GEFM&E Terminal Evaluation Review Form

1. PROJECT DATA				
			Review date:	October 2005
GEF ID:	PMIS 857		at endorsement (Million US$)	at completion (Million US$)
Project Name:	Renewable Energy Systems in the Peruvian Amazon Region (RESPAR)	GEF financing:	$0.8	$0.7
Country:	Peru	Co-financing:	$1.9	$2.3
Operational Program:	OP6	Total Project Cost:	$2.7	$3.0
IA	UNDP	Dates		
Partners involved:	International Lead Zinc Research Organization (ILZRO) RASP Peru (IRP)	Work Program date		N/A
		CEO Endorsement		07/26/2000
		Effectiveness/ Prodoc Signature (i.e. date project began)		04/31/2001 (PIR) not in database
		Closing Date	Proposed: 04/31/2004 (PIR)	Actual: 10/31/2004 (PIR)
Prepared by: Anna Viggh	Reviewed by: Aaron Zazueta	Duration between effectiveness date and original closing: 3 years	Duration between effectiveness date and actual closing: 3 years and 5 months	Difference between original and actual closing: 5 months
Author of TE: Humberto Rodríguez		TE completion date: June 2005	TE submission date to GEF OME: 07/29/2005	Difference between TE completion and submission date: 1 month

2. SUMMARY OF PROJECT RATINGS

GEFME Ratings for project impacts (if applicable), outcomes, project monitoring and evaluation, and quality of the terminal evaluation: Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU), not applicable (N/A) and unable to assess (U/A). GEFME Ratings for the project sustainability: Highly likely (HL), likely (L), moderately likely (ML), moderately unlikely (MU), unlikely (U), highly unlikely (HU), not applicable (N/A), and unable to assess (U/A).
Please refer to document "Ratings for the achievement of objectives, sustainability of outcomes and impacts, quality of terminal evaluation reports and project M&E systems" for further definitions of the ratings.

	Last PIR	IA Terminal Evaluation	Other IA evaluations if applicable (e.g. OED)	GEFME
2.1 Project impacts	**N/A**	MS	N/A	MS
2.2 Project outcomes	MS	MS	N/A	MS
2.3 Project sustainability	**N/A**	U/A	N/A	MU
2.4 Monitoring and evaluation	**N/A**	MS	N/A	MS
2.5 Quality of the evaluation report	**N/A**	**N/A**	N/A	S

Should this terminal evaluation report be considered a good practice? Why? Only Section 3.2.4 on project costs could be a good practice. It is well-prepared according to the guidelines. Overall, the TE has several weaknesses. It is lengthy and could be tightened in several sections. For

example, Section 3.3 on results has two tables with repetitive information. The rest of Section 3, particularly 3.2, could be better organized. Other weaknesses are discussed below.

3. PROJECT OBJECTIVES, EXPECTED AND ACTUAL OUTCOMES

3.1 Project Objectives

- **What are the Global Environmental Objectives? Any changes during implementation?** No.

The main objective was to build and strengthen the capacity of public and private sectors for development of renewable energies in the Amazon Region specifically using off-grid Diesel-PV systems, and with the purpose to demonstrate the sustainability and replicability of RAPS systems. The proposed project is aimed to demonstrate that the innovative approach and technology of RAPS systems coupled with the extended life of gel batteries can be replicated in Perú and elsewhere.

Specifically, the global objective was to achieve a significant reduction of GHG emissions generated by fossil fuels. The target was to reduce approximately 16,412 tons of carbon dioxide throughout the 20-year life cycle period of the RASP systems. In addition, the potential for a large-scale implementation in 150 communities with existing gensets already identified in the Loreto Region could reduce up to 932,243 tons of CO2.

- **What are the Development Objectives? Any changes during implementation?** No.

To assist in removing technical, financial, informational, and institutional barriers to renewable energies to:

- Introduction of RAPS systems as an appropriate RE technology in the Amazon region of Perú.
- Promote the participation of the private sector in RE projects (rural electrification).
- Strengthen knowledge about RE and specifically RAPS systems through a participatory approach among all stakeholders.
- Demonstrate RAPS systems sustainability and replicability.

3.2 Outcomes and Impacts

- **What were the major project outcomes and impacts as described in the TE?**

Impact:

One out of two pilot demonstration RASP systems was installed in Padre Cocha and is operating 24 hours a day. When compared to equivalent generation of electricity by diesel generator the reduction of CO2 emissions is 362 tons per year. That is a reduction of 7,233 tons in 20 years compared to a target of 16,412 tons.

