

Terminal Evaluation Review form, GEF Evaluation Office, APR 2014

1. Project Data

Summary project data			
GEF project ID		374	
GEF Agency project ID		385	
GEF Replenishment Phase		Pilot Phase	
Lead GEF Agency (include all for joint projects)		UNDP	
Project name		Photovoltaics for Household and Community Use	
Country/Countries		Zimbabwe	
Region		Africa	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		OP6: Promoting adoption of renewable energy by removing barriers/reducing implementation costs	
Executing agencies involved		Zimbabwe Department of Energy (changed after 1 year – initially executed by UN Department for Economic and Social Development)	
NGOs/CBOs involvement		Secondary executing agency of some project components (PV financing and installation)	
Private sector involvement		Secondary executing agency of some project components (PV financing and installation)	
CEO Endorsement (FSP) /Approval date (MSP)		September 1992	
Effectiveness date / project start		February 1993	
Expected date of project completion (at start)		October 1997	
Actual date of project completion		October 1997	
Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M)
Project Preparation Grant	GEF funding		
	Co-financing		
GEF Project Grant		7.0	6.96
Co-financing	IA own		
	Government		
	Other multi- /bi-laterals		
	Private sector		
	NGOs/CSOs		
Total GEF funding		7.0	6.96
Total Co-financing		0.383	U/A
Total project funding (GEF grant(s) + co-financing)		7.383	U/A
Terminal evaluation/review information			
TE completion date		October 1997	
TE submission date			
Author of TE		Stanley Majero, Steve Chetse	
TER completion date		August 2014	
TER prepared by		Joshua Schneck	
TER peer review by (if GEF EO review)		Neeraj Negi	

2. Summary of Project Ratings

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

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objective of the project, as stated in the Project Document (PD), is to reduce current anthropogenic emissions of GHGs that result from burning of fossil fuels (principally kerosene) for household energy usage in rural Zimbabwe. The project also seeks to reduce the potential that future development to supply the energy needs of rural Zimbabwe does not rely upon fossil fuels, but instead utilizes environmentally sustainable energy forms like solar energy that do not contribute to global warming, and for which the project seeks to remove barriers to wider adoption. The PD estimates that a small amount of CO₂ emissions – 1,468 tons per year of CO₂eq – would be displaced if, as a result of the project, 10,000 households converted from kerosene to solar power to supply their energy needs. The PD provides an end of project target of 3,000 tons of CO₂eq emissions reductions.

3.2 Development Objectives of the project:

The Development Objectives of the project, as stated in the PD, is “to supply basic electrical service to rural populations lacking access to grid extension. This will be done in an environmentally benign and affordable manner by substituting kerosene and conventionally generated electric power with solar electric power. The program will serve as a demonstration of an alternative to planned grid extension” (PD, pg 17).

The PD defines the following 5 immediate objectives:

- To facilitate the installation of a minimum of 9,000 domestic solar electric systems in rural areas over three years, as well as small community institutional lighting systems. These systems will be financed through revolving fund mechanisms, which may catalyze sustainable rural energy development.
- To build and develop training, delivery, financial and institutional infrastructures for rural solar electrification that will continue beyond the completion of the project.
- To upgrade local technology and manufacturing capacity while strengthening the local solar industry and commercial sector.
- To create lasting public awareness regarding the appropriate utilization of solar electric technology.

- To employ three approaches of program implementation as set forth in the GEF project brief: (1) commercial/private sector; (2) utility; and (3) local community development. Once foreign exchange and consumer credit are available, local suppliers and dealers will begin marketing and installing solar PV systems nationwide.

[Note that a fourth PV delivery mechanism that was intended to service very low-income households – through the Zimbabwe Electricity Supply Authority (ZESA) utility – is part of the project components shown below, but is not listed as part of the immediate objectives for reasons unknown. This mode of delivery was meant to complement NGOs and CSOs in reaching very poor households.]

