FRIENDS OF THE EARTH, GHANA

END OF TERM EVALUATION REPORT

OF THE

BIODIVERSITY CONSERVATION OF THE LAKE BOSUMTWE WATERSHED

Evaluation Team

Ayaa K. Armah

Louis D. Atsiatorme

Selorm D. Ababio

Environmental Solutions Ltd, P. O. Box LG 239, Accra

June 2006

TABLE OF CONTENT

ACRONYMS AND ABBREVIATIONS

AAC	Annual Allowable Cut
CBO	Community-Based Organization
DA	District Assembly
FoE	Friends of the Earth
GEF	Global Environment Facility
NGO	Non-Governmental Organization
PRA	Participatory Rural Appraisal
Projdoc	Project Document
TPR	Tripartite Review
UNDP	United Nations Development Program

EXECUTIVE SUMMARY

Background

This report presents an independent evaluation of the Lake Bosumtwe Biodiversity Conservation Project. The project was implemented by Friends of the Earth (FoE)-Ghana with financial support from the Global Environment Facility (GEF) under the supervision of the UNDP.

The project was conceived as an environmental project, aimed at the integrated management of the ecological system of the Lake Bosumtwe basin thereby improving the quality of life of the local people and was implemented in 26 communities within the lake catchments area. The project involved (i) environmental management awareness creation, (ii) conservation and sustainable management of biodiversity, (iii) reforestation of degraded forest lands, (iv) community forest management, (v) training and capacity building in the local people.

Project Objectives

The objective of the project was to promote the conservation of aquatic and terrestrial biodiversity in the lake and its watershed area in an integrated manner by supporting traditional conservation practices through a community-based conservation program. The project was therefore, in line with its objectives, implemented in four components, namely:

- Environmental awareness program
- Biodiversity assessment and monitoring program
- Protection/enhancement of traditional resource management systems, and
- Community-based natural resource management systems.

Project Results

About 70% of the stakeholder aspirations and expectations from the project were met through the implementation of the project. The greatest impact was seen in the ecological and social indicators. The achievements, impacts, outcomes and specific shortcomings of the four major project components are indicated below:

A. Environmental Awareness Program

Achievements

- Increase in environmental awareness in the beneficiary communities.
- Establishment of 26 FoE clubs in each participating school.

Impacts and Outcomes

As a result of the awareness program the community rights and responsibilities of the landowners and individual farmers in forest management increased resulting in the decrease of unsustainable farming practices like bush - burning, land clearing and farming close to the lake.

Basic schools near the lake have modified their curricula to reflect environmental issues related to proper management of the lake such as monitoring the water quality of the lake. Environmental clubs have also been formed in the schools, which undertake activities such as tree planting among others.

Shortcomings

No specific shortcoming was observed for this component.

B. Biodiversity Assessment and Monitoring Program

Achievements

- Time series data on lake watershed biodiversity.
- Management plans for traditionally protected forest areas and sustainable fish harvesting from the lake.

Impacts and Outcomes

Community members including school children have been trained in biodiversity assessment methods such as species identification and indicators of environmental perturbations. The time series data generated on the watershed biodiversity was used in the preparation of management plans for the sustainable utilization of protected forest areas as well as lake fish fauna.

Shortcomings

The repository and use of the time series data and management plans by the communities has not been indicated.

C. Traditional Resource Management Systems

Achievements

- Strengthening the enforcement process of local laws/taboos on sustainable harvesting of resources through formation of Civil Society groups.
- Traditional resource management systems such as the reverence for sacred groves were also enhanced through the establishment of dedicated forest
- There was training and skills upgrading in nursery development, tree planting and natural regeneration for community members

Impacts and Outcomes

- Emergence of civil society groups that are willing to enforce traditional bye-laws and to apprehend perpetrators of environmental degradation in the area.

Shortcoming

No specific shortcomings were observed.

D. Community Based Natural Resource Management Systems

Achievements

Degraded ecosystems in the project area are being rejuvenated through tree planting, restoration of degraded lands, establishment of dedicated forests and reduced tree felling. In all, five dedicated forests are being protected. These are located at Abono, Abrodwum, Obbo, Mim and Brodekwano. The Brodekwano dedicated forest reserve could not be fully conserved due to the lateness of its inclusion in the project. However, the community had been sensitized and has adopted it for conservation.

- Threatened and rare fauna and flora species have been spotted in some of the sacred groves e.g. *Griffonia simplifica* and several butterfly species.
- Introduction of Fishery Management Plan.

Impacts and Outcomes

There has been a reduction in illegal timber felling and areas close to the lake are being protected. The fisheries management plan introduced in some of the communities are being used for the sustainable exploitation of the lake's fishery resource.

Shortcomings

The fishery management plan did not include any enhancement mechanisms such as *in situ* protected zones, e.g. for breeding purposes. The Brodekwano dedicated forest reserve should have been fully integrated into the project despite its late inclusion.

General Shortcomings

Despite the significant positive project impacts, the Evaluating Team identified some general shortcomings of the project. These were:

- The provision of farm implements in some communities was not sufficient for all the members of the groups who participated in the project activities.
- The project was not able to secure a punitive instrument for the local groups formed. This is because the indigenous environmental bye-laws had not been gazetted by the District Assemblies and hence the District Assemblies could not support the local people in enforcing the laws.
- The built-in incentives and alternative livelihood facilities in the project were inadequate.
- Some inappropriate human activities such as washing and bathing in the lake were noted in some communities. This may be because attitudes once developed take along time to stop. Consequently it is expected that this practice will stop as the community become more conscious of the implications as explained to them.
- Unchecked erosion was observed in some communities on the edge of the lake.
- Communities/stakeholders expressed the view that they would have wished for a greater variety of trees than what was planted, suggestive of inadequate consultation prior to/or during project implementation.
- The project's focus on the lake faunal diversity, especially the lake's fishery was found to be inadequate. Since dwindling catch and small-sized fishes in catch was identified as one of the problems in the project area.
- A Hydrobiologist was not included in the project making the fisheries component weak.

Conclusions

The project objective was largely met and the specific targets were achieved despite the shortcomings. The project was relevant in creating the environmental awareness within the project area which was necessary for a change in attitude towards natural resources and their management. The project hence would ensure the sustenance and enhancement of the functional and ecological integrity of the lake's ecosystem, particularly with the inclusion of the local schools.

It is also concluded that the project was successful in its significant positive impacts which have engendered change in attitude and the resource use within the lake watershed. The training and skills upgrading component of the project coupled with the creation of a strong civil society with a high level of knowledge in the importance of biodiversity ensures the sustainability of the project's results after termination. The project has also contributed immensely to capacity development within the communities.

There has been a positive but limited impact of the project on poverty reduction and gender as the project advanced monies to women to engage in small scale business like trading and basket weaving and also the tress planted which could be harvested and sold. However there is the need for more effective in-built alternative livelihood activities as a complement to the biodiversity conservation strategies.

