period - at least 3 or 4 times per years; the level of sedimentation in the catchments should instead be measured regularly, and once a certain level is reached, the bottom sediment should be dragged out, measured for the content of PCDD/F, and stored - landfilled.

In Phu Cat, as the landfills is equipped with a system for sampling the leakage, periodical sampling and analysis of the leakage should be carried out. An increase in the dioxin level of the leakage (if any) should be interpreted as a symptom of breaking of one or more of the landfill impermeable layer, and in this case, confirmatory analysis and an emergency plan should be conducted. The sampling of the leakage is the most immediate measure for checking the integrity of the landfill: due to the extremely low mobility of PCDD/F in soil, PCDD concentration in groundwater could build up very slowly after a breaking in the landfill and therefore, although necessary, it is not the most effective way to monitor landfill integrity.

Based on interviews, it seems that there may be a discontinuity on environmental sampling and analysis activity, due mainly to management issues and limitation of funds. This shortcoming should be addressed by the definition of new monitoring plan and the establishing of new partnerships if necessary. In this regard it should however mentioned that the DONRE of Dong Nai is implementing, starting from the year 2015, a specific activity aimed at the environmental monitoring outside the Bien Hoa airbase. If it is so, the sustainability issue only concerns monitoring inside the airbases.

Actions aimed at ensuring the correct flow of information among partners.

One of the main project issues was the limited coordination between MONRE / Office 33 and USAID. As the Bien Hoa site is currently in the stage of handing over to USAID which will take the lead on future activities on the site, more focused effort should be dedicated to the collation and handing over of

monitoring data and infrastructure design to MOD and USAID. Under the project some workshops were already held with the purpose to exchange information, however, based on the two meetings carried out by the evaluator with the USAID personnel in charge of Environmental Assessment and remediation activity, the lacking of exchanging of information emerged quite clearly.

Similarly, based on interviews with local stakeholders, emerged clearly that the information on the implementation of activities at Da Nang are insufficient. The USAID website on the Danang project provide very basic summaries on the activities being carried out, without any information on the monitoring data, dioxin level of the contaminated soil, Although is understandable that this kind of information need to be consolidated before its release, nevertheless the evaluator consider the level of information provided under the website not sufficient for communicating the remediation status and its benefits.

In addition, a specific action should be undertaken by GoV to ensure that the issues reported by the Czech government on the implementation of the monitoring plan are solved, and the sustainability of monitoring plans ensured. (TE p.54-55)

10. Quality of the Terminal Evaluation Report

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

Criteria	GEF IEO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	The report contains a thorough assessment of relevant outcomes and impacts of the project, and the achievement of objectives.	S
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is internally consistent and evidence is complete and convincing.	S
To what extent does the report properly assess project sustainability and/or project exit strategy?	The discussion of sustainability is thorough, although exit strategy is not discussed.	MS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	Lessons learned are not provided.	U
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The report includes project costs, both total and per activity.	S
Assess the quality of the report's evaluation of project M&E systems:	M&E Design and Implementation are discussed jointly, although individual ratings are given for both, they are not justified.	MU
Overall TE Rating		MS

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

No additional material was consulted.