

Terminal Evaluation Review form, GEF Evaluation Office, APR 2014

1. Project Data

| Summary project data | | | |
|---|---------------------------|---|------------------------|
| GEF project ID | | 52 | |
| GEF Agency project ID | | 1682 | |
| GEF Replenishment Phase | | Pilot Phase | |
| Lead GEF Agency (include all for joint projects) | | World Bank | |
| Project name | | Household Energy | |
| Country/Countries | | Mali | |
| Region | | AFR | |
| Focal area | | Climate Change | |
| Operational Program or Strategic Priorities/Objectives | | OP-6: Promoting the adoption of renewable energy by removing barriers and reducing implementation costs | |
| Executing agencies involved | | Ministry of Mines, Hydraulics and Energy; Ministry of Agriculture, Animal Husbandry and Environment | |
| NGOs/CBOs involvement | | Secondary executing agencies | |
| Private sector involvement | | Secondary executing agencies | |
| CEO Endorsement (FSP) /Approval date (MSP) | | 06/22/95 | |
| Effectiveness date / project start | | 10/27/95 | |
| Expected date of project completion (at start) | | 12/31/99 | |
| Actual date of project completion | | 12/31/00 | |
| Project Financing | | | |
| | | At Endorsement (US \$M) | At Completion (US \$M) |
| Project Preparation Grant | GEF funding | | |
| | Co-financing | | |
| GEF Project Grant | | 2.500 | 2.200 |
| Co-financing | IA own | | |
| | Government | 1.200 | 0.470 |
| | Other multi- /bi-laterals | 7.400 | 2.400 |

| | | | |
|--|----------------|--------|-------|
| | Private sector | | |
| | NGOs/CSOs | | |
| Total GEF funding | | 2.500 | 2.200 |
| Total Co-financing | | 8.600 | 2.870 |
| Total project funding (GEF grant(s) + co-financing) | | 11.100 | 5.070 |
| Terminal evaluation/review information | | | |
| TE completion date | 07/18/01 | | |
| TE submission date | 07/18/01 | | |
| Author of TE | N/A | | |
| TER completion date | 11/05/14 | | |
| TER prepared by | Sean Nelson | | |
| TER peer review by (if GEF EO review) | Joshua Schneck | | |

2. Summary of Project Ratings

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

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The GEO is to better manage natural resource use in the country to lower CO2 emissions and control deforestation. According to the Project Document (PD), fuelwood made up about 90 percent of Malian residential energy use. Urban areas also saw increasing charcoal use. While southern Mali saw relatively sustainable wood use, northern Mali saw rapidly shrinking forest cover, which was exacerbated by a recent drought. In addition, residential biomass energy use was Mali's biggest contributor to CO2 emissions, especially in urban areas. The PD estimates that CO2 savings from the project's programs addressing inefficient cook stoves and fuelwood supply systems could reach 330,000 tons of fuelwood per year by 1999, which is equivalent to 560,000 tons of annual avoided CO2eq emissions. Anthropogenic emissions of CO2 are a principle cause of climate change.

3.2 Development Objectives of the project:

The Development Objectives of the project, as stated in the PD, are "the reductions of CO2 emissions, the abatement of forest resources depletion, and increased participation of the private sector in the management of the household energy sector" (PD, pg 3).

The PD also defines principle *Implementation Objectives*, which are the promotion of (1) popular participation in household energy resources, (2) rational use of household energy resources, and (3) improved end-use of household fuels.

In addition, the PD defines the following *Specific Objectives* of the project, which are to (1) create a enabling regulatory and policy environment for project implementation; and (2) to provide

technical assistance and training to peasants, charcoal makers, producers and sellers of stoves, and urban consumers to, respectively, efficiently harvest and carbonize fuel wood, manage the natural forest in a sustainable manner, effectively market new energy end-use equipment, and rationally use improved biomass and kerosene stoves.

The development objectives of the project were to be realized by the following project components:

1. *Woodfuel demand*: This component consists of the identification, design and assistance to implement a marketing program for the sale of improved biomass and kerosene stoves. This includes importation of 17,000 kerosene stoves and the local manufacturing and sale of 650,000 charcoal stoves, 60,000 fuelwood stoves, and a combined version of charcoal and fuelwood stoves. Subsidies would be provided on a temporary basis to reduce the market price of these stoves.
2. *Woodfuel supply*: This component consists of (1) the design of woodfuel supply plans for the main towns and determination of the maximum annual sustainable wood supply in the catchment areas supplying the towns; (2) preparation and assistance to implement village forest management plans in some 260 villages in five administrative regions of Mali; and (3) identification, design and implementation of an improved carbonization program for existing charcoalers as well as assistance to interested local private entrepreneurs to carbonize and compress cotton stalks to replace charcoal.
3. *Energy Sector Institution building*: Provision of institutional support to (1) central and local government authorities to help with project management; (2) to the private sector to produce and sell improved stoves.

Information, Education and Communication (IEC) program: This component consisted of two parts: (1) consumer consultation, executed by private sector operators, and focused on the importance of the rational use of energy through the proper use of improved stoves; and (2) launching of a comprehensive training and client consultation program on forest management tailored to village communities and the creation of rural woodfuel markets.

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

The TE does not mention any changes to the GEOs or the DOs.

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.

| | |
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| 4.1 Relevance | Rating: Satisfactory |
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This project is relevant to the GEF under OP-6: Promoting the adoption of renewable energy by removing barriers and reducing implementation costs. Replacing current residential woodfuel use through improved cookstoves would make household energy use more sustainable. In addition, the Malian government in December 1994 enacted new laws and regulations to encourage local management of forest resources. This was because the National Waterways and Forests Department (NWFD) was ill-equipped to adequately manage forest resources on a national level. These new measures restructured the NWFD to help it promote local resource management.

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| 4.2 Effectiveness | Rating: Satisfactory |
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Note: The TE uses a different framework than the PD for project components. However, the TE does not mention any changes to the program that would account for this different framework. It is unclear if the project design was changed or that the TE authors simply chose to use this format on their own. With that said, the project framework used below has significant overlap with the PD's framework.

Summary: The project exceeded its goals in selling and distributing improved cookstoves. The project did not achieve all of its goals on the supply side, but this was due more to mistaken assumptions about local conditions during the design stage instead of a lack of results. The project also achieved its goals of improving local capacities and educating the populace on sustainable woodfuel use. The project mitigated emissions of 130,000 tons of CO2 per year, which did not meet the expectation in the PD of 560,000 tons of CO2 annually. The project reduced annual firewood consumption by 400,000 tons, which exceed the goal of 330,000 tons.

Woodfuel Demand: Satisfactory

This component originally aimed to sell 60,000 improved biomass and kerosene cookstoves in local communities. The project sold over 100,000 unites, which exceed project goals. Over 150,000 improved woodfuel stoves and 85,000 improved charcoal stoves were distributed and sold. Local consumers embraced improved cookstoves because they discovered that more efficient wood use saved them money. The one project program for this component that failed was selling improved kerosene stoves

from India, China and Niger. An unexpected rise in the US\$-CFAF exchange rate put these stoves out of reach for most local consumers.

Woodfuel supply: Moderately Satisfactory

This component resulted in the successful creation and execution woodfuel supply master plans for Bamako, Mopti, Koutiala, Segou and Kayes, as well as village forest management plans in roughly 200 villages representing 320,000 ha. This latter program came in under expectations of 260 villages and 720,000 ha. While the project only fell short of its target number of villages by 60, it fell well short of total land under improved management due to incorrect assumptions regarding village size. The initial design estimated that villages would cover an average of 2,600 ha, but in reality this was only 1,500 ha. The project also failed to harvest 200,000 tons of dead wood.

An improved carbonization program was successful. The project retrofitted 300 charcoalers with the improved Casamance kiln and distributed about 100 kiln chimneys. According to the TE, “the Casamance kiln success can be attributed to the 20% higher charcoal yield, reduced production time, and improved product quality” (TE, p. 5).

Energy Sector Institution Building: Satisfactory

The project increased local capacity through 2 initiatives mentioned above: distributing and marketing improved cookstoves and creating forest management plans. In addition, the project also increased national and local government project management capacities. The project raised capacities relating to the Direction Nationale de l’Energie and the Household Energy Strategy’s (SED) executing agency.

IEC Program: Satisfactory

In partnership with NGOs and the private sector, this component marketed and educated the public on the financial benefits and importance of sustainable resource use. This component helped to achieve results for both the Woodfuel Supply and Woodfuel Demand components.

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| 4.3 Efficiency | Rating: Moderately Satisfactory |
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Summary: The project experienced some minor delays. As a result, the project had to extend its closing date by a year. However, the project does not appear to have experienced any notable personnel management or financial management issues.

Delays: The project experienced 4 primary delays that required extending the project by a year. The project initially received insufficient counterpart funds. In addition, the fuelwood taxation decree (Decree 95-422/P-RM) was issued almost 3 years later than expected. Hiring technical advisers also took longer than expected. The government also temporarily took control of the project’s headquarters without giving an explanation. The project also took longer than expected to create the national coordination committee that coordinated household energy sector implementation.

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| 4.4 Sustainability | Rating: Moderately Likely |
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Summary: The project was focusing on making sure local actors/stakeholders and the private sector took over management of many project activities. This was still ongoing, but appeared moderately likely. The sales and use of improved cookstoves appeared sustainable. The government had instituted a new regulatory framework, but enforcement was inconsistent.

The project's sustainability is assessed according to the following 4 risk factors:

Environmental: **Unable to Assess**

The TE does not note any environmental risks to project sustainability.

Sociopolitical: **Moderately Likely**

The government had recently passed new laws and implementation rules that attempted to rationalize fuelwood cultivation and use on a sustainable basis. Prices were being set on an economic basis to make improved cookstoves more attractive. The regulatory framework was also transparent. However, government enforcement of management plans and woodfuel taxes was at times lacking. Additional time was likely needed for sustainable resource management to be normalized within the country.

Institutional: **Likely**

The project raised local and national government project management capacities. In addition, the central government was devolving some of its responsibilities to private sector partners in the household energy sector, allowing for greater efficiency. The government was also passing on management of rural woodfuel markets (RM) to local village communities to allow for local control and management. Many local stakeholders had received training through the project. Otherwise, local actors involved in the project saw no change in their regular work before and after the project, which shows that the project was normalized. Executing units have been integrated into regular operations of the relevant ministries.

Financial: **Likely**

After project closure, private sector businesses had sold an additional 15,000 improved cookstoves. These operators had received training through this project. This suggests that the project remained financially viable based on private sector sales.

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 received US2.5 million from the Dutch government, which made up about half of the project's total funding according to the TE's section on co-financing. However, these numbers were inconsistent with those found in Annex 2: Project Costs and Financing. This funding allowed the project to carry out its activities, though the TE claims "the project closed with a zero balance, but could have disbursed more, if additional funds would have been available" (TE, p. 7). Promised French and German financing mentioned in the PD were not mentioned in the TE. The TE also does not mention why Malian government co-financing was lower than anticipated, though did mention that the government was late in coming up with counterpart funds.

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 4 primary delays that required extending the project by a year. The project initially received insufficient counterpart funds. In addition, the fuelwood taxation decree was issued later than expected by almost 3 years. Hiring technical advisers also took longer than expected. The government also temporarily took control of the project's headquarters without giving an explanation. The project also took longer than expected to create the national coordination committee that coordinated household energy sector implementation.

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:

According to the TE, the World Bank noted during the M&E process that the government insufficiently enforced woodfuel taxes and management. The government also enacted Decree 95-422/P-RM almost 3 years behind schedule. The other main problem was taking over the project's headquarters, which was returned 6 months before the project's closing. While these problems were of concern, the government was also supportive of the project overall, including supporting the woodfuel supply master plans for 5 towns.

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.

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| 6.1 M&E Design at entry | Rating: Moderately Satisfactory |
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The project design required that each organization involved in project execution had to report on their activities every 6 months. A Mid-Term Review (MTR) was scheduled for halfway through project execution in June 1998. The project schedule was well-designed. The project indicators were SMART, including clear numerical benchmarks for several project components year per year. However, the PD failed to include a dedicated M&E budget.

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| 6.2 M&E Implementation | Rating: Unable to Assess |
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The World Bank, through its M&E work, uncovered programs with project execution on the Malian government side. The following 3 problems were noted:

- 1) Government enforcement of woodfuels taxes and management was lacking
- 2) The government was slow to announce taxation on woodfuels and charcoal
- 3) The government took over the executing agency's headquarters.

The government issued Decree 95-422/P-RM, which established tax rates on woodfuels and charcoal, about 3 years behind schedule. In addition, the government returned the headquarters 6 months before project closing. The first problem was still an active concern. The TE does not provide details on what the World Bank did to help solve the other 2 problems and provides few details on adaptive management due to the M&E process.

The MTR was submitted at the end of 1997. However, the TE includes little information on what the MTR said. It does not note if the 3 issues mentioned above are from the MTR or other M&E documents in particular. For this reason, M&E implementation is rated Unable to Assess.

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.

| | |
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| 7.1 Quality of Project Implementation | Rating: Moderately Satisfactory |
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The project's M&E system was well-designed and well-executed. According to the TE, the World Bank provided good oversight and communication with the executing agencies. However, certain assumptions made during project design, especially the average size of village lots, turned out to be highly optimistic.

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| 7.2 Quality of Project Execution | Rating: Moderately Satisfactory |
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The Malian government was late releasing its woodfuel taxation decrees and coming up with counterpart funds. It also seized the project's headquarters temporarily without providing an explanation. In addition, the government was inconsistent in enforcing its taxes and management plans. Enforcement issues uncovered by the World Bank were still a problem as of the TE's writing. Work was carried out on all project components (at least according to the TE's framework). Project responsibility devolution was poorly handled, as central authorities were reluctant to give us powers and responsibilities to local actors. Central authorities undermined the woodfuel trade's control system due to an unwillingness to cede powers to local authorities.

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 distributed nearly 300,000 improved cookstoves locally, which will likely lead to lower CO2 levels (TE, p. 4). The project mitigated against the emissions of 130,000 tons of CO2 per year and reduced annual firewood consumption by 400,000 tons (TE, p. 11).

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.

Private enterprises that received project training sold an additional 15,000 improved cookstoves after the project's end (TE, p. 8). Local consumers are now able to spend less on fuel due to using improved cookstoves (TE, p. 4).

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

Woodfuel supply master plans were developed and implemented in 200 rural communities, which in turn managed and marketed the sustainably harvested wood themselves. Five towns enacted woodfuel supply master plans. The project also improved local and the national governments' project management capacities. The IEC Program improved local knowledge and understanding of the benefits of sustainable woodfuel consumption and management (TE, p. 4-6).

b) Governance

Decree 95-422/P-RM enacted taxes on fuelwood consumption (TE, p. 4, 9).

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 project does not mention any unintended consequences due to 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.

Executing units have been integrated into regular operations of the relevant ministries (TE, p. 8).

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 following is drawn from the “Lessons Learned” section of the TE:

- Project success requires that governments create enabling environments that include transparent regulations, creation of resource management plans and technical assistance.
- Private sector actors are better positioned to undertake the commercial side of projects.
- Local stakeholders need to take project ownership for projects to succeed and remain sustainable. Local actors should also hold dispute resolution powers. On the village level, residents are reluctant to create rural markets unless it is already clear they stand to benefit.
- Projects need to provide training to local stakeholders, especially in finance and management skills.
- Measures need to be taken to remove economic distortions and perverse incentives in relevant markets.
- Projects also require a high level of institutional capacity to collect taxes and enforce penalties. Tax collection should be carried out at the village level through private sector contractors. These taxes need to be set at the appropriate level to be effective.

9.2 Briefly describe the recommendations given in the terminal evaluation.

Due to the project's success and high level of sustainability, the TE required few recommendations for the project's future.

- Forestry laws need to recognize village governments to ensure that RMs are well-supervised. The currently laws only recognize municipal governments.
- The woodfuel trade's control system needs to be restructured. This program was poorly executed due to central government resistance.

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? | The project is rather thorough in describing the outcomes it chose to address. However, the TE does not explain why it used a different project framework than in the PD. In addition, the TE makes no attempt to determine the amount of GHG mitigated due to project activities. | MS |
| To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated? | The project is internally consistent, complete with compelling and convincing evidence. | S |
| To what extent does the report properly assess project sustainability and/or project exit strategy? | Project sustainability was fairly examined. The evidence included in favor of the project's sustainability is convincing, though the rating is slightly optimistic given the government's inconsistent taxation and regulatory oversight. | S |
| To what extent are the lessons learned supported by the evidence presented and are they comprehensive? | The lessons learned are moderately evidence-based, though a number of issues raised could have received more attention in the body of the TE, such as the perverse incentives issue. | MS |
| Does the report include the actual project costs (total and per activity) and actual co-financing used? | While the project does include line items and an estimate of total co-financing from the Dutch government, the level of GEF financing, co-financing and total project costs were inconsistent in the TE, even within the same Annex. The TE does not address why some promised co-financing was not delivered. | MU |
| Assess the quality of the report's evaluation of project M&E systems: | The TE found a number of issues that the M&E system uncovered. However, the quality of the MTR itself was never addressed. There is no mention of whether or not any M&E findings were used for adaptive management. | MU |
| Overall TE Rating | | MS |

Overall TE rating: $(0.3 * (4+5)) + (0.1 * (5+4+3+3)) = 2.7 + 1.5 = 4.2 = \text{Moderately Satisfactory}$

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

Back to office reports and aide memoires

Project Status Reports (PSRs)

Mid-term review report