Outcomes:

- One RAPS system is in operation, providing electricity 24 hours a day (since October 2003 instead of March 2002).
- System design and project management documents have been prepared.
- Awareness has been created and information has been shared with other regions. The project has been very active in networking and attending seminars. The executing agency, IRP, conducted an international seminar to disseminate results and attract further financing.
- Undoubtedly the supply of electricity has increased income generating activities in the community, but no independent and methodological analysis has been done regarding socioeconomic impact of electricity on productive uses and household activities.

4. GEF OFFICE OF M&E ASSESSMENT

4.1 Outcomes and impacts — Rating: MS

A Relevance

- **In retrospect, were the project's outcomes consistent with the focal areas/operational program strategies? Explain**

Yes, the project's outcomes are consistent with OP6 strategies. The outcomes contributed to the reduction of CO2 emissions. Technical, institutional, financial, and informational barriers were partly removed.

B Effectiveness
• **Are the project outcomes as described in the TE commensurable with the expected outcomes (as described in the project document) and the problems the project was intended to address (i.e. original or modified project objectives)?**
No, because only one of two RASP systems was installed and the reduction of CO2 is less than half of the target. Other expected outcomes were only partially achieved as well.
C Efficiency (cost-effectiveness)
• **Include an assessment of outcomes and impacts in relation to inputs, costs, and implementation times based on the following questions: Was the project cost – effective? How does the cost-time Vs. outcomes compare to other similar projects? Was the project implementation delayed due to any bureaucratic, administrative or political problems?**
The project suffered significant delays in installing the RASP systems. These delays stalled the other activities of the project. According to the PIR 2003 there was a substantial imbalance between the total disbursement of GEF funds (96.8%) and the level of project achievements. Therefore, UNDP stopped disbursement of funds over a 6 month period (October 2002 – March 2003) until the executing agency demonstrated results based on project expenditures. The project had to rely heavily on co-financing resources to complete the remaining activities by April, 2004.

4.2 Likelihood of sustainability. Using the following sustainability criteria, include an assessment of project sustainability based on the information presented in the TE.

A Financial resources **Rating: U**
The second RAPS system for the Indiana community was not installed due to the lack of government financing for the purchase of the necessary solar PV panels. The regional Government of Loreto has agreed to consider financing the PV panels for Indiana (as it did for Padre Cocha), but this financing has not yet materialized. For replication of the RASP system negotiations with interested financers are at an early stage, but no hard financing has been committed yet. According to the TE the financial sustainability of the project is not assured based on an analysis of the cost of operating the RASP systems and the low demand for electricity in Padre Cocha.
B Socio political **Rating: ML**
The sustainability of income generation activities that have developed during the project is not guaranteed. The high cost of electricity and the unreliable supply are risk factors for developing productive uses.
C Institutional framework and governance **Rating: ML**
Following a project study on the best type of organizational structure to manage and maintain the operation of the RASP system the community based organization ERPACO (Electro RASP Padre Cocha) was established. Although the project carried out many ERPACO capacity building activities, the TE questions the ability of ERPACO to operate and maintain the RASP after completion of the project.
D Ecological (for example, for coffee production projects, reforestation for carbon sequestration under OP12, etc.) **Rating: ML**
The avoidance of CO2 emissions should be secured for the lifetime of the RASP system. However, according to the TE the system has not been running 24 hours a day consistently since operations started and this is likely to continue. Furthermore, the system is inefficient due to various technical problems and is using a high rate of petroleum and is running with a high rate of electricity loss. The sustainability of the systems is at risk due to the high operating costs.
E Examples of replication and catalytic outcomes suggesting increased likelihood of sustainability **Rating: MU**
The project has not succeeded in establishing a solid framework for replicability of the RAPS systems in other rural areas. There has been a large subsidy element in this project (both with GEF funds and leveraged by IRP) to purchase equipment and components that will be hardly found again in similar situations. There have been expressions of interest by other public institutions but the financial feasibility of these systems has to be demonstrated in the absence of

a subsidy element.

4.3 Assessment of the project's monitoring and evaluation system based on the information in the TE

A. Effective M&E systems in place: What were the accomplishments and shortcomings of the project's M&E system in terms of the tools used such as: indicators, baselines, benchmarks, data collection and analysis systems, special studies and reports, etc.? Rating: MS
The project brief outlines five components of M&E (1) UNDP established monitoring procedures by the Country Office and UNDP/GEF in Headquarters; (2) external mid-term evaluation; (3) external final evaluation; (4) a satellite-based monitoring system for 24-hour monitoring of the whole RASP system, and; (5) monitoring and verifying of greenhouse gas emission reductions to quantify savings. The TE concludes that two were not carried out – (2) a mid-term evaluation by UNDP and (4) the satellite-based monitoring system for the whole RASP system by IRP. The project brief also calls for the establishment of an advisory council composed of representatives of the project funding contributors to provide advice and assistance to IRP. This advisory council was not established.
B. Information used for adaptive management: What is the experience of the project with adaptive management? Rating: U
The TE mentions the lack of adaptive management. Unsatisfactory implementation ratings and identification of problems reported in early PIRs could have been opportunities for IRP to correct the course of the project. Instead, UNDP put forward a series of recommendations for discussion at a TPR meeting in February 2003. Furthermore, one of the recommendations that IRP hire a consultant to assist with the implementation of delayed activities was not carried out.
Can the project M&E system be considered a good practice? No. The TE rates the M&E system as moderately satisfactory.

4.4 Quality of lessons

Weaknesses and strengths of the project lessons as described in the TE (i.e. lessons follow from the evidence presented, or lessons are general in nature and of limited applicability, lessons are comprehensive, etc.)

What lessons mentioned in the TE that can be considered a good practice or approaches to avoid and could have application for other GEF projects?
• The establishment of an advisory council, as called for in the project brief, would have benefited the implementation of the project. • Project support from participating institutions should be described in more detailed or even provided through binding contracts. • The commitment of participating private sector companies should be obtained in writing. Companies should also offer insurance for the quality and timely delivery of their work. • To develop productive uses related to the project, an accompanying micro-credit program is essential. Such a program should be run by micro-enterprise experts. • In renewable energy projects, community participation must be assured in all stages of the project, including the selection of the technology.

4.5 Quality of the evaluation report Provide a number rating 1-6 to each criteria based on: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, and Highly Unsatisfactory = 1. Please refer to the "Criteria for the assessment of the quality of terminal evaluation reports" in the document "Ratings for the achievement of objectives, sustainability of outcomes and impacts, quality of terminal evaluation reports and project M&E systems" for further definitions of the ratings.

4.5.1 Comments on the summary of project ratings and terminal evaluation findings
In some cases the GEF Office of M&E may have independent information collected for example,

through a field visit or independent evaluators working for the Office of M&E. If substantial independent information has been collected, then complete this section with any comments about the project.
N/A.

4.5.2 Quality of terminal evaluation report	Ratings
A. Does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives? The TE presents outcomes (section 3.3.1) in the same manner as in PIRs – in two tables by objectives and by results. This leads to repetition and it is not clear what the outcomes are. Impact, CO2 reduction, is discussed later in section 3.3.3.5 of the TE.	4
B. Is the report internally consistent, is the evidence complete/convincing and are the IA ratings substantiated? Yes.	5
C. Does the report properly assess project sustainability and /or a project exit strategy? The TE has a very detailed analysis of the cost of operating the RASP system. It does not, however, have an analysis of a critical factor, the communities' institutional capacity to assume proper administration of the RASP system. The administration model during project implementation was heavily supported by IRP with project funds. It was not clear how such community activities would be supported after the project is finished. One objective of the project was to develop a sustainable model for RAPS system operations that does not require additional external support. The PIR 2004 specifically requests that the TE to conduct an assessment of the administration model.	4
D. Are the lessons learned supported by the evidence presented and are they comprehensive? Yes, although the presentation of lessons is mixed with recommendations and findings, and most are very general.	4
E. Does the report include the actual project costs (total and per activity) and actual co-financing used? Yes.	6
F. Does the report present an assessment of project M&E systems? Yes, of what is available in the project brief only.	5

4.6 Is a technical assessment of the project impacts described in the TE recommended? Please place an "X" in the appropriate box and explain below.	**Yes:**	**No: X**
Explain: The project was not very successful and the sustainability of the partially achieved outcomes is only moderately unlikely. Although it would be interesting to find out if any other donor or private sector company does support the RASP technology in other place without demonstrated replicability.		
Is there a follow up issue mentioned in the TE such as corruption, reallocation of GEF funds, etc.? No.		

4.7 Sources of information for the preparation of the TE review in addition to the TE (if any)

TE, PIR 2003 and 2004, Project Brief, GEF Database