1. Project Data

Summary project data			
GEF project ID		2683	
GEF Agency project ID		N/A	
GEF Replenishment Phase		GEF-3	
Lead GEF Agency (include all for joint projects)		UNEP	
Project name		Greening the Tea Industry in East Africa	
Country/Countries		Regional: Burundi, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia	
Region		Africa	
Focal area		Climate Change	
Operational Program or Strategic Priorities/Objectives		5- Removal of Barriers to Energy Efficiency and Energy Conservation 6- Promoting adoption of renewable energy by removing barriers	
Executing agencies involved		EATTA (East African Tea Trade Association)	
NGOs/CBOs involvement		through consultation	
Private sector involvement		one of the beneficiaries	
CEO Endorsement (FSP) /Approval date (MSP)		6/18/2007	
Effectiveness date / project start		9/1/2007	
Expected date of project completion (at start)		7/1/2011	
Actual date of project completion		10/31/2012	
Project Financing			
		At Endorsement (US $M)	**At Completion (US $M)**
Project Preparation Grant	GEF funding	0.57	0.57
	Co-financing	0.013	0.013
GEF Project Grant		2.85	2.85
Co-financing	IA/EA own	0.21	
	Government	2.68	
	Other*	22.99	
Total GEF funding		3.42	3.42
Total Co-financing		25.88	16.59
Total project funding (GEF grant(s) + co-financing)		29.30	20.02
Terminal evaluation/review information			
TE completion date		11/01/2013	
TE submission date			
Author of TE		Manuel Blasco	
TER completion date		12/27/2013	
TER prepared by		Nelly Bourlion	
TER peer review by (if GEF EO review)		Joshua Schneck	

*Includes contributions mobilized for the project from other multilateral agencies, bilateral development, cooperation agencies, NGOs, the private sector, and beneficiaries.

2. Summary of Project Ratings

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

3. Project Objectives

3.1 Global Environmental Objectives of the project:

The Global Environmental Objective is to reduce GHG emissions from tea producers/exporters in East Africa by providing access to clean and reliable electricity from small hydropower to tea processing factories .

Many Eastern and Southern African countries (Ethiopia, Burundi, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia, and Zimbabwe) produce tea in bulk for export. The basic processing of tea leaves undertaken at the tea factories requires significant amounts of electrical energy. Currently, in most factories the electrical energy is sourced from often unreliable national grids or inefficient and highly polluting and greenhouse gas emitting diesel generation (gensets). Drought-prone countries, including the project's target countries, have faced drought-induced power rationing in recent years. All tea factories have generator sets that operate up to 5% of factory operation time, while some rely exclusively on captive power gensets.

3.2 Development Objectives of the project:

The goal of the project is to promote investment in small hydro power through a reduction of the electrical energy costs in the tea processing countries covered by the East African Tea Trade Association, to increase power supply for rural electrification and power reliability, to reduce greenhouse gas emissions, and to remove barriers related to financial weaknesses, lack of technical awareness and capacity as well as all obstacles related to power sector policy frameworks.

In this project, pre-feasibility studies will develop a number of pilot mini-hydro projects, preferably with a rural community electrification component. The project would improve energy security for tea factories and lower energy costs by shifting the focus from grid power and diesel gensets to hydropower generated in close proximity to the tea factories. In addition, the project aimed to accelerate the shift from grid and diesel gensets to hydropower through special financing for tea manufacturers. The concept of the project is to blend a commercial activity (tea processing) and its energy requirements with the social and developmental dimension of rural electrification (and possible corporate responsibility).

The specific objectives as stated in the Project Document are: (1) to provide financial and technical assistance that facilitates the switch from grid-based electricity as main power source to Mini

Hydro as locally available alternative, (2) to facilitate access to electrical power for communities adjacent to tea factories and/or Mini Hydro Plants.