Recommendations

- Due to the historical origin of the formation of the lake, the Evaluating Team suggests that the lake be declared a World Heritage Site and a Tourist destination as per UNESCO guidelines. As a tourist site, jobs will be created within the local communities resulting in alternative livelihoods that would contribute to the ecological integrity of the lake and its catchments areas as well as resulting in poverty reduction.
- Alternative livelihood activities like snail farming, poultry, livestock rearing, should be introduced to the project beneficiaries groups to reduce pressure on fishing in the lake and commercial farming on the lake's slopes.
- The indigenous environmental laws need to be gazetted by the District Assembly to ensure sustainability. A strong commitment from the District Assembly to support local communities in enforcing laws should be encouraged
- More studies need to be done on the lake fisheries to determine level of exploitation. The management plan for the lake resource should be revised periodically and should include

increasing the biodiversity and stock density of fauna currently in the lake by methods such as *in situ* breeding.

- It is recommended that as part of the withdrawal strategy, the larger segment of society which was not involved with the project is encouraged to be involved with project implementation.

Lessons Learnt

A summary of the lessons learnt is presented below:

- An overriding and crosscutting lesson was that without the project, the education and awareness-creation as well as the change in attitude engendered among the communities in the project area would not have been possible.
- Revered taboos and traditions could serve as building blocks on which sustained and long-term positive change in community resource management could be based.
- Projects of this nature require an effective design and implementation strategy. For example, the projects should not be seen as introducing any new technology/idea/law that might be considered as foreign by the communities. Rather, the project should build on existing practices (in this case, the idea of reverence for sacred groves was used in establishing dedicated woodlots).
- The use of built-in incentive package for community members directly involved in the project was ideal in mobilizing them.
- The active involvement of the District Assembly (i.e. local authorities) in such a project is very important for its sustainability.
- The inclusion of a program for school children in projects of this nature is very important. This is because school children could serve as agents for change, but will inherit the environment after their parents and are more likely to pass on acquired positive attitudes to generations.
- Projects of this nature may need specific and specialized manpower requirements for effective implementation. This is important and should be identified at the proposal stage by all involved stakeholders.

- Delivery on project inputs must be timely to ensure smooth project implementation and to maintain the moral of the communities involved in the project.

1.0 INTRODUCTION

1.1 Project Data:

- Project number: GHA 00G35/A/1G/71/UNDP/FRIENDS OF THE EARTH-GHANA
- Project funds: $ 520,000 GEF, $98,000 COUNTERPART FUNDING (FoE –GHANA)
- Project duration: MAY 2001- MAY 2005

1.2 Background

The Lake Bosumtwe Biodiversity Conservation project was conceived as an environmental restoration project, aimed at the integrated management of the ecological system of the Lake Bosumtwe basin and improving the quality of life of the local people. The project involved conservation and sustainable management of biodiversity, reforestation of degraded forest lands, community forest management, environmental management awareness creation, training and capacity building in the local people. The project was implemented by Friends of the Earth (FoE)-Ghana with financial support from the Global Environment Facility (GEF) under the supervision of the UNDP.

The project was based on participatory and sustainable management principles in the management, conservation, enhancement and sustainable utilization of land, forest and wildlife resources. It was implemented in 26 communities in the Lake Bosumtwe catchments area of the Ashanti Region (Figure 1.1). The project involved the Government of Ghana, local NGOs and Community-Based Organizations (CBOs).

Project accounts were maintained by FoE-Ghana and the Ministry of Finance and Economic Planning. Audits of the accounts were carried out by Deloitte and Touche Chartered Accountants annually. The Ministry of Finance and Economic Planning and the UNDP facilitated project implementation.

1.2 Project Objectives

The objective of the project was to conserve aquatic and terrestrial biodiversity in the Lake Bosumtwe watershed in an integrated manner by supporting traditional conservation practices through a community-based conservation program. This was expected to promote the functional and ecological integrity of the lake watershed natural resources as well as to improve the quality of

life of the people in the project area through improved access to water, fisheries and forest resources.

The greatest impact was seen in the ecological and social indicators. The projects specific outcomes are discussed under Findings and Conclusion in section 3.0

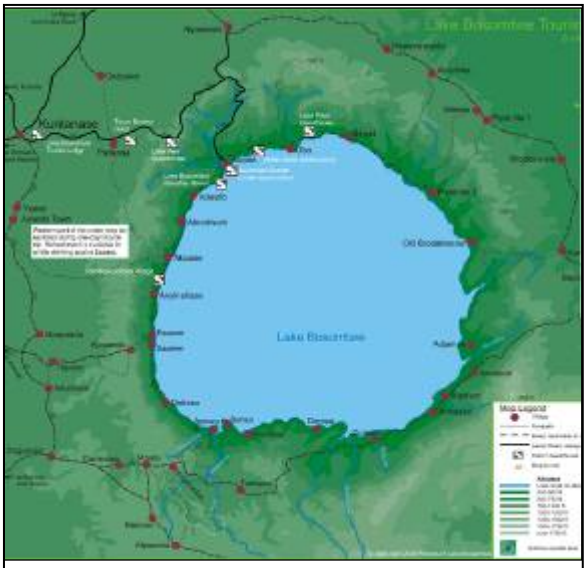

Figure 1: The Bosumtwe Lake

1.3 Project Targets

The project targets which were specific to the objectives and expected outcomes were made up of the following components:

- The establishment of three central nurseries with total capacity of 150,000 tree seedlings of indigenous species (such as Wawa, Ofram, Emire, Edinam and Mahogany) within the project area that would serve as sources of seedlings for the reforestation programs.
- Conservation and sustainable management of four sacred groves with a total size of 20 hectares.
- Improving and sustainable management of a total of 65 hectares of dedicated forest.
- The establishment 15 hectares of community woodlot using high coppicing species to help reduce pressure on natural forest stands as sources of firewood.
- Training of 240 farmers and 120 community members in afforestation and maintenance of natural forests.
- The creation of a buffer zone around sacred and dedicated forests by planting 24,000 seedlings of fruit crops and fire resistant trees.
- The education of at least 2400 people in the project area on current forest, fisheries and wildlife policies and laws as well as their rights and responsibilities as principal managers of the natural resources within their locality, and in Ghana generally.
- The training of 50 farmers in the project area on sustainable agriculture (agroforestry) practices that is ecologically sustainable and economically sound.
- The Involvement of the local people in the rehabilitation of a total of 75 acres of degraded forest land.

- The involvement of at least 15 schools in the ecological monitoring and assessment of water quality and fisheries.
- The preparation of management plans for at least 3 dedicated forests.
- The preparation of management plans for the lake to guide harvesting and resources conservation.

Plate 1: Forest resource (dedicated forest) in project area

1.4 End-of-Project Evaluation

The evaluation was initiated by FoE-Ghana and forms part of the standard requirements for the implementation of a UNDP-GEF project by NGOs. The Term of Reference for the Evaluating Team is attached as Annex B

Plate 2: Aquatic Resource of Lake Bosumtwe showing *Tilapia busumana* (second from bottom), a species unique to the lake

1.4.1 Evaluation Methodology

The evaluation approach consisted of a desk review of relevant project documents (the Project Document, the Project Tripartite Report (TPR), the Quarterly Progress and Annual Project Reports, the Mid-term Review Report), discussions and interviews with the project implementation team, officials of the UNDP responsible for the project, officials of the Ministry of Finance and Economic Planning (MOFEP), officials of the District Assemblies in which the project was implemented, and field data collection from beneficiary communities as well as local FoE groups formed for project implementation.