The 5 immediate objectives are to be achieved through the provision of the following 8 outputs:

1. Availability of and immediate access to critical inputs for utilization by Zimbabwe’s solar industry to manufacture solar products
2. Availability of, and access to, local commercial credit funds for end-users to purchase solar PV lighting systems
3. Institutional capacity developed through utility-sponsored (Zimbabwe Electricity Supply Authority (ZESA)) dissemination, installation, financing and maintenance of an initial 1000 solar lighting systems of 45 W each as an alternative electrical system
4. A sustainable institutional mechanism for village and district-level community development of rural solar electrification, including: (i) rural council-sponsored solar credit associations; (ii) existing or special solar cooperatives; (iii) trained management personnel based in rural areas
5. Sufficient number of trained and qualified PV technicians and installers
6. National public awareness of benefits of solar electricity and how individuals may acquire it (to be realized through a public awareness campaign)
7. Availability of improved solar technology including charge controllers, batteries, lights and locally-assembled solar PV modules
8. Established standards for PV equipment and components, both locally produced and imported, including licensing program for installers and standards for installation and design

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

No.

4. GEF EO assessment of Outcomes and Sustainability

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

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

Please justify ratings in the space below each box.

4.1 Relevance	Rating: Satisfactory
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The project is relevant to both Zimbabwe and the GEF. As stated in the PD, for the Government of Zimbabwe, rural electrification is consistent with several governmental objectives included slowing rural-urban migration, reducing fertility, increasing literacy and improving the overall quality of life for nearly 8 million rural Zimbabweans (PD, pg 3). Moreover, the PD state that the government of Zimbabwe has a “long-standing interest in solar energy,” as one option for achieving its goal of expanded rural electrification, as evidenced by several statements made by the Permanent Secretary for MOT/DOE in 1991 while chairing a three-day International Solar Energy Conference (PD, pg 7). For the GEF, the project is in line with the Operational Program 6, which seeks to promote the adoption of renewable energy by removing barriers/reducing implementation costs, and as a consequence of these actions, reduce anthropogenic emissions of GHGs that are a direct cause of climate change. While the direct reductions expected as a result of the project are trivial, the PD finds that the project has the potential for a much larger impact on climate, by reducing the potential for development of Zimbabwe’s coal resources as a means for rural electrification.

4.2 Effectiveness	Rating: Moderately Unsatisfactory
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The project was able to achieve a portion of the expected outcomes and objectives. Around half of the targeted number of PV systems appears to have been installed (see below). According to the TE, the private-sector mode of PV dissemination and installation worked reasonably well, while the community-based organization mode of distribution was unable to move forward as these organizations, many of which are considered part of the local government, are prohibited by their charter from borrowing money and hence could not administer a credit scheme (TE, pg 26) (*see Project Implementation section below for more on project design issues*). A small number of PV systems (500) were assigned to the public utility (ZESA) for marketing and delivery, and TE reports that these units have all been committed but that only a few systems have been installed thus far (TE, pg 25). TE states that due to lack of clear guidelines, NGO delivery mode only started in the last year of the project, with a small number of systems installed thus far (~50) (TE, pg 26).

Effectiveness is rated moderately unsatisfactory due to (1) achievement of only half of PV installation target; (2) questions about the sustainability of the funding mechanism – a stated objective of the project; (3) little to no success in upgrading local PV technology and manufacturing capacity; (4) limited

success of the NGO/CBO/utility modes of dissemination that were intended to reach the very poorest households; and (5) very marginal contribution to reducing atmospheric emissions of GHGs (not quantified, but assumed to be insignificant by TE, as less than half of the PV systems that were targeted to be installed actually were installed and TE finds prospects for broader adoption unlikely given financial concerns) (TE, pg 36). TE finds that project effectiveness was likely hindered by lack of management plan with timetables and delivery targets, which is discussed further in *Efficiency and Quality of Implementation* sections below.

It is noted that while TE does not provide any ratings, TE finds that the project has “achieved its broad developmental objective of supplying basic electrical services to rural populations lacking access to grid extension” (TE, pg 33). This TER however finds effectiveness to be moderately unsatisfactory because of the level of achievement as detailed above, and also taking into account the achievement of the global environmental objective, which does not appear to have been factored into the TE’s overall assessment.

Progress is detailed further along each of the five immediate objectives below:

1. *To facilitate the installation of a minimum of 9,000 domestic solar electric systems in rural areas over three years, as well as small community institutional lighting systems. These systems will be financed through revolving fund mechanisms, which may catalyze sustainable rural energy development.* TE states that the number of solar PV systems installed is unclear, and is between 3,175 to 7,600 depending upon what evidence is accepted (TE, pg 23). TE finds that the sustainability of the revolving fund is in question, as the current interest rate of 15% is unsustainable (TE, pg 34).
2. *To build and develop training, delivery, financial and institutional infrastructures for rural solar electrification that will continue beyond the completion of the project.* TE states that training for PV technicians from ZESA, and three NGOs was provided through the project, although no figures are given on the number or quality of trainings delivered. TE also states that 3 colleges will now offer courses on PV technology, and that through the efforts of the project’s management a Masters degree in Renewable Energy Systems has been on offer from the University of Zimbabwe since 1996, though no graduates have yet come out of the program, and TE does not state whether any students have enrolled (TE, pg 34).
3. *To upgrade local technology and manufacturing capacity while strengthening the local solar industry and commercial sector.* Some training was undertaken under this objective as part of a certification and licensing program that was part of the project. However, TE finds that overall the project component was unsuccessful as no clear workplan for capacity building and technology transfer was ever developed. No new module assembly companies emerged as a direct result of the project, nor other manufactures of PV components (TE, pg 30).
4. *To create lasting public awareness regarding the appropriate utilization of solar electric technology.* The success of this project component is difficult to gauge as no methodology was proposed in the PD, nor did any emerge during project implementation, for evaluating the effectiveness of this project component. TE provides some anecdotal evidence that the awareness program had only limited effect, with a non-random sample of 5 PV sites visited by the TE mission reporting only vague aware of the GEF project (TE, pg 28).

5. *To employ three approaches of program implementation as set forth in the GEF project brief: (1) commercial/private sector; (2) utility; and (3) local community development. Once foreign exchange and consumer credit are available, local suppliers and dealers will begin marketing and installing solar PV systems nationwide.* Financing for end-users was made available through a commercial financing firm (Agricultural Finance Corporation) which reportedly granted around 5,200 loans (TE, pg 22). Three NGOs are reported to have started participating in the PV program as of late (not clear what participation entails), while Community-Based modes of participation have not been launched.

4.3 Efficiency	Rating: Moderately Unsatisfactory
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TE provides several indications that the project experienced significant shortcomings with regard to the efficiency of outcome delivery. TE finds that a major weakness of the project is that no formal project implementation plan, including targets and timetables and indicators, was ever developed (TE, pg 32). TE finds that the absence of a project implementation plan prevented the timely delivery of expected project outputs, and little corrective action was taken on underperforming aspects of the project. Project experienced substantial delays with regard to bringing NGOs and the ZESA utility onboard for PV distribution components (around 3 years after project implementation began). In addition, the project executing agency was changed 1 year after project implementation began, from the UN Department for Economic and Social Development, located in NY, to the national Department of Energy. TE states that this was seen as necessary to improve the efficiency of the project. The changeover however resulted in a “7 month dead zone” while execution arrangements were being finalized, during which minimal project activities took place (TE, pg 33). Lastly, it appears that very little oversight was provided by the Project’s Executive Committee, and TE states that absence of this oversight, coupled with the lack of an implementation plan, resulted in the project underperforming in several regards (TE, pg 33).

4.4 Sustainability	Rating: Unlikely
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TE does not provide an overall rating for sustainability. However, TE presents evidence of risks to sustainability of project outcomes along several areas including financial sustainability of the revolving credit fund; limited success in bringing NGOs into the business of PV distribution; and failure of the project to develop local manufacturing capacity in PV.

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

- *Environmental (U/A)* – TE provides no assessment of environmental risks to the sustainability of project outcomes.
- *Socio-political (U/A)* – TE provides no assessment of socio-political risks to the sustainability of project outcomes.
- *Financial (U)* – TE states that the sustainability of financing activities hinges on a revolving loan fund mechanisms that was meant to operate into perpetuity. However, TE finds that “it is obvious now that the prevailing interest rate of 15% is sub-economic and as such the fund will certainly deplete to zero if no corrective action is taken” (TE, pg 34). No prospects for addressing this need are mentioned in the TE. Moreover, the price of PV technology in Zimbabwe is high

relative to other surrounding countries (\$1000 ave price vs \$600 in neighboring countries (TE, pg 23)). Thus, a key barrier to expansion of PV in Zimbabwe is the price of the technology, and there is no indication or evidence presented in the TE that this will go down in the near term.

- *Institutional (MU)* – While the project intended to bolster institutional support for PV distribution in Zimbabwe, the project made little headway in this regard. TE finds that due to lack of funds for plants and machinery, the solar manufacturing base did not expand significantly during the project (TE, pg 30). Moreover, the NGO mode of PV distribution has yet to be demonstrated, and the same is true for the utilities (ZESA) embrace of PV technology. Project did make some headway in training technicians for installation of PV, but overall, institutional risks to the sustainability of project outcomes remain significant.

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?

TE does not provide any reporting on actual co-financing (or project expenditures), nor discuss co-financing in the text of the report. At the same time, expected co-financing was only around 5% of the total anticipated project budget, so unlikely to have been critical to the achievement of project outcomes.

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?

While the project was completed at the expected date, TE notes presence of delays in

project activities. TE finds that the absence of a project implementation plan prevented the timely delivery of expected project outputs. Project experienced substantial delays with regard to bringing NGOs and the ZESA utility onboard for PV distribution components (around 3 years after project implementation began). In addition, the project executing agency was changed 1 year after project implementation began, from the UN Department for Economic and Social Development, located in NY, to the national Department of Energy. TE states that this was seen as necessary to improve the efficiency of the project. The changeover however resulted in a "7 month dead zone" while execution arrangements were being finalized, during which minimal project activities took place (TE, pg 33). Had the project not experienced the above delays, it appears likely that the additional time for project activities would have resulted in greater numbers of PV installations, and perhaps more institutional familiarity and experience with PV, which may have helped strengthen the basis for sustainability of project outcomes.

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:

TE provides insufficient information from which to gauge the extent of country ownership and how this may have impacted project outcomes and sustainability.

6. Assessment of project’s Monitoring and Evaluation system

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

Please justify ratings in the space below each box.

6.1 M&E Design at entry	Rating: Unsatisfactory
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The project document includes only minimal mention of M&E, and the TE finds that lack of sufficient M&E design was a key factor limiting the performance of the project. Project design lacks implementation tables (schedule of project activities), indicators of project success, and activity-specific targets. PD is also unclear with respect to overall end-of-project outcome targets, stating in one section of the PD that as many as 25,000 rural homes should be directly illuminated at the end of the project (PD, pg 8), while stating in another section that a minimum target of 9,000 domestic solar electric systems in rural areas should be installed (PD, pg 18). PD section on M&E only calls for review of the project at least once every twelve months and states that additional reports may be requested if necessary during the project. The lack of an effective M&E design was noted in the TE as both contributing to under-performance, in that project activities were not organized well and monitored sufficiently, and also as preventing the evaluation of the effectiveness of some project activities and outcomes, particularly with respect to the awareness-raising campaign, and the capacity-building components of the project. Lastly, no budgeting was made in the PD for M&E components.

6.2 M&E Implementation	Rating: Unsatisfactory
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None of the deficiencies in M&E design at entry noted above were rectified during project implementation, and TE finds that M&E implementation during implementation was unsatisfactory in several key regards. TE notes that while PD calls for production of a goal-oriented workplan through the services of a consultancy, no plan was ever formulated, for reasons unknown. TE states that “analysis of the (workplan) for resource demands activity-by-activity would have enabled the construction of the project’s projected total resource demand in time. This would have enabled the identification of instances of resource supply/demand function imbalance, allowing for the taking of proactive corrective action” (TE, pg 32). Moreover, monitoring and evaluation by an Executive Committee (EC), as called for in the PD, does not appear to have taken place as planned. As TE states, “...it appears that to date the EC has met only twice since the change to national project execution in 1995...it would have been prudent

for the EC to meet more frequently in order to execute their facilitation mandate, gauge the rate of project implementation progress and initiate corrective action as necessary” (TE, pg 33). In addition to potentially addressing project underperformance in several areas (PV installation being the principle one), the lack of an effective M&E system prevents the assessment of the extent to which capacity building and awareness-raising activities – both of which were key project outputs - have been successful.

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.

7.1 Quality of Project Implementation	Rating: Moderately Unsatisfactory
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Quality of project implementation was moderately unsatisfactory in several areas, including absence of any implementation schedule for project activities in the PD, failure to establish effective M&E systems during implementation, overly complex implementation arrangements that are noted in the TE, and failure to anticipate issues arising from the use of CBOs as PV financiers. On this last point, TE states that “the project had not anticipated that units of Local Government, such as the Rural District Councils and Provincial Development Committees, lack the statutory capacity to borrow and thus cannot operate satellite funding systems on behalf of the project. So the only CBO that could have come on board would be some kind of a Solar Credit Co-operative” (TE pg 11). TE finds that the project’s organizational structure was excessively complex, contributing to weaknesses in oversight. “Because the project organization structure was so complicated, very clear terms of reference for each component would have had to be formulated and efficiently disseminated. It is possible that it is this lack of clear definition of project component interfacing procedures that led to communication problems evolving towards the end of the project” (TE, pg 18). TE does note one instance of adaptive management by UNDP – following the first tripartite review meeting in 1994, it was decided to change the Executing agency from the UN Department for Economic and Social Development, located in NY, to the national Department of Energy. TE states that this was seen as necessary to improve the efficiency of the project. The changeover however resulted in a “7 month dead zone” while execution arrangements were being finalized, during which minimal project activities took place (TE, pg 33). TE does not assess whether or not, in hindsight, this change in executing agencies was on balance prudent.

7.2 Quality of Project Execution	Rating: Moderately Unsatisfactory
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TE notes several areas where project execution was unsatisfactory. These include failure to develop a goal-oriented workplan. Despite the PD calling for production of a workplan through the services of a consultancy, no plan was ever formulated. As noted above, TE finds that the absence of a project implementation plan prevented the timely delivery of expected project outputs, and little corrective

action was taken on underperforming aspects of the project. Project experienced substantial delays with regard to bringing NGOs and the ZESA utility onboard for PV distribution components (around 3 years after project implementation began). In addition, the project executing agency was changed 1 year after project implementation began, from the UN Department for Economic and Social Development, located in NY, to the national Department of Energy. TE states that this was seen as necessary to improve the efficiency of the project. The changeover however resulted in a “7 month dead zone” while execution arrangements were being finalized, during which minimal project activities took place (TE, pg 33). Lastly, it appears that very little oversight was provided by the Project’s Executive Committee, and TE states that absence of this oversight, coupled with the lack of an implementation plan, resulted in the project underperforming in several regards (TE, pg 33). Quality of Project Execution is rated as Moderately Unsatisfactory and not lower as all project activities appear to have been executed as called for in the PD, and many areas of project underperformance can and should be linked to weaknesses in project design that were outside of the control of the executing agency.

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 below that this is indeed the case. 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.

No change in environmental status or stress is reported in the TE to have occurred by the end of the project. Any changes in environmental status would only occur through widespread adoption of the projects technology, and it was far too early to assess whether or not that would occur. TE states that the number of solar PV systems installed is unclear, and is between 3,175 to 7,600 (roughly half of target) depending upon what evidence is accepted (TE, pg 23). TE finds that the sustainability of the revolving fund is in question, as the current interest rate of 15% is unsustainable, throwing into question whether or not target of installed systems will ever be met, let alone broader adoption (TE, pg 34).

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.

No changes in human well-being are reported on in the TE.

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 - TE states that training for PV technicians from ZESA, and three NGOs was provided through the project, although no figures are given on the number or quality of trainings delivered. TE also states that 3 colleges will now offer courses on PV technology, and that through the efforts of the project’s management a Masters degree in Renewable Energy Systems has been on offer from the University of Zimbabwe since 1996, though no graduates have yet come out of the program, and TE does not state whether any students have enrolled (TE, pg 34).

b) Governance – No changes in governance are reported in the TE to have occurred as a result of the project.

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

No unintended impacts are reported in the TE to have occurred 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.