The outcomes of this project are:

(1) A specific project-oriented financing scheme that encourages mini-hydro development in East Africa is created;
(2) Mini hydro projects for tea processing industry in EATTA countries developed and implemented;
(3) Technical capabilities concerning design, operation and maintenance of mini-hydro electrical power systems enhanced within the tea sector and civil engineering sector of each participating country;
(4) Quality standards for mini hydro design, installation and maintenance and operation have been set for all EATTA countries;
(5) Awareness on potential for (mini) hydro as technically viable, economically feasible and environmentally friendly alternative to current (conventional) practices has been raised;
(6) A regulatory framework for power generation and distribution of (mini-hydro) power has been established in all participating EATTA countries (water rights, generation and distribution licenses and tariffs);
(7) Households, commercial and social establishments in un-electrified communities near tea processing plants have been connected to the plants' mini hydropower supply;
(8) Regional increase in local manufacturing of mini-hydro system components;
(9) One or more models for electric service provision to tea factories (and communities- if relevant) are established;
(10) Communities aware of the value of well-preserved watershed catchment areas upstream.

The Project Document also gives the following specific outputs for this project:

(1) 6 Mini hydro demonstration projects established in at least 3 EATTA member countries; preferably with an attached rural-electrification component;
(2) Partnership between EATTA and UNEP has been established (MOU);
(3) Up to 5 extra pre-feasibility studies for promising mini-hydro sites have been prepared;
(4) Project financing mechanism established (dedicated financing window for project development including incentives);
(5) EATTA project facilitation skills enhanced & project implementation committee operational.

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

No changes in objectives or activities were reported.

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**

The relevance of this project is rated as satisfactory for the following reasons.

The implementation of small hydropower in the tea growing zones of this project can contribute to reduction of CO_2, which is consistent with the GEF Climate Change focal area. Securing the provision of reliable, clean energy is consistent with country priorities. Rural communities have particular difficulty in securing reliable power access. This project would also benefit economic development in rural poor areas.

4.2 **Effectiveness**	Rating: **Moderately Satisfactory**

The effectiveness of the project is rated as Moderately Satisfactory. While many of the project's outcomes were achieved, only one out of six expected small hydro plants has been fully constructed – a key outcome that was not fully realized at project completion.

According to the TE, four years is insufficient to develop a Small Hydro Plants (SHP) project from the pre-feasibility study to final commissioning. A more realistic approach would have planned a project for 6 - 7 years. The initial objective of having six SHP commissioned at the time of project termination has not been reached. Only one plant (Tagabi-Kericho, an enlargement of an already existing SHP) has been commissioned, whereas other two small hydro plants are under construction (Gura Hydro Power Project in Kenya and Giciye SHP in Rwanda). Three other SHP have developed bankable proposals: Suma hydro power project in Tanzania, and North Mathioya and Kipchoria plants in Kenya. The Nchwera plant in Uganda was not initiated. Construction is in progress in two sites, and for another three adequate financing has been obtained and the plant owners and relevant stakeholders are interested in their termination.

The detailed achievements of each outcome are as follow:

Outcome 1: Investment confidence established in SHP sector among investors, project developers and financing institutions

There was significant achievement on this outcome but not in all the countries. Financing was achieved in Kenya and Rwanda. However, according to the TE, no evidence exists that a specific project-oriented financing scheme encouraging mini-hydro development in East Africa has been created and most financing obtained was a result of the project creating infrastructure and awareness rather than a specific project-oriented financing scheme..

Outcome 2: Technical Capacity enhanced in EATTA countries to design, construct and fabricate associated equipment

Apart from Tagabi-Kericho, already commissioned, so far two more small hydro plants are under construction. Three others had completed feasibility studies and developed bankable proposals. The one in Uganda will not be constructed due to other priorities of the owner.

Outcome 3: Models in place for private-public participation in rural electrification through small hydropower

KTDA in Kenya now has a wholly owned subsidiary called KTDA Power Ltd which at the time of TE had one hydropower engineer heading a consultancy unit charged with responsibility of managing the supervision of the design, operation and later on the maintenance of on-going power plant which is under construction. In Tanzania, one engineer was trained; however he has left Wakulima Tea Company, the sponsors of Suma SHP project. Graeme Watson, a local consultancy firm, was involved in the development of feasibility studies for Tagabi SHP. This same company was also involved in the specific training designed for engineers. Moreover, the following training activities were carried out: (1) A Regional Training on Small Hydropower Design for Civil Engineers in East Africa, and (2) GTIEA developed a 'small hydro power' course.

Outcome 4: Regulatory environment enabled to be conducive to SHP IPP investment and rural electrification in EATTA member countries

The Gura Hydro Power station has stated that upon completion it will electrify nearby schools, hospitals and households at a cost. Suma Hydro Power Station has mobilized local community to assist in the lobbying for political support in the hope that they will benefit by being electrified. The Tagabi project began supplying power to its staff and nearby clinics and schools due to GTIEA project influence.

Outcome 5: Stage set for establishment of a viable 'standard PPA' in EATTA member countries for small hydropower

The National Steering Committees was active in four of the member countries: Kenya, Tanzania, Uganda and Rwanda. GTIEA lobbied relevant authorities through the NSCs in Kenya, Tanzania Uganda and Rwanda to fasten licensing, and put in place renewable energy tariffs (ReFiT). All the four countries have put in place ReFiT structure and power purchase agreement (PPA).

4.3 **Efficiency**	Rating: **Satisfactory**

The project has been efficient with respect to financial management and financial mobilization for co-financing. According to the TE, although the selection of projects for feasibility studies, tendering for consultants to perform feasibility studies, tender award and supervision of consultant's work arguably took too much time due to imperfections of the feasibility studies and to bureaucratic requirements of both UNEP and EATTA, all the feasibility studies were eventually completed, two EPC tenders awarded (for Gura and Giciye) and construction finished in Tagabi. There was good progress at Gura SHP despite the cancelling of the contract of M/s Hsiung International of China for the construction of Gura SHP and replacing it with M/S V S Hydro (PVT) Ltd., a Sri Lankan company which was the second lowest bidder to undertake the construction of Gura SHP after some disagreement. The Gura Plant was initially 2.8 MW but has now been optimized to 5MW with an estimated project cost of 14.75M USD.

In terms of cost-efficiency, out of a budget allocation of 2,854,000 USD, 2,755,516 USD was spent by the end of 2012: 96.6% of allocated funds were spent by project end. Given that the project had a number of delays, the fact that such a very high percentage of funding was expended on the project in spite of delays means that the project adequately managed its financial resources. Despite the high turnover of Fund Managers, the TE established that financial reporting was done in a timely way. Revision of the entire project document was also carried out every time the project had budget neutral extension to cover for the delays. For instance the project document had to be revised to extend the final closure of project from May 2012 to October 2012. In addition a standalone audit of the GTIEA project was always carried out annually for the entire period of the project.

According to the TE, there was adequate financial planning and control of financial resources throughout the project's lifetime. Budgeting and disbursements were done in accordance with procurement procedures and regulations. There was proper financial management, timely planning of budgets, and timely requests of budget changes and reallocation.

4.4 **Sustainability**	Rating: **Likely**

The initial objective of having six SHP commissioned at the time of project termination has not been reached; only one plant has been commissioned, two plants are under construction, two others have finished their feasibility analysis and committed their financing, and one has not been initiated. Hence construction has begun in five sites, for which adequate financing has been obtained and the plant owners and relevant stakeholders are interested in their termination. The installed capacity is considerably larger than initially contemplated in the Project Document. A relevant cause for these enlargements has been the interest of the tea factories to increase their profits: this reveals a high degree of confidence in the outputs of the feasibility studies). The increased capacity will generate sufficient energy to cover the demand of the tea factories, and consequently a larger share will be devoted either to rural electrification of neighboring areas or to export to the respective national grid. The favorable environmental impacts of the project will

consequently be increased, since a larger amount of electricity from a renewable energy source will be supplied to other users.

Another positive effect of the project has been the introduction of market pricing for electricity. Because of energy surplus, prices of electricity have been discussed with regulatory agencies, which have become more familiar with the fact that the price of a commodity such as electrical energy should not be fixed in a bureaucratic manner, but should respond to market forces.

Although operation and maintenance of run-of-the-river plants is not especially complicated, the owners (tea factories) have no experience in maintenance of SHP, and there is a potential risk that the plants may not be adequately operated and maintained. The TE detected that in general the owners are aware of this, and the possibility of sub-contracting maintenance has been contemplated.

It seems that the degree of consciousness about the advantages of SHP (lower costs, reduced negative environmental impact, better reliability) has increased as a result of the efforts of the project to create awareness, commitment and incentives among stakeholders. Moreover, EATTA has recently decided to commit itself to the development of renewable energy sources (not only hydro power) as stated during the Global South-South Development Expo.

Finally, the rural communities living in neighboring areas have shown a positive attitude to the projects, due to compensations received for expropriations, the job possibilities created during construction (the project teams have engaged as much local manpower as possible, including women), and the possibility of access to electricity in their homes.

For all of those reasons the sustainability of this project is rated as likely.

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 implementation partners and beneficiaries were able to leverage more financing: Unilever Tea Company in Kenya obtained 1.2M USD for construction of Tagabi SHP. Financing was also achieved by KTDA affiliated tea companies in Kenya. KTDA now has a wholly owned subsidiary called KTDA Power Ltd, which at the time of TE had committed funds of 27.5M USD and had plans to roll out 23.87 MW as Phase I of their SHP development. Giciye SH in Rwanda secured a grant of 3.2M USD from Daey Ouwens Fund, 5.5M USD from banks, and 2.8M USD in equity funds from the Rwanda Mountain Tea (RMT) factory for a 4 MW project, indicating that there is confidence in the Giciye project.

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 was launched in September 2007 for an initial period of four years, and later was extended twice for a total duration of 63 months, ending 31 October 2012.

According to the TE, the initial project time span was too short: four years is insufficient to develop a Small Hydro Plants (SHP) project from the pre-feasibility study to final commissioning, as experience has shown in projects of the same nature. A more realistic approach would have been to consider 6 - 7 years.

The four year project implementation period proved to be too short, as unforeseen delays occurred. Some staff were not available when the project was commenced, and a change in top management further delayed plans. Often weather statistics and the anticipated sets of river flow data were incomplete, which sometimes resulted in the installation of gauges to obtain at least one set of one year river flow data. Waiting for the collection of reliable data caused project delays. In addition, the final size of the power projects was in most cases much larger than what was originally planned (500 kW on average), and in some cases resulted in systems that were ten times the envisaged size. This created a need to develop more and larger-sized designs, which required more time. In one particular case, the local engineering firm unexpectedly lacked capacity in Computer Aided Design (AutoCad). Ultimately a well-trained AutoCad hydro expert from Nepal was flown into Nairobi. In all cases the feasibility studies and designs took much longer than originally anticipated. Because of the delays, the project was extended by an extra year. By the project closure in October 2012, items that were originally planned, like activities in the GTIEA project, could no longer be finished.

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, tea factories have not only demonstrated ownership of SHP projects, but have also shown initiative and creativity by coming together to develop SHPs within their boundaries. For instance, Gura SHP is owned and has equal share of four tea factories located in the Gura river site area. The four factories have formed a Gura SHP Company Board to supervise the construction. Wakulima Tea Company in Tanzania owns Suma SHP project, and the holding company's board has made it a part of their agenda to discuss the anticipated development of the SHP. In both cases, the policy support from the national regulator and the rural electrification agency is very strong.

At national Ministry level, Rwanda, Kenya, Tanzania, and Uganda have demonstrated ownership, including membership of senior government staff taking active part in the NSC, and partly funding the Feasibility Study of Gura SHP by the Ministry of Energy, Kenya. The Private Sector Foundation of Uganda has also taken an active role and strongly supports the implementation of more SHP projects, emphasizing the necessity of looking for new plant owners in case of lack of interest of those previously selected.

Governments in these countries have shown a desire to encourage private sector investment in renewable energy. The Government of Kenya is in the process of reviewing the energy policy to put in place a more enabling environment for Small Renewable Energy sources in line with the new Constitution. There are proposals to introduce energy banking, net energy metering and Standard Power Purchase Agreement both aimed to facilitate a quick role of small renewable energy projects.

Governments have promoted the participation of communities. For instance, Kibolgong community approached GTIEA project through EATTA for technical assistance in the development of a micro hydro project in Bomet. A site visit was made and a design review report prepared. GTIEA continues to provide the community project with technical support as the need arises to facilitate development.

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**

The Budgeting and funding for M&E activities was low and there was no detailed budget for the evaluations. Therefore M&E design at Entry is rated as Moderately Satisfactory.

The Project Document clearly defines indicators for evaluation of project execution performance, and defines project outputs, outcomes and milestones. According to the TE, some outcomes are very general and difficult to measure, and some indicators seem to be somewhat arbitrary. For instance, Outcome 2 fails to consider that most of the electrical equipment necessary for SHP is not SHP-specific, and that the fabrication of specific equipment is only justified if a large demand exists. It is unclear how "small hydropower investment attractiveness spilling over to non-tea sector" (fourth indicator of Outcome 1) can be achieved. The number of SHP constructed by non-tea sectors by the project end is not a reasonable criteria; a four-year project whose objective is to embark an industrial sector in a completely new activity cannot reasonably expect to be able to embark other sectors in the same activity. "Investment attractiveness" is very difficult to quantify.

The Project Document also clearly defines both key performance indicators and the respective methods of data collection for all the project outputs and outcomes. Careful consideration has been given to a detailed monitoring of the project development. The assumptions made are realistic, as well as the assessment of the possible risks. The only exception is that the possibility of socio-political turmoil has not been considered. The baseline case (project not being carried out) and the alternative case (project carried out) have been defined and the corresponding final

situations quantified in a realistic way. Responsibilities of each entity participating in the project, including monitoring and evaluation responsibilities, are defined.

The initial project budget was prepared in a reasonable way. However, a more detailed evaluation and description of monitoring and evaluation costs is missing. In fact, just a lump sum is indicated for Mid-Term and Final evaluation purposes. Moreover, the Final Evaluation has faced difficulties in contacting the key persons involved in the project that, since termination, have since moved on to other tasks.

6.2 **M&E Implementation**	Rating: **Satisfactory**

According to the TE analysis and the PIR, the monitoring plan was carried out according to the previously determined schedule throughout the entire period of project implementation. The same can be said of annual progress reports, whose analysis (and that of correspondence among project responsible bodies) indicate that the project deviations were duly considered by the responsible project participating entity in a timely manner. In the absence of additional information on M&E Implementation, M&E implementation is rated as Satisfactory.

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 Satisfactory**

The structure and control mechanisms implemented were reasonably designed and have given a clear idea about the progressive development of the project; imperfections of the project design were quickly detected and causes of delay recognized. Reactions in each case were adequate, and the main difficulties adequately faced. The efforts made to convince financing entities to supply the necessary funding for the project activities have been important. However, the initial project time span as planned in the Project Document was too short and impacted project results; four years is insufficient to develop a Small Hydro Plants (SHP) project from the pre-feasibility study to final commissioning.

The collaboration and relations between the Executive Agency (EATTA) and UNEP were satisfactory and fluent, according to the TE. The enthusiastic support given by some high level EATTA officials at the time of project preparation played an important role. EATTA did not make any complaint about the support received from UNEP.

The Task Manager (TM) at UNEP provided supervisory and backstopping support for the PMO through regular consultation and demand for regular monitoring reports. UNEP TM's support contributed to control in financial expenditure and the need for PMO to tighten dealings with the FS consulting firms. UNEP and AfDB cooperation was positive and provided the project with much needed experience in the renewable energy field; AfDB played a supportive role at the Feasibility Studies stage. However although AfDB was envisaged to play a more active role in advising tea factories and the project in general on the development of bankable projects and mobilizing financing for the same, the information gathered by the TE from the field was that the bank could have done better. Very little financing was mobilized by the bank and factories hardly received specialized advice on bankable project development. An interview realized by the TE with the AfDB representative revealed that the Bank general policy is to consider SHPs as too small for their involvement. As such the Bank representative is said to have played a role of assisting with bringing in small and country specific banks to provide financing for the GTIEA projects.

Therefore the quality of implementation is rated as Moderately satisfactory.

7.2 **Quality of Project Execution**	Rating: **Satisfactory**

The Project Management Office (PMO) under the supervision of the Project Steering Committee (PSC) and with technical advice from an Executive Committee of the PSC was the main management and implementing arm of the GTIEA project. PSC was composed of members drawn from UNEP, EATTA, AfDB and NSC. EATTA chaired the PSC meetings, which provided the project with policy guidance and direction. EATTA also provided infrastructure such as housing of the project office. According to all the stakeholders consulted by the TE team, the project ran smoothly from its beginning, and the encountered difficulties were dealt with adequately.

In the execution of the project, the PMO worked very closely with the management of individual tea factories and other organizations associated with the tea industry. The PSC supervised the activities of the project through regular consultations and reporting by the NSC. The NSC was not as active as had been anticipated during design stage partly because it was constituted rather late and was only visible mostly in Kenya, Rwanda, and Uganda but lacked a budget line to assist in its operation.

The PMO was very well staffed and led by a Project director, a fund manager, an accountant, IT expert, a hydro expert etc.; in total a professional team of seven people, although there was limited knowledge about project financial structuring. The project experienced very high turnover partly because it had a slow start, there was a delay in disbursement which slowed down activities and partly because of lack of job security for employees who wanted a longer term contract. Two PMO

Directors and one Assistant PMO Director left to pursue other interests. This caused disruption and slowed down project implementation momentum due to loss of institutional memory and time spent on new hiring. Despite the challenges and given the nature and geographical scope of the project, the PMO was effective in managing eight feasibility studies and assisted in the EPC tenders for Gura, Giciye and Tagabi as well as providing technical support to KTDA Power Company (KPC) through the hydro specialist who is now employed by KPC.

The project successfully managed to adapt itself to the new circumstances arisen, including modification of the previously envisaged capacity of the plants and, to some extent, to the longer time required for commissioning of the plants. At the time of the TE only one SHP has been commissioned, but the necessary measures to reasonably guarantee termination of some others have been taken. The project committees and units have carried out their duties in a quite satisfactory way. No relevant difficulties and lack of understanding among UNEP, AfDB, EATTA and plant owners (tea factories) have been detected; contacts and discussions seem to have been fluid and constructive.

In cases when difficulties arose (financial requirements from the consultancy company in charge of Kenya GTIEA SHP feasibility studies, problems with the Chinese company in charge of Gura feasibility study), the project management dealt adequately with them and was able to find reasonable solutions.

Therefore the project execution is rated as Satisfactory.

8. Lessons and recommendations

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

The key lessons of this project mentioned in the TE are:

(1) The importance of selecting an industrial sector in which “synergies” with the project activities exist (tea grows in hilly and rainy areas, where potential for hydropower development also exists) and then to involve the considered industrial sector in a completely new type of activity, almost unknown up to then: the generation of electricity from small hydropower plants (in the present case). Future electrification projects should involve (whenever possible) a relevant industrial stakeholder whose electricity supply difficulties can be solved through use of the technologies contemplated in the Project.
(2) A second success was to adopt an organization with a very good knowledge of the industry and good contacts in all the considered countries (EATTA) as the project Executing Agency. For this purpose, dissemination activities and knowledge of similar activities carried out in other countries (Nepal, Sri Lanka) played undoubtedly a relevant role at the time of planting interest in the future project activities.
(3) It is reasonable to define the electricity demand for a standard tea factory, but it is not adequate to define capacity of the SHP to be constructed according only to this reasoning, without an analysis of the characteristics of each site, since this can put a burden on the optimal use of an entire river basin. Therefore, it is important to consider an optimal

exploitation of the entire river basin before selecting the construction sites, having in mind not only the specific needs of the beneficiaries.

(4) It was also a good idea to involve the African Development Bank (AfDB) as a stakeholder in the project; the presence of an institution of this type plays a role as an agglutinant or positive reference to other donors/financing institutions for participation in project activities; in the same way, it is undoubtedly positive to improve the degree of knowledge of the AfDB in the field of hydropower if the project activities have to be replicated in the future.

(5) Although it is certainly site – dependent, a fifth lesson derived from GTIEA experiences is that, if a certain project has as one of its objectives the complete construction of a SHP, from pre-feasibility study to commissioning, the project duration has to be defined accordingly (six – seven years).

(6) The project key personnel must be made available to the Final Evaluation Team for interviews, data collection, etc. Given that final evaluations sometimes take place relatively long after project termination, this availability should be specified in the contractual obligations of the referred personnel. In the same way, the project should devote sufficient funds to carry out detailed evaluations, including visits to all the relevant project sites.

(7) The dissemination efforts and the initiatives taken to improve technical abilities of manpower will have a positive and durable effect over the development of hydropower resources in the GTIEA countries and elsewhere. Therefore, there is a need to pay adequate attention to improve abilities of working personnel and to create qualified manpower. In fact, potential for replication of projects can only be guaranteed when adequately qualified manpower exists.

8.2 Briefly describe the recommendations given in the terminal evaluation.

Three recommendations are given in the TE:

(1) The first recommendation is to follow up the developments of plants already under construction (Gura and Giciye). The Executing Agency should carry out this task, in collaboration with UNEP; UNEP should continue monitoring progress on the construction of SHP, paying attention to the operation and maintenance of the plants. Whenever possible, for example periodical reports (quarterly) should be prepared indicating the project developments, problems encountered, solutions adopted, etc., and made available to UNEP.

(2) The Executing Agency should follow up with the developments of plants whose construction has been decided but not yet commenced: in this case a careful follow up is especially important until the construction works start. Later, once the plants are under construction, the Executing Agency, in collaboration with UNEP should continue monitoring progress of the construction of SHP, paying specific attention to the operation and maintenance of the plants.

(3) The GTIEA project long term impact can only be guaranteed if the plants are adequately operated and maintained. It is therefore strongly recommended that UNEP takes the necessary measures to get information about operation and maintenance of the plants. The Executing Agency is the most adequate body to carry out this task, since its existence goes beyond the project termination; the first task is to get information about how the owners of the plants are dealing with the operation and maintenance issues. Later, a yearly operation and maintenance report should be prepared by the owners and submitted to UNEP; in this

way UNEP will be in a position to follow up the long term impact of the project, to estimate the level emissions that have been avoided, etc.

9. 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?	Outcomes, impacts, outputs and objectives are described in detail in the TE.	**S**
To what extent is the report internally consistent, the evidence presented complete and convincing, and ratings well substantiated?	The report is consistent; evidence and examples justify the ratings that are given for each category.	**S**
To what extent does the report properly assess project sustainability and/or project exit strategy?	The report properly assesses the project sustainability and the exit strategy. The analysis is justified with evidence and examples.	**S**
To what extent are the lessons learned supported by the evidence presented and are they comprehensive?	The lessons learned are comprehensive, and they are justified with evidence presented all along the TE report.	**S**
Does the report include the actual project costs (total and per activity) and actual co-financing used?	The report includes the projects costs and co-financing. The report itself presents a brief summary and the main information, if more details are needed the information is presented in the Annex.	**S**
Assess the quality of the report's evaluation of project M&E systems:	The evaluation of the M&E system is too short and not enough details are given. The M&E design is well described and analyzed in the TE, however, the information on the M&E implementation is too short. More information is needed on why the M&E implementation did not take place as expected.	**MS**
Overall TE Rating		**S**

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