The evaluation team visited the field between 27th February and 2nd March 2006. Field data was collected through informal and participatory interviews, and data was collected from stakeholders randomly selected from the communities benefiting from the project.

2.0 THE PROJECT AND ITS DEVELOPMENT CONTEXT

2.1 Rationale

The promotion of local level sustainable use of natural resources is a major policy initiative of the Government of Ghana. National priorities are however concentrated on major national parks and protected areas. Ghana recognizes the inherent value of strengthening traditional systems of conservation, such as the sustainable use of sacred groves. However, it is faced with resource constraints that limit her ability to respond to all needs, and technical constraints that limit her ability to effectively assist local communities in strengthening traditional conservation practices. GEF funds are incremental on ongoing activities and concentrate on specific sites of global biodiversity importance outside of national protected areas, as well as on strengthening indigenous knowledge and systems that are threatened with loss.

Lake Bosumtwe is located in the west central part of the Ashanti Region of Ghana, 35 km south-east of Kumasi, the capital of the region and Ghana's second largest city with a population of about 2 million. The lake is one of six major meteoritic lakes in the world and is believed to be about 1.3 million years old. The lake and its watershed have a rich floral and faunal diversity and serve as a major source of food protein to about 24 communities fringing it with an average population of about 500 per village. The lake is also used as a medium for water transport and is of considerable cultural significance to the communities around it.

Threats to the lake watershed include habitat degradation through the conversion of forest land to agricultural use, bush burning and resultant silting of the lake, which undermines the ecologic and functional integrity of the lake ecosystem, and increased harvesting of fauna, mainly fish and game resulting in decreased biodiversity in the watershed. These threats are compounded by a weakening traditional resource management system through ignorance and lack of respect for traditional values, and a paucity of information on the status and trends in biodiversity in the lake watershed.

Prior the GEF-FoE funded biodiversity conservation project some of the challenges facing the Lake Bosumtwe and its watershed were being addressed through a number of baseline activities implemented by local communities with technical and financial support from FoE-Ghana. These activities included an environmental awareness program, the promotion of basic science education and the undertaking of preliminary forest resource surveys within the Lake Bosumtwe and its watershed.

The current project interventions were to mitigate the biodiversity loss and degradation, and to conserve aquatic and terrestrial biodiversity in an integrated manner by supporting traditional conservation practices and a community-based conservation program, thereby restoring the ecological health of the lake watershed ecosystem. The project was therefore implemented in four components, namely:

- Environmental awareness program
- Biodiversity assessment and monitoring program
- Protection/enhancement of traditional resource management systems, and
- Community-based natural resource management systems.

Plate 3: At Pipie the evaluation team held discussions with teachers of the local Primary/JSS School

Plate 4: FoE Club member of the Pipie Primary/JSS School

Plate 5: Trees planted by FoE Club, Pipie Primary/JSS

2.2 Relevance

The relevance of the project was assessed by the appropriateness of the project concept and design, relevance of project outputs, and extent to which the project was implemented in the communities of the lake watershed.

2.2.1 Appropriateness of Project Concept and Design

The concept and design of the project included the identification and analysis of project stakeholders, establishment of a project implementation strategy and the setting up of an

institutional framework for monitoring project at all levels. This design from the inception of the project involved the local people who saw themselves as part of the implementation team of the project. Further, the project implementation strategy included the provision of micro-credit facilities and the enhancement of existing traditional and cultural management systems such as formation of volunteer groups significantly enhanced the success of the project. The design was found to be relevant to the socio-cultural setting of the project area, which are mainly made up of small rural farming and fishing communities with a high level of poverty

2.2.2 Relevance of Project Outputs

The project outputs were relevant to its intended objectives in three key areas. These are:

- The gradual restoration of the biodiversity of the project area.
- Changing the landuse pattern through natural regeneration, enrichment planting and establishment of community woodlots.
- Raising of stakeholder' commitment to forest management and benefits from the forest and the lake are expected to increase.

2.2.3 Implementation Status

An assessment of project implementation status indicated that by the end of project implementation, the project objectives were largely met, and in certain cases, exceeded targets e.g. the number of schools covered. The status of project objectives is presented in Table 2.1 below.

Table 2.1: Status of Project Implementation

PROJECT COMPONENT	KEY PERFORMANCE INDICATOR	CURRENT STATUS
Environmental Awareness Creation	Number of schools participating in the program	24 schools including 1 Senior Secondary school., Beposo Senior Secondary school
	Number of villages covered by the program	26 communities were covered
	Percentage of population that participated in biodiversity conservation activities	85% of the population
Biodiversity assessment and monitoring program	Availability of time series data	Time series data on fisheries, forests, population and other socioeconomic data such as population, employment and economic activity obtained from participating communities
	Number of schools participating in the program	The project covered 22 first and second cycle schools
	Preparation of manual outlying protocols for biodiversity assessment and monitoring	Three manuals were completed

PROJECT COMPONENT	KEY PERFORMANCE INDICATOR	CURRENT STATUS
Protection of Traditional resources management systems	Terrestrial sacred grooves protected from encroachers	125 ha of sacred grooves maintained and conserved
	Traditional ban on motorized boats for commercial fishing maintained	Temporal ban for the use of commercial fishing in place. Discussions ongoing regarding the placements of permanent ban
	Number of villages with volunteer groups assisting traditional authorities to enforce resource management rules and taboos	25 community groups are in place and working effectively
Community based natural resource management	Number of community management plans for fisheries and dedicated forests developed	5 forest management plans were developed including the fisheries management plan
	Number of communities that have established woodlots	3 community woodlots established

PROJECT COMPONENT	KEY PERFORMANCE INDICATOR	CURRENT STATUS
	Number of villages with pilot sustainable farming systems	5 communities are participating in sustainable farming systems
	Local authority passing bye-laws to support sustainable management activities	No bye-laws passed
	Number of villages adopting sustainable levels/quotas as part of management plans for the lake	26 communities took part in workshops to discuss the need to adopt sustainable levels and quotas for fishing
	Number of villages and persons benefiting from the revolving fund	26 communities benefited from the revolving fund

2.3 Performance

2.3.1 Effectiveness

Analyses of project outputs indicated that project objectives and targets were largely met within the implementation period, and in few cases exceeded. Through the implementation of the project, some local laws and regulations on the environment such as laws preventing tree felling in sacred forest were strengthened and are currently being enforced. A community-based biodiversity conservation program was initiated and sustained during the duration of the project and this has led to replanting of degraded forest areas. The environmental awareness program has also created significant awareness on the values of biodiversity around the lake watershed within the communities as evidenced by the decrease in unsustainable farming practices such as bush burning, land clearing and farming close to the lake. The project targets in particular were largely met (ref. Table 3.1) and the functional and ecologic integrity of the forest areas around the lagoon are being restored.

Socioeconomic impacts of the project include a positive but limited impact on poverty reduction and gender. Interviews with some communities indicated that FoE advanced to each member of the volunteer group Two Hundred Thousand cedis (¢200,000.00) for small scale income generating activities such as trading and basket weaving. The groups also indicated that the teak trees planted will be harvested and sold. The farmers were optimistic that teak farming will bring income, thus alleviating their poverty.

The implementation of the project has created a strong civil society capable of sustainable resource management. According to the communities visited, farming close to the lake has now ceased and a visible sign of the lake not receding has also been observed. Nana Korbie Asante of Pipie commented that before the project, the communities had not heard of tree planting or its effect in improving the lake watershed ecosystem.

2.3.2 Efficiency

FoE-Ghana adopted measures that ensured attainment of the project objectives and sustainability. The institutional setup for project implementation was adequate and ensured project efficiency. The actual work plans were realistic and adequately prepared and showed a reasonable degree of adherence to the Project Document. Project organization, management and financial delivery rates on project

components were adequate. There was full participation of the beneficiary target group in the project implementation. Overall, the project implementation was efficient under the given circumstances.

2.3.3 Timeliness

Timeliness of the project was evaluated based on inputs into project by FoE-Ghana and their responsiveness to the project's major stakeholder institutions, notably the UNDP and the Ministry of Finance and Economic Planning. These institutions agreed that there was a general delay in workplan implementation. This was found out to be due to the delay on the part of the same institutions in the release of funds. Further, the introduction of a new financial administration system by the UNDP also caused a few delays in project implementation halfway through. These delays had a ripple effect on the supply of essential project equipment like Wellington boots to community based group members. However these delays did not significantly impact on the project.

Delivery of project reports was timely. The Ministry of Finance and Economic Planning representative indicated that report submission was efficient, the report quality was good and all queries were addressed.

2.4 Effectiveness of Indicators

The indicators for monitoring project success were as outlined in the Project Document. Generally, the indicators were found to be specific, measurable, achievable and realistic. However, some indicators were not timely or underestimated the time frame for achieving objectives. Examples in this case include the generation of time series data on status and trend of key aquatic and terrestrial species within the lake and its catchments area.

3.0 FINDINGS AND CONCLUSIONS

3.1 Project Formulation

The strengths of the project formulation strategy include the following

- Active community members that could be mobilized for project implementation, as was evidenced by the ongoing baseline actions prior to project implementation.
- The identification of education and awareness creation as an important tool during project implementation. The awareness creation ensured active participation of the communities in the project implementation since they understood the relationship between their survival and the survival of the lake.
- The inclusion of a small scale credit scheme and other built-in incentive systems. This served as an incentive for the community members to participate in the project implementation.

Identified weaknesses of project formulation include'

- The brief time scale for project delivery.
- The limited built-in incentive systems. This did not encourage greater involvement as poor local people would want immediate benefit from their conservation activities.
- Absence of a hydrobiologist or a fisheries expert among the project key personnel. Such an expert was necessary for the effective implementation of the fisheries component of the project.

The project formulation was however generally good with smart indicators that could be used for the assessment of project impacts.

3.2 Project Implementation

3.2.1 Project Implementation Strategy/Tools

Various combinations of participatory tools were used during the project implementation and their effectiveness was assessed from the point of view of the stakeholders. The result is summarized in Table 3.2 below:

Table 3.2: Effectiveness of Participatory Approaches used in Awareness and Educational Programs

Communication tool/channel used	Created the needed awareness	Publicized the project	Understood the values of forest	Promoted active community involvement	Produced expected project output.
Formation of Friends of Earth clubs	Effective	Effective	Effective	Effective	Effective
Community consultation and education	Effective	Effective	Not Effective	Effective	Not Effective
Extension of conservation and field trips for group leaders	Effective	Not Effective	Not Effective	Not Effective	Effective
Training, seminars and workshops for community members and other stakeholders	Effective	Effective	Effective	Effective	Effective
Film/video shows	Effective	Not Effective	No impact	Effective	Not Effective
Establishment of woodlots	Not Effective	Effective	Not Effective	Effective	Effective

Source: Results of Field Interviews, 2003. 'Effective', within this context means that the communication tools/channels used to publicize the project addressed the felt needs of the stakeholders, promoted effective participation in the design and planning, and created the ownership of the project activities and produced the expected outputs. 'Not Effective', means that the participatory tool neither addressed the felt needs of the institutions, nor promoted participation in design and planning or produced the expected outputs. No impact denotes stakeholders see the relevance of the tools used in the process but could not be assessed whether their participation was adequate or not.

Generally, the communication tools used by the project were effective in creating the needed awareness for the project, promoted active participation and publicized the projects. The implementation strategy used has created awareness and empowerment, improved access to resources, information, technology etc and material welfare which include education or training, income generating etc. These are discussed in detail below.

Awareness and Empowerment creation: The implementation of the project met some resistance during the initial stages. Communities were unwilling to dedicate degraded farmlands for rehabilitation. However, after intensive education campaigns, six out of the twelve communities agreed to release land for the project. Through the project intervention, communities have been empowered to have maximum control over their forest resources. Local bye-laws have been made and enforced to reduce unsustainable harvesting practices. Communities are investing in environment through enrichment planting, establishment of woodlots and management of dedicated community forests.

The community visits, consultation and educational awareness creation has led to the mobilization of some members of the communities to protect the forests from bushfires and illegal timber operators on regular basis. Special days in the week are set aside for general cleaning in the communities. Community members who deliberately refuse to attend communal labor are sanctioned.

In some of the communities, due to clear understanding and appreciation of the value of biodiversity, the local clubs patrol and arrest environmental offenders within their areas of jurisdiction. Various communities have also been mobilized to plant trees and establish woodlots to restock the degraded forest lands and also to provide fuelwood for industrial and domestic use. Most of the planting areas were around river courses and reclaimed areas. Illegal timber harvesting has also been brought under control.

Improved Access to resources, information and technology: Through the clubs activities members of the communities have been exposed to massive information on forest resources. Members of the club were supplied with farming implements, pictures and posters on the environment and were also trained on nursery and tree planting technologies, which has become an asset to most members.

Material welfare - education, training and income generating: The FoE-Ghana offered training to the leaders of the local clubs in several disciplines, including financial mobilization and club management. These provided skills to certain individuals in management principles. Subsequently

a revolving fund was created from which local people could access funds to undertake economic ventures that support biodiversity conservation.

3.2.2 Institutional Framework and Project Set-Up

The institutional framework of the project was a project management team made up of a Project Director, project accountant, and a site manager. There were four other lower level field assistants. All the field assistants and the site Manager were permanently stationed in the project area. The project Director who is also the Director of FoE-Ghana visited the project monthly and held monitoring and evaluation meetings with the local communities and project beneficiaries. A steering committee was put in place, made up of the UNDP, FoE Ghana, and the District Coordinating Councils of the District Assemblies (in most cases represented by the District Chief Executive or the District Coordinating Director).

A total of twenty-four volunteer Friends of the Earth groups in all the participating communities were formed. Memberships to the local groups were opened to all the communities after orientation and awareness creation.

The local groups were governed by an executive committee made up of a chairman, secretary and a treasurer who received monthly remuneration from FoE-Ghana as

Plate 6: Evaluation team in group discussion with opinion leaders and community

Plate 7: Evaluation team interviewing an opinion leaders (Mr. Obeng-Abass) at Nyameani

Plate 8: Evaluation team interviewing the Chief Fisherman (Mr. Abam) of Agyamam

incentive to keep them mobilizing the communities. The groups were guided by local rules and regulations which spelt out membership conditions, functions of executives and use of funds.

The local implementation groups were answerable to a Project Steering Committee made up of representative of the local Chiefs, Assemblyman, Women's Leader and an Opinion Leader. The Steering committee reviewed the groups' activities, approved their plans and resolved all internal conflicts and disputes. The Committee met quarterly with the Site Manager with the FoE Director in attendance.

An incentive system was put in place that provided tools and equipment such as boots, wheelbarrows and gloves for project members. Tee-shirts bearing the name of the project were also provided which gave them a sense of belonging to the project.

The institutional framework and the project set-up were found to be adequate. However the inclusion of representation of the Environmental Protection Agency and the Ministry of Environment and Science and a Hydrologist in the project implementation could have been useful to the project implementation

3.3 Project Stakeholders

The achievements of the project were analyzed from the stakeholders' perspective using PRA techniques and simple indicators. The outcome of the analysis is presented in Table 3.1 below. From the stakeholder analysis it was evident that most primary stakeholders (traditional authorities, the youths, community members) who were very important and have high influence on the project perceived the project achievement as positive. Those negatively affected were chainsaw operators and migrant farmers who were very inactive during project implementation.

Table 3.1: Project Achievements as Analyzed from Stakeholders' Perspective

Indicators	Stakeholders							Total Score
	Farmers & Fishermen	Women's groups	Youth	Chiefs & Elders	Chainsaw operators	Charcoal producers	Hunters	
1. The ecosystem functions of the forest are being maintained.	Greatly Improved (2)	Improved (1)	Greatly Improved (2)	Greatly Improved (2)	Improved (1)	Greatly Improved (2)	Greatly Improved (2)	12
2. Species richness of prominent groups is being enhanced.	Improved (1)	improved (1)	Improved (1)	improved (1)	Greatly improved (2)	Improved (1)	Greatly improved (2)	9
3. Local management of forest resources is becoming effective in controlling, maintenance of, and access to, the resource base	Greatly Improved (2)	Improved (1)	Greatly Improved (2)	Greatly Improved (2)	Bad (-1)	No impact (0)	Improved (1)	7
4. People link their welfare and their children's future with the management of forest resources	Greatly Improved (2)	Improved (1)	Improved (1)	Greatly Improved (2)	Greatly Improved (2)	Improved (1)	Improved (1)	10
5. Concerned stakeholders have acknowledged rights and means to manage the forest resources	Greatly Improved (2)	Greatly Improved (2)	Greatly Improved (2)	Greatly Improved (2)	Greatly Improved (2)	Improved (1)	Greatly Improved (2)	12

Indicators	Stakeholders							Total Score
	Farmers & Fishermen	Women's groups	Youth	Chiefs & Elders	Chainsaw operators	Charcoal producers	Hunters	
co-operatively and equitably								
6. Environmental conditions in the forest areas are improving because local bye-law are being enforced	Greatly Improved (2)	Greatly Improved (2)	Improved (1)	Greatly Improved (2)	Bad (-1)	Improved (1)	Greatly Improved (2)	9
7. Environmental awareness of local communities is improving because they are obtaining maximum benefits from sustainable forest and fisheries management.	Greatly improved (2)	Improved (1)	Improved (1)	Greatly Improved (2)	No impact (0)	Greatly Improved (2)	Greatly Improved (2)	10
Sub-total	13	9	10	13	5	8	12	69
Grand Total	69							
Idea Total Score	98							
Achieved Score	70%							

Criteria – (Score) Things have improved – (1) Things have greatly improved – (2) No impact – (0) Things are bad – (-1) Things are worse – (-2)

The impact matrix shows that from the stakeholders' perspectives, the overall impact of the project has been very high. About 70% of the stakeholder aspirations and expectations from the project were met through the implementation of the project. The greatest impact was seen in the ecological and social indicators.

Unfortunately the District Assemblies who are very important and have potentially high influence on the success of the project were not very active in the project implementation. The District Chief Executive (DCE) of the Bosumtwe-Atwima-Kwahuma District Assembly agreed that even though FoE approached him to introduce the project prior to implementation, he had expected a greater involvement of his District in the project. He expressed the view that quarterly reports should have been submitted to the District Assembly (DA) during project implementation.

That not withstanding, the DA got involved in resolving disputes during the implementation stage. The DA further agreed that he had observed some positive signs of the project, which include general environmental awareness creation within the communities. extensive tree planting in project areas, and reduction in the following;

- unsustainable tree felling,
- incidence of bush burning,
- number of persons farming close to lake

The UNDP and the Ministry of Finance and Economic Planning which were also identified as stakeholders in project implementation were satisfied with project implementation. Interviews with personnel of the two agencies indicated that project implementation was effective, efficient and to an extent timely. The UNDP acknowledged that occasional delays in releasing project funds were responsible for delays in the supply of vital project tools such as Wellington boots resulting in occasional delays in carrying out certain action plans.

The UNDP rated the contents of the reports as very good, well structured with GEF queries well addressed. The UNDP also emphasized that the project was successful and had some achievements, notably the communities' involvement in land activities, planting around sacred groves, strong volunteer commitments effective t steering committees and the production of fisheries management plans.

The Ministry of Finance and Economic Planning was of the view that project implementation was within budgetary limits and the submission of project reports was timely. However, it was observed that the fisheries component of the project was not as strong as expected. Fish ponds were not constructed to reduce pressure from the lake fisheries. The awareness creation component on the other hand was excellent. The committees and their chiefs showed greater understanding of environmental issues and need for conservation. The main streaming of the lake curriculum in the schools was also well done.

The representative of the Ministry of Finance and Economic Planning said that during the initial year of the project, it was observed that project delivery was rather slow as a consequence of the fact that the project was primarily being managed from Accra. The Ministry subsequently made recommendations to Project Management to have an on-site manager for effective implementation of the project. An on-site manager was then hired and the Ministry noted that project implementation afterwards was relatively smooth and rather timely.

Generally, the Ministry was satisfied with project implementation even though it was realized that the fishery component of project implementation was rather weak. The Ministry was of the view that an extension should be granted the project so as to concentrate on the lake faunal diversity, especially the endemic fish species. This, in the Ministry's view, could be done by establishing in-situ breading areas in the lake which could serve as protected areas where endemic fish could be bred and released into the lake to increase stock density. The Ministry was also of the view that additional projects such as aquaculture development should be made part of such an extension, and should be encouraged in the catchments area in order to reduce the pressure on the fishery.

The Ministry's representative indicated that the lake, as a result of its unique evolution history, should be designated a World Heritage Site and managed as such. This, in addition to ensuring the sustainable exploitation of the lake's resources, would also boost ecotourism which will be a source of alternative livelihood and bring income and wealth to the local communities fringing the lake.

Overall, the Ministry identified the establishment of local committees for the sustainable management of the lake's resources, the education and awareness created on biodiversity and sustainable resource management, and the fact that the project straddled two Districts, but was able to get both Districts to collaborate on the issue of sustainable management of the lake's natural resource as the major achievements of the project. The Ministry would readily

recommend the replication of such a project in other areas of the country where biodiversity is threatened by ignorance and anthropogenic disturbances.

3.4. Project Significant Results

3.4.1 Environmental Awareness Creation:

Achievements

- Increased environmental awareness in the beneficiary communities.
- Establishment of FoE clubs in basic schools in the project area.

Impacts and Outcomes

As a result of the awareness program the community rights and responsibilities of the landowners and individual farmers in forest management increased resulting in the decrease of unsustainable farming practices like bush - burning, land clearing and farming close to the lake.

Schools close to the lake have adapted their curricula to reflect environmental issues related to proper management of the lake such as monitoring the water quality of the lake and the activities of the environmental clubs formed in the schools, which include tree planting among others. This program was very crucial to the success of the implementation of the project which like any project depends on effective participation of the beneficiary group

3.4.2 Community-Based Natural Resource Management

Achievements

Degraded ecosystems in the project area are being rejuvenated through tree planting, restoration of degraded lands, establishment of dedicated forest and reduced tree felling. In all, five dedicated forests are being protected. These are located at Abono, Abrodwum, Obbo, Mim and Brodekwano. The Brodekwano dedicated forest reserve could not be fully conserved due to the lateness of its inclusion in the project. However, the community had been sensitized and has adopted it for conservation.

- Threatened and rare fauna and flora species have been spotted in some of the sacred groves.
- Introduction of Fishery Management Plan

Impacts and Outcomes

There has been a reduction in illegal timber felling and areas close to the lake are being protected. The fisheries management plan introduced in some of the communities are being used for the sustainable exploitation of the lake's fishery resource.

3.4.3 Traditional Resource Management Systems

Achievements

- Revision of laws/taboos on unsustainable harvesting of resources
- Traditional resource management systems such as the reverence of sacred groves were also encouraged.
- There was training and skill upgrading in nursery development, tree planting and natural regeneration for community members

Impacts and Outcomes

- Emergence of Civil society groups that is willing to enforce traditional bye-laws and to apprehend perpetrators of environmental degradation in the area.

3.4.4 Biodiversity Assessment and Monitoring Program

Achievements

- Time series data has been collected on the lake watershed biodiversity.
- Management plans have been prepared for the management of the traditionally protected areas.
- Community members including school children have been trained in biodiversity assessment methods.
- A management plan has been prepared for the sustainable harvesting of fish fauna from the lake.

3.5 Project Shortcomings

Despite the significant positive project impacts, the evaluation team identified the following major shortcomings:

- The provision of farm implements in some communities was not sufficient for all the members of the groups who participated in the project activities.
- The project was not able to secure a punitive instrument for the local groups formed. This is because the indigenous environmental bye-laws had not been gazetted by the District Assemblies and hence the District Assemblies could not support the local people in enforcing the laws
- The built-in incentives and alternative livelihood facilities in the project were inadequate.
- Some human activities such as washing, bathing and swimming in the lake were noted in some communities. This may be because attitudes once developed take along time to stop. Consequently it is expected that this practice will stop as the community become more and more conscious even at the end of the project.
- Unchecked erosion was observed in some communities on the edge of the lake
- Communities/stakeholders expressed the view that they would have wished for a greater variety of trees than what was planted
- The project's focus on the lake faunal diversity, especially the lake's fishery was found to be inadequate. Since dwindling catch and small-sized fishes in catch was identified as one of the problems in the project area.
- A Hydrobiologist was not included in the project making the fisheries component weak
- There appeared to be loss of employment for the youth who were engaged in chainsaw and illegal forest operation and to them the project was antagonistic. Some of these people could bee seen in the villages unconcerned especially during meetings. This served as disincentive to others.
- Some of the trees planted along the water edge to serve as breaks for erosion and otherwise were not well protected from human and domestic animal damage. Some of these plants were therefore damaged either by goats and sheep or vandalized by children. Consequently the constant replacement of these plants did not make the growth of the plants effective

- Unchecked erosion was observed in some communities on the edge of the lake. This will eventually cause siltation of the lake.

3.5 Factors that Influenced Project Achievements

The evaluators analyzed the factors that contributed to, and enabled successful project implementation. These factors identified are grouped into five categories, namely

(i) project formulation and implementation,

(ii) political-will and commitment

(iii) flexibility,

(iv) honesty and transparency,

(v) ongoing government policy reform

(vi) donor funding,

Plates 9, 10 & 11: Major nursery established at Abono. Lower figures show seedlings in seedling bags ready for planting

3.5.1 Project Formulation and Implementation

The formulation of the project was consistent with national development policy and was suited to the socioeconomic and cultural setting of the environment. The use of traditional resource management systems as a foundation for the development of management strategies significantly aided in the success of the

project. This is because local people become involved when conservation strategy is built on their traditional knowledge. The implementation was also done adequately using tools that overall had a positive impact on project delivery.

3.5.2 Political Will and Commitment

The involvement of opinion leaders and the chiefs in the formation of the local clubs ensured that the political commitment of the chiefs, assemblymen and opinion leaders were maintained throughout the period. This was done by ensuring constant meeting and feedback and maintenance of mutual trust among the local stakeholders. FoE-Ghana also communicated frequently with the communities, fulfilled most project promises and obtained feedback on the progress of work through constant meetings and dialogue.

3.4.3 Flexibility, Honesty and Transparency

The project implementation program was effective in adapting and responding to essential negotiations and changing needs and objectives of all stakeholder groups during the project period. This led to the modification of some project objectives to accommodate local needs as outlined by the project implementation team. This flexibility was essential in ensuring successful implementation of the project. There was also honesty and transparency between the project implementation team and the local project stakeholders. Some beneficiary communities expressed the view that the project implementation team was forthright with information on project details including finances.

3.5.4 Ongoing Government Policy Reform

Since 1998, the Government through the Natural Resource Management Program has been implementing several policy reforms in the forestry sector. The new focus of the policies seeks to grant greater autonomy in forest management and sharing of benefits to local land owning and forest fringing communities. The landuse and community-base biodiversity conservation project fitted into this focus. The project therefore received the necessary political support.

3.5.5 Donor Funding

Analysis of the project documents suggest that the project would not have been possible without donor funding. The baseline actions initiated were important during the initiation of the project but it was not likely that significant funding would have come from central government or district assembly sources for the project implementation. It is not also possible that FoE-Ghana could have raised the project money from internal sources. Hence it is noteworthy that the UNDP-GEF grant was critical in project implementation and for the successful execution of the project.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The conclusions are based on the findings of the project evaluation which, as indicated, was made up of a desk review of all project documents and a field visit to the project area for data collection. Conclusions drawn are derived from project objectives, project formulation and project implementation vis-à-vis their relevance, performance and success.

The project objective was largely met and the specific targets were achieved despite a few shortcomings. The project was relevant in creating the environmental awareness within the project area which was necessary for a change in attitude towards natural resources and their management. The project hence would ensure the sustenance and enhancement of the functional and ecological integrity of the lake's ecosystem.

Project formulation and implementation was also adequate for socioeconomic and cultural setting of the project area. However the project implementation suffered some delays on a couple of occasions, but was largely effective in the achievement of project objectives and specific targets. The project implementation was also deemed efficient within the constraints of project delivery in being able to achieve significant outputs as specified in the project document.

It is also concluded that the project was successful in its significant positive impacts which have engendered change in attitude and the resource use within the lake watershed. The training and skills upgrading component of the project coupled with the creation of a strong civil society in the project areas with a high level of knowledge in the importance of biodiversity will ensure the sustainability of the project's results after termination. The project has also contributed immensely to capacity development within the communities involved with the project.

There has been a positive but limited impact of the project on poverty reduction and gender. Hence there is the need for more effective in-built alternative livelihood activities as a complement to the biodiversity conservation strategies.

4.2 Recommendations

Based on the result of the evaluation the following recommendations are being made:

- Due to the historical origin of the formation of the lake, the Evaluating Team suggests that the lake be declared a World Heritage Site and a Tourist destination as per UNESCO guidelines.
- Further capacity development and opportunities at local community levels (as groups, families, or individuals) should be promoted to equip people with the requisite capacity for sustainable biodiversity conservation.
- Alternative livelihood activities like snail farming, poultry, livestock rearing, piggery, batik tie and dye, and soap making should be introduced to the project beneficiaries groups to reduce pressure on fishing in the lake and commercial farming on the lake's slopes.
- The indigenous environmental laws need to be revised and gazetted by the District Assembly to ensure sustainability. A strong commitment from the District Assembly to support local communities in enforcing laws should be promoted.
- More stakeholder consultation is recommended in identifying forest tree species that should be planted on community woodlots and dedicated forests. The local people have a colossal amount of knowledge about tress that existed before the degradation of the forest. Their suggestions in identifying forest tress to be planted will therefore be valuable.
- More studies need to be done on the lake fisheries to determine level of exploitation. The management plan for the lake resource should be revised periodically and should include increasing the biodiversity and stock density of fauna currently in the lake by methods such as *in situ* breeding.
- It is recommended that as part of the withdrawal strategy, the larger segment of society which was not involved with the project is encouraged to be involved with project implementation.

5.0 LESSONS LEARNT

The implementation of the Lake Bosumtwe Biodiversity Conservation Project has unearthed some important lessons that will inform other strategies for sustainable resource management. The lessons learnt also need to be taken into account during the project withdrawal strategy. A discussions of the lessons learnt is below:

- The first, and perhaps the most important lesson learnt was that the implementation of the project was necessary for the education and awareness-creation as well as the change in attitude engendered among the communities in the project area. This was observed on a number of occasions when community members including a chief indicated that prior to the project, they had no knowledge or saw no value in regeneration planting but indulged in unsound environmental practices such as bush burning and logging near the edge of the lake. Hence the degradation of the lake and its watershed would have continued without the project.

- Projects of this nature require an effective design and implementation strategy, which should take into consideration the local customs and traditions of the communities in the project area. In the case of this project, this involved the identification and involvement of primary stakeholders such as chiefs and opinion leaders in the project. These primary opinion leaders were obviously powerful and their influence on the project cannot be overlooked. Secondly, persons drawn from the various communities participated in the project thereby improving the image of the project as a community-owned undertaking and endowing it with the community support and confidence it enjoyed.

- Another lesson learnt was that projects of this nature should not be seen as introducing any new technology/idea/law that might be considered as foreign by the communities. Rather, the project should build on existing practices (in this case, the idea of reverence for sacred groves was used in establishing dedicated woodlots). This approach helped significantly in creating confidence in, and support for the project, as the project was seen to respect traditional practices and to even encourage them. In rural areas of Ghana, most environmental conservation practices are implemented traditionally with taboos and other traditional legislative instruments. The use of official legislations is often misunderstood by the largely illiterate populace and has largely failed to achieve their objectives. This is because they are generally regarded with

suspicion and misinterpreted as edicts emanating from a 'faceless' government with an 'ulterior' agenda inimical to the rural people. Hence formulating the project to be consistent with local custom was on the whole was necessary for the success of the project.

- The use of built-in incentive package for community members directly involved in the project was ideal in mobilizing them. At the outset of such a project, the immediate benefits may not be obvious to the community, hence those engaged in the project need to be encouraged to continue with their participation. There is also the issue of time/labor lost in participating in the project, which also needs to be recompensed. This guarantees maintenance of momentum in project implementation, especially when the gains of the project are not immediately obvious. Such incentives may be the provision of implements such as hoes, machetes, Wellington boots and microcredit schemes. Other members of the community who previously engaged in unfavorable practices as a source of livelihood should also be provided with some form of alternative livelihood as a transitional tool to a more stable and sustainable form of life. This is important, especially in poor rural communities where options for employment are very limited and capital to start enterprises are also difficult to come by. Finally, activities of project implementation should by themselves be rewarding to the community, for example, skills upgrading in nursery management and teak planting.
- The active involvement of the District Assembly (DA) in a project of this nature is very important for its sustainability. This is more so, since the DA is the primary authority that can strengthen local taboos thereby upgrading them into bye-laws. Such legal instruments are necessary as they serve as deterrents for would-be offenders and help in consolidating project achievements. It will also be ideal to have some representation of the local communities being involved in part of the monitoring and evaluation of the project. This would further increase trust and confidence in the project as well as increasing the feeling of 'actual ownership' of the project.
- The inclusion of a program for school children in projects of this nature is very important. This is because school children could serve as agents for change, but will inherit the environment after their parents. It is therefore ideal that their attitudes and behaviors are modified rather early so that they do not repeat the mistakes of their parents. It was observed that school children within the project area were being educated on environmental conservation with the aid of an upgraded syllabus.

- Projects of this nature may need specific and specialized manpower requirements for effective implementation. This is important and should be identified at the proposal stage by all involved stakeholders. For example, it is our view that the project required a fisheries/lake hydrobiology expert for the effective implementation of the fisheries component. This was however not effectively identified during the proposal stage, hence was not required in the project document. This may have accounted for the rather weak lake hydrobiology (i.e. fisheries) component of the project. It is also very important that alternative sources of some natural resources that the communities hitherto extracted from the lake be identified and provision made for in project design and implementation. An example in this case would be the provision of alternative sources of water such as boreholes and well to the communities so as to reduce some forms of pollution pressure (such as washing in the lake) on the lake.

- Delivery on project inputs must be timely to ensure smooth project implementation and to maintain the moral of the communities involved in the project. Delays in project inputs may adversely affect project implementation, reducing the importance of the project to the communities. Delayed project inputs also unnecessarily encumber the project, delaying implementation plans and generally affect the timeliness of project delivery.

- All project indicators must be SMART, i.e. they should be specific to a project activity, measurable, achievable, realistic and should have realistic time frame and budgets. This ensures effective implementation and evaluation. Such indicators must also be made available to community members so that a sort of review/monitoring can be done by community members to access project implementation status.

ANNEXES

Annex A

Evaluation Team

A.K. Armah (Leader)
L. D. Atsiatorme
S.D. Ababio

Schedule

#	Schedule	Date
1	Desk study	16th to 23rd Feb 2006
2	Depart from Accra to Bosumtwe	24th Feb 2006
3	Field Work	25th to 28th Feb 2006
4	Depart from Bosumtwe to Accra	1st Mar 2006
5	Analysis, Write-up, Preliminary Report	3rd to 10th Mar 2006

Communities Visited

Abono
Abrodwum
Adwafo
Agyamam
Amakom
Ankaase
Anyinatiase
Beposo
Brodekwanu
Detieso
Dompa
Duase
Essasie
Kuntanase
Mim
New Pipie
Nkowi
Nyameani
Obbo
Pipie

Annex B

TERMS OF REFERENCE
END-OF-PROJECT EVALUATION
Biodiversity Conservation of Lake Bosomtwe Project

1.0 INTRODUCTION

The Monitoring and Evaluation (M&E) policy at the project level in UNDP/GEF has four objectives:
i) to monitor and evaluate results and impacts;
ii) to provide a basis for decision making on necessary amendments and improvements;
iii) to promote accountability for resource use; and
iv) to document, provide feedback on, and disseminate lessons learned.

Final evaluations are intended to assess the relevance, performance and success of the project. It looks at early signs of potential impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental goals. It will also identify/document lessons learned and make recommendations that might improve design and implementation of other UNDP/GEF projects.

1.1 Project Rationale

1. The promotion of local level sustainable use of natural resources is a major policy initiative of the Government of Ghana. However, national priorities are concentrated on major national parks and other protected area categories. Ghana recognizes the inherent value of strengthening traditional systems of conservation, such as the sustainable use of sacred groves. However it is faced with resource constraints that limit its ability to respond to all needs, and technical constraints that limit its ability to effectively assist local communities in strengthening traditional conservation practices. GEF funds are incremental on ongoing activities as they will concentrate on a specific site of global biodiversity importance (a meteoric lake) outside of the national protected area system, as well as on strengthening traditional indigenous knowledge and systems that are threatened with loss.

2. The challenges facing the Lake Bosomtwe watershed are being addressed through a set of baseline activities being implemented by local communities, with technical and financial support from Friends of the Earth-Ghana (FOE-Ghana). The main baseline actions include an environmental awareness program being implemented by the local people. This program involves the development of limited audiovisual materials and implementation of environmental education activities in five of the 24 villages that surround the lake.

3. The second major baseline activity is the promotion of basic science education by the Ministry of Education. Each of the 24 primary schools, 18 Junior Secondary Schools and 2 Senior Secondary Schools in the area has a science curriculum. However, the relationship between the curriculum and local environmental issues is non-existing.

4. Finally, the communities and Friends of the Earth, Ghana have undertaken preliminary forest resources surveys, including the use patterns of non-timber forest products. Prior to this activity the Africa 2000 network of the UNDP in Ghana had supported community initiatives for

reforestation in the lake Bosomtwe area. Friends of the Earth-Ghana had benefited from such grant to sustain community interest in natural resources management.

1.2. Project Objective and Outcomes

5. The objective of the project is to conserve aquatic and terrestrial biodiversity in the Lake Bosomtwe watershed in an integrated manner by supporting traditional conservation practices and a community-based conservation programme.

6. The expected outcomes of the project are:

(a) Establishment of a biodiversity assessment and monitoring program, focusing primarily on endemic and endangered species, to guide management activities;
(b) An environmental awareness program;
(c) Strengthening of sustainable traditional resource management systems; and
(d) Promotion of community-based natural resource management as a way to maintain or enhance the integrity of terrestrial and aquatic habitats of local, national, and global significance.

2. OVERVIEW, OBJECTIVE & SCOPE OF THE END OF PROJECT EVALUATION

2.1. Overview of the Evaluation

7. Early 2001 the GEF-UNDP funded the four-year **Biodiversity Conservation of Lake Bosomtwe Watershed Project** with FOE-Ghana as the implementing agency. Under an agreement, UNDP-GEF entrusted the implementation of the project to FOE-Ghana, because of the specialised technical knowledge and experiences of the organisation in the Lake Bosomtwe area.

8. The project document details the need to carry out a end of project evaluation of the project which became due in September 2005, after four years of implementation, and is being initiated by the FOE-Ghana as part of the standard requirements for implementation of UNDP-GEF projects by NGOs. The evaluation complements the work of the midterm review carried out in August 2003 and the Tripartite Review (TPR) carried out once a year, which looks at technical aspects of project implementation. Together with the annual financial, the Project Implementation Review (PIR) and Project Steering Committee it forms the basis for guidance, development and management of the project.

9. The UNDP and GEF guidelines for monitoring and evaluation will be used as the major documents guiding the monitoring and evaluation process of this project. These are in UNDP/GEF guidelines for developing TORS and final evaluation (Annex VIII Attached)

10. For the purpose of this evaluation, the project document points out that the project implementation team will develop a detailed monitoring and evaluation plan including logical framework approach and precise indicators for the measurement of project results to monitor implementation performance, within the first quarter. The evaluation team needs to verify that this was performed correctly and on time and has been used throughout the life of the project.

11. Also the project documents calls for an annual workshop involving representatives of the project beneficiaries and other key stakeholders to be organized to review the results of the monitoring and evaluation and to use them as the basis to develop the work plan for the following year and to develop action plans to correct deficiencies in implementation. This process needs to be looked upon by the evaluation team provide an assessment or comments.

2.2. Objectives of the End of Project Evaluation

14. The End of project evaluation offers the opportunity to assess the implementation of the project technically as well as to identify weaknesses and strengths in its implementation strategies. It also offers the opportunity to identify ways in which project implementation may be improved to more effectively achieve project goals and outputs in future projects similar in nature. In particular the End of project evaluation will assess the effectiveness, efficiency and timeliness of project implementation while highlighting the emerging issues. Lessons and recommendations will be specifically highlighted in order to allow the terminal tripartite review meeting (that will follow up the End of project evaluation) to guide the project team to make necessary adjustments within its withdrawal strategy.

15. Three interrelated dimensions of the project must be assessed as the substantive focus of the evaluation; that is, relevance, performance and success.

2.2.1 Relevance

16. Review and assess the appropriateness of the project's concept and design, the relevance of the project's outputs, and the extent to which they have contributed toward the overall development objective. Relevance means the degree to which the objectives of a project remain valid and pertinent either as originally planned or as subsequently modified owing to changing circumstances within the immediate context and external environment of that project. Comment on any other conceptual issue which may have impacted on project execution is necessary and should be made by the evaluating team.

2.2.2 Performance

17. There are three criteria for performance:

- effectiveness - the extent to which a project achieves its immediate objectives or produces its desired outcomes;
- efficiency - the optimal transformation of inputs into outputs;
- timeliness of inputs and results.

18. Hence the evaluation team shall :

- ✓ Assess whether the project has so far produced its outputs effectively and efficiently: by identifying the major factors which have facilitated or impeