1. Project Data

·	C.	mman, prainct data			
055	Summary project data				
GEF project ID		4285			
GEF Agency project ID			GF/BKF/12/001-SAP 100046		
GEF Replenishment Phase		GEF-4			
Lead GEF Agency (inc	clude all for joint projects)	UNIDO			
Project name		Promoting Energy Efficiency Tech Faso	nnologies in Beer Brewery In Burkina		
Country/Countries		Burkina Faso			
Region		Africa			
Focal area		Climate Change			
Operational Program Priorities/Objectives	_	CC-SP-2			
Executing agencies in	nvolved	Ministry of Environment and Sus	tainable Development		
NGOs/CBOs involven	nent				
Private sector involvement		Financial institutions: Fonds d'Appui aux Activités Rémunératrices des Femmes (FAARF) and Caisse Populaire			
CEO Endorsement (FS	SP) /Approval date (MSP)	April 17, 2012			
Effectiveness date /	project start	June 11, 2012			
Expected date of pro	ject completion (at start)	March 30, 2014			
Actual date of projec	t completion	March 2015 ¹			
		Project Financing			
		At Endorsement (US \$M)	At Completion (US \$M) ²		
Project Preparation	GEF funding	.025	.025		
Grant	Co-financing	.03	.03		
GEF Project Grant	1 1 0	.43	.40		
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	IA own	.13	.13		
	Government	.1	.1		
Co-financing	Other multi- /bi-laterals				
	Private sector	.5	.125		
	NGOs/CSOs				
Total GEF funding		.46	.43		
Total Co-financing		.76	.39		
Total project funding		1 22			
(GEF grant(s) + co-fin	ancing)	1.22	.82		
Terminal evaluation/review information					
TE completion date		August 2015			
Author of TE		Cristóbal Vignal and Issaka Herman Traoré			
TER completion date		12/22/2015			

¹ The TE notes in the body of the report that "a project extension has been requested and granted until March of 2015" (pg. 9).

² The TE does not provide co-financing information at completion. These figures are taken from the 2014 PIR (pg. 10).

TER prepared by	Laura Nissley
TER peer review by (if GEF IEO review)	Molly Watts

2. Summary of Project Ratings

Criteria	Final PIR	IA Terminal Evaluation	IA Evaluation Office Review	GEF IEO Review
Project Outcomes	NR	MS	NR	MS
Sustainability of Outcomes	NR	L	NR	UA
M&E Design	NR	S	NR	MS
M&E Implementation	NR	MS	NR	MU
Quality of Implementation	NR	S	NR	MU
Quality of Execution	NR	NR	NR	MS
Quality of the Terminal Evaluation Report			HS ³	MU

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objectives of the project are not explicitly stated as such in the Terminal Evaluation (TE) or project documents. However, the goal of the project was "to ensure environmental sustainability through reducing GHG emissions related to the Beer Brewing Industry in Burkina Faso" (Request for CEO Endorsement pg. 15).

3.2 Development Objectives of the project:

The Development Objectives are not explicitly stated as such in the TE or project documents. However, the project objective was to "stimulate the market demand for improved cook stoves (ICS) in the Beer Brewing Industry" (Request for CEO Endorsement pg. 15).

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

Outcome 2 changed slightly between the Request for CEO Endorsement (2012) and the first PIR (2013). The original outcome read "Market demand for improved cook stoves stimulated through strengthening beer breweries (using UNIDO cluster development methodology) in terms of improved production methods and skill sets and increased market access." The revised outcome read "Development of Micro, Small, and Medium Enterprise (MSME) clusters as a tool to achieve collective efficiency gains and foster the uptake of socially and environmentally responsible production practices." It is unclear from the project documents and the TE why this change occurred, but it appears that the expected results under this outcome remained consistent.

³ The IA Evaluation Office review does not provide a rating for the overall quality of the TE report, however the IA Evaluation Office uses the same sub-criteria and rating scale as the GEFIEO so I was able to assess the overall quality using the same formula.

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 provides a rating of **Highly Satisfactory** for project relevance. This TER, which uses a different scale, provides a rating of **Satisfactory**. The outcomes of the project were consistent with Burkina Faso's policies and laws for protecting natural resources, including the National Sustainable Development Policy, the Forestry Code (2011), and the Environment Code (2013) (TE pgs. 3-4). At the time of CEO endorsement, the Burkinabe government was also elaborating a national strategy for the regulation of the wood fuel trade (Request for CEO Endorsement, pg. 9). At the regional level, the project was in line with the Economic Commission for West African States' (ECOWAS) 2011 White Paper which promoted the penetration of Renewable Energy (RE) and Energy Efficiency (EE) (TE pg. 10).

The outcomes of the project were also consistent with the GEF-4 Climate Change Strategic Program 2, *Promoting energy efficiency in the industrial sector*, which includes the deployment and diffusion of energy-efficient technologies and practices in industrial production and manufacturing processes (GEF-4 Climate Change Mitigation Strategy Document, pg. 9).

4.2 Effectiveness	Rating: Moderately Satisfactory
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The TE provides a rating of **Moderately Satisfactory** for project effectiveness, and this TER concurs. The project made significant progress toward achieving expected outcomes, including the adoption of improved cook stoves (ICS) by Dolo brewers, ⁴ the development of microfinance cluster associations, and the improved capacity of developers to prepare carbon financing projects. The project did fall short of achieving some of its targets (i.e. masons trained and commercial cook stoves installed), however the TE

⁴ Dolo is a local, traditional beer. Dolo brewing is a traditional profession passed on from generation to generation and is an important source of income for women who brew in thousands of small-scale home-based breweries across Burkina Faso (TE pg. 4).

does note that these targets were overly ambitious. A summary of the project's achievements, by component and outcome, is provided below:

Component 1: Technology Deployment and Demonstration

• Outcome 1: Beer brewers adopt improved cook stoves:

Expected results under this outcome included: (1) increased technical capacity of stove manufacturers to design and construct ICS and fuel consumption upgraded, and (2) financing facility for improved ICS set up. By project end, 48 masons (out of the 100 targeted) were trained by the Institut de Recherche en Sciences Appliquées et Technologies (IRSAT) in the construction of ICS. Additionally, all except for 4 of the dolo brewers associations prepared business plans to access micro-credit or self-financing for ICS. Of the 188 that requested credit, 17 were selected. The TE also notes that 250 commercial cook stoves (of the targeted 1000) were purchased and installed, and the TE documented an increasing demand for ICS among brewers (TE pgs. 11-13).

Component 2: Stimulating the market demand for improved cook stoves

Outcome 2: Development of Micro, Small, and Medium Enterprise (MSME) clusters as a tool
to achieve collective efficiency gains and foster the uptake of socially and environmentally
responsible production practices:

Expected results under this outcome included: (1) microfinance cluster association for dolo brewers is developed and finalized, and (2) vertical linkages between the cluster and the distribution and supply chains for ICS are established. By project end, 26 associations of dolo brewers were established and preparations had begun for a National Federation of Dolo Brewers. 130 women were also trained by Cluster Development Agents (CDAs) on hygiene, entrepreneurship, basic management skills, and cluster development. Additionally, an action plan promoting efficient commercial chains for ICS was developed, although it is unclear from the TE whether the action plan was implemented (TE pgs. 14-15).

Component 3: Scaling up through the voluntary carbon market

• Outcome 3: Human capacity to prepare carbon financing projects is developed:

Expected results under this outcome included a trained cadre of project developers, project operators, and monitoring entities who could prepare Gold Standard projects for scaling up the project through carbon finance. By project end, 22 project developers (surpassing the targeted 20) were trained on how to design a Gold Standard carbon market project. However, the TE found that the training was not enough to result in the preparation and registration of projects. One NGO, *Tii Paalga*, was able to design a project that targeted households rather than dolo brewers, resulting in the installation of 9,000 household cook stoves (TE pgs. 15-16).

4.3 Efficiency	Rating: Moderately Unsatisfactory
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The TE provides a rating of **Moderately Unsatisfactory** for project efficiency, and this TER concurs. Overall, the TE found that the project implemented the activities in a cost-effective manner. However, the project was not registered on time with the Ministry of Economy and Finance, which delayed the disbursement of co-financing from the Government. Although the project was able to move forward with some activities, such as undertaking a Cluster Diagnostic Study and awareness raising activities, more substantive engagement with beneficiaries was significantly delayed (investment activities and trainings (TE pg. 21). Additionally, co-financing from the African Export & Import Bank (Afrexim) did not materialize, leading to further delays. Ultimately, the project was able to adapt and partner with two financial institutions, *Fonds d'Appui aux Activités Rémunératrices des Femmes* (FAARF) and *Caisse Populaire*, to provide the dolo brewers with access to micro-credit (TE pg. 12).

4.4 Sustainability	Rating: Unable to Assess
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The TE provides a rating of **Likely** for project sustainability, which this TER adjusts to **Unable to Assess**. The TE explicitly notes that it did not "gather evidence indicating the possibility of future socio-political, institutional framework and governance, or environmental risks that can compromise the sustainability of the project" (pg. 19). The TE does note that the risk to financial resources was low, as access to microcredit institutions increased and the overall cost of ICS is low (\$160 per cook stove). However, this is not enough information to assess the overall sustainability of project outcomes.

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 expected levels of co-financing were significantly lower than expected. African Export & Import Bank (Afrexim) pledged \$500,000 in soft-loans at the time of the CEO Endorsement of the project, representing 68% of the total co-financing. However, the TE notes that the Expression of Interest letter from the Director of Afrexim clearly states that the Bank "does not make any firm commitment in this regards." The TE rightly notes that the project should not have relied on this "expression of interest" and sought to engage other potential partners before implementation (TE pg. 16). Once the project had progressed to seeking financing for ICS, it became clear that the interest rates that Afrexim offered on the soft-loans were not competitive and thus unattractive to potential borrowers. UNIDO was unable to negotiate more favorable terms, and Afrexim withdrew from the project (TE pg. 12). Although the

project was able to pursue micro-credit with other institutions and self-financing options, the project did experience delays and outcomes were slightly lower than expected.

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?

The project experienced delays at start-up due to late registration of the project with the Ministry of Economy and Finance, unexpected challenges securing financing for ICS construction (described above), and political instability in Burkina Faso at the end of 2014. The project requested an extension of the project until March 2015 in order to complete activities. Despite the delays, the project largely achieved its 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:

The TE does not directly assess country ownership and how it affected project outcomes and sustainability. The TE does note that the government of Burkina Faso was involved in the project from beginning to end (pg. 20). The project was also overseen by a Coordinating Committee, made up of the Ministry of Environment and Sustainable Development; the German Development Agency (GIZ); Institut de Recherche en Sciences Appliquées et Technologies (IRSAT); NGOs and CSOs; the ECOWAS Center for Renewable Energy and Energy Efficiency (ECREEE); and UNIDO. The TE notes that the Coordinating Committee contributed to stakeholder ownership of the project (pg. 28).

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: Moderately Satisfactory
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The TE provides a rating of **Satisfactory** for M&E design at entry, which this TER downgrades to **Moderately Satisfactory** largely due to an insufficient M&E budget. The results framework outlined in the project design included SMART (specific, measurable, achievable, realistic, and timely) output and outcome level indicators, baseline values, and targets. The results framework also includes indicators to capture environmental changes, such as direct and indirect energy savings and GHG emissions reductions. The M&E plan briefly outlines M&E activities (project inception workshop, quarterly progress reports, annual reviews, and a final evaluation), but does not provide a timeline for these

activities. The M&E plan does not provide for dedicated M&E staff, although it does indicate that the national project manager will be responsible for the day to day monitoring and reports, while the UNIDO project manager will monitor the overall progress of the project and report to the GEF on indicator data (Request for CEO Endorsement, pgs. 3-4). The M&E plan includes a dedicated budget for M&E, however it is only \$30,000, or 2.5% of the overall budget. This amount is insufficient to support the planned monitoring system and final evaluation (TE pg. 19).

6.2 M&E Implementation

The TE provides a rating of **Moderately Satisfactory** for M&E implementation, which this TER downgrades to **Moderately Unsatisfactory**. Overall, the TE found that the project lacked a "clear and sound M&E system" (pg. 19). Data was collected and reported for some output-level indicators, such as number of masons trained, number of project developers trained, number of associations established, and number of cook stoves installed. This indicates that the M&E system was at least somewhat functional. It is evident however, that the project did not track higher level results accounted for in the M&E design, such as changes in direct and indirect energy savings and GHG emissions. In addition, the project experienced a high level of staff turnover which affected the implementation of M&E activities (TE pg. 19).

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: Moderately Unsatisfactory
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The TE provides a rating of Satisfactory for "UNIDO supervision and backstopping," which this TER adjusts to **Moderately Unsatisfactory** for quality of project implementation. The project was designed in a participatory manner using a Project Preparation Grant (PPG). UNIDO engaged other organizations working on similar projects in Burkina Faso in the design process, namely the German Development Agency (GIZ) and SNV Netherlands Development Organization (SNV), in order to avoid duplicative efforts (TE pg. 8). UNIDO is also credited with setting up regular meetings with GIZ and SNV throughout project implementation in order to coordinate activities on the ground. Overall, the TE notes that UNIDO demonstrated a consistent level of support and commitment to the project (TE pg. 21).

UNIDO did however underestimate the time needed to officially register a project in Burkina Faso which led to significant delays at start-up. Co-financing from the government was delayed, and the project was unable to officially engage in substantive work, such as training and investment activities, until the project was registered. Additionally, UNIDO failed to secure a firm commitment from its most significant co-financer African Export & Import Bank (Afrexim), who ultimately pulled out from the project. The project was able to adapt and secure other lines of micro-credit and self-financing options for the construction of ICS, however the project's timeline was affected.

Additionally, some of the targets outlined in the project design were too ambitious for the timeframe allotted (TE pg. 8). For example, the project design set a target of 1,000 cook stoves to be installed by project end, whereas the project had only installed 250 by the end of 2014 (TE pg. 12).

7.2 Quality of Project Execution	Rating: Moderately Satisfactory
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The TE does not provide a rating for the Quality of Project Execution. The project was executed by a Project Management Unit (PMU) located within the Burkinabe Ministry of Environment and Sustainable Development. The PMU was responsible for the day to day implementation of activities, including monitoring and evaluation. A Coordinating Committee made up of local stakeholders and partner organizations was also established to provide guidance on project strategies. The TE states that the Coordinating Committee adequately facilitated project implementation in a participatory manner and contribution to local ownership over the project (TE pg. 28).

Although the project achieved most of its outcomes, it failed to reach some of its targets by project end. Due to delays at project start-up, the project had to be extended one year. The TE also notes that high staff turnover in the PMU directly contributed to the shortcomings of the M&E system (TE pg. 19). For these reasons, this TER provides a rating of **Moderately Satisfactory**.

8. Assessment of Project Impacts

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

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

The TE does not cite any environmental changes that occurred by the end of the project. It should be noted that the project was supposed to track changes in GHG emissions (target: cumulative direct and indirect emission reduction of $406,540 \text{ tCO}_{2e}$ and $1,219,620 \text{ tCO}_{2e}$) and biomass energy saved (target: 49,800 MJ of biomass energy saved per year). However, it does not appear that these environmental changes we calculated by the project or the TE.

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

The TE notes that every dolo brewer interviewed reported improvements to their health. Specifically, interviewees noted that a decrease in smoke from using the ICS rather than wood burning, as well as reduced exposure to heat. This in turn contributed to reduced irritation to their eyes and improved sleep. In addition, interviewees reported cost savings which were used to cover household expenses, such as feeding, dressing and paying tuition for their children (TE pg. 11).

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

By project end, 48 masons were trained in the construction of ICS (TE pg. 11). These masons are from the villages and communities where dolo brewers associations have been established. The dolo brewer interviewees reported that they were comfortable calling the trained masons to repair or maintain their ICS, in addition to build new ICS (pg. 26). Additionally, the dolo brewers increased their knowledge on entrepreneurship management, cluster development, and hygiene through their participation in the project (TE pg. 21).

22 project developers were also trained on how to design a Gold Standard carbon market project. However, by project end, the developers reported that they weren't fully prepared to write a carbon market project unassisted (TE pg. 15).

b) Governance

The TE does not cite any changes in governance that occurred by the end 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.

The TE does not cite any unintended impacts that occurred by the end 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.

The TE does not cite any GEF initiatives that have been adopted at scale by the end of the project.

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 states the following lessons learned (pg. 28):

- Co-financing without a firm and clear commitment from the other stakeholders can seriously undermine the implementation of a program.
- Program registry at the Ministry level in the recipient country should be considered as a priority.
 In doing so UNIDO ensures that the national counterpart plays effectively the role it is supposed to play.
- The low price of Improved Cook Stoves (ICS) and the origin of masons are determinant to produce a spillover effect thereby ensuring the sustainability of the program.⁵
- A high staff turnover coupled with an unclear sound M&E system does impact negatively in program implementation and day-to-day monitoring.

⁵ This TER interprets this to mean that the project is likely to have a spillover effect due to the fact that the trained masons are from the villages and communities where the dolo brewers associations have been established and that the price of ICS is low.

• The set-up of a Coordinating Committee has highly contributed to the ownership of the program by local stakeholders and facilitates participatory program implementation. UNIDO should consider the creation of this committee on all its program in the future.

9.2 Briefly describe the recommendations given in the terminal evaluation.

The TE states the following recommendations (pgs. 27-28):

- UNIDO should consider urgently implementing mechanisms to guarantee effective follow up of all project indicators.
- UNIDO should consider formalizing a process to update Logframes as implementation of projects progresses, and they need to be adapted to changing realities and/or encounters obstacles.
- UNIDO should consider reorienting the project to allow dolo resellers looking for means to become producers to be integrated into the projects structure and receive support.
- UNIDO should ensure that the documentary film receives as large as possible diffusion.
- UNIDO should consider in the context of industrialization developing linkages to the efforts currently underway (private) to bottle dolo for commercial purposes.
- UNIDO should consider developing guidelines regarding the process to confirm co-financing commitments made to the projects at the development stage.
- UNIDO should explore options to develop collaborative partnerships to facilitate the promotion of investments to the agro-food sector.
- UNIDO should consider developing a mechanism to follow up with project registration in countries where this is required, in order to minimize delays when they are encountered.
- The country should consider implementing mechanisms to expedite the registration of internationally funded projects.

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 does not adequately address the indicators outlined in the project document, nor does it explicitly discuss impacts.	MU
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is internally consistent, however in some cases the evidence provided does not justify the ratings (sustainability, M&E design, and M&E implementation).	MU
To what extent does the report properly assess project sustainability and/or project exit strategy?	The project briefly discusses financial sustainability and does not address sociopolitical, institutional or environmental sustainability.	U
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned are consistent with the evidence provided. However, they are largely focused on program management and in some cases, repetitive (i.e. the registration of projects).	MU
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The report does not provide actual figures for co-financing.	U
Assess the quality of the report's evaluation of project M&E systems:	The report does not provide an assessment of the M&E design at entry and provides a very limited analysis of M&E implementation.	MU
Overall TE Rating		MU

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

GEF-4 Climate Change Mitigation Strategy Document