No adoption of GEF initiatives at scale is reported in the TE to have occurred by the end of the project. The project essentially tested the viability and uptake of different methods for bringing PV technology to rural areas in Zimbabwe. The project met with limited success for all the reasons detailed in the effectiveness section above. According to the TE, broader adoption, if it were to ever take place, is largely dependent upon the price of this technology becoming cost-competitive with fossil fuel-based electrification approaches.

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.

TE provides the following key lessons:

- To ensure that project execution stays under control, it is necessary to strategize explicitly, including the elements of activity scheduling, resource allocation, milestone definition and the design and installation of project control procedures. The latter includes project management meetings that must be held with regularity and appropriate frequency.
- In order to prevent unnecessary dislocations during project execution, sufficient time must be made available for detailed consultations with the potential stakeholder organizations. This will prevent the articulation of impossible proposals in the PD, such as the suggestion that UNDP fund profit making entities, ZESA sell systems to customers, rural district councils engage in borrowing activities, etc.
- Delays associated with running an operation across national boundaries can be avoided if resources and structures are available for the national project execution mode. A preliminary investigation should always be carried out to establish whether these resources and structures are available or not.
- While renewable energy technologies need to be nurtured through soft financing schemes, the eventual and gradual escalation of financing terms towards market determined levels must be programmed into the project timeline to ensure sustainability.
- Technology transfer is a task that must be addressed explicitly in the PD.
- As part of the capacity building exercise, the solar energy industry must be provided with access to working capital and plant and machinery capital.
- The community-based PV delivery mode, while conceptually desirable, is the most difficult to implement as no commercial structures exist on which credit facilities can ride.
- Solar technology as it is currently marketed is not ready for use by the poorest of the poor, for whom it is still out of reach. Innovative marketing and R&D are required to address their needs.

9.2 Briefly describe the recommendations given in the terminal evaluation.

TE provides the following key recommendations:

- In the long term the needs of the poor cannot be addressed in isolation from the general developmental context. It is recommended that the DOE/PMU undertake the intra-governmental liaison necessary to incorporate aspects of renewable energy in general and PV technology in particular in rural development strategies.
- It is recommended that the issue of insufficient local PV hardware manufacturing capacity be revisited.

10. Quality of the Terminal Evaluation Report

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

Criteria	GEF EO comments	Rating
To what extent does the report contain an assessment of relevant outcomes and impacts of the project and the achievement of the objectives?	TE does a reasonable job of assessing the extent to which expected outputs were achieved. TE is unclear about the extent to which PV systems were installed, and the extent to which capacity building activities and awareness activities were successful – although the latter is largely due to failure to design/establish effective M&E systems to evaluate these project components. TE is also unclear on the extent to which PV installation figures from each delivery mode overlap with one another.	MS
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	While TE does not provide ratings, as these were not required at the time, TE is inconsistent with regard to its overall assessment of the project and the extent to which project outputs were achieved. TE cites many instances of under-performance and yet finds that overall objective was achieved despite project having only met half of PV installation target, and little prospects for sustainable outcomes going forward. More detail should have been provided on the extent of UNDP supervision.	MU
To what extent does the report properly assess project sustainability and/or project exit strategy?	TE appears to be overly optimistic with regard to its assessment of project sustainability, and does not discuss this component of project performance sufficiently given that it was a stated project objective. For instance, there is no assessment made of whether the 4 delivery modes (utility, NGO, private, CSO) enjoy sufficient support among these entities to continue promoting PV technology after project funding is exhausted. On the other hand, TE does state that project sustainability hinges on financial and economic considerations, on which it provides assessment of risks.	MS
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	Lessons and recommendations are reasonable and inline with the narrative and evidence provided in the TE.	S
Does the report include the actual project costs (total and per activity) and actual co-financing used?	TE includes no accounting of project costs or co-financing	HU
Assess the quality of the report's evaluation of project M&E systems:	TE points out deficiencies in design and implementation of project M&E. More should have been said on the overlap of end-of-project outcome targets in PD, and the lack of clarity regarding GHG reduction targets.	MS
Overall TE Rating		MS

Overall TE rating = (0.3 * (4+3)) + (0.1 * (4+5+1+4)) = 2.1 + 1.4 = 3.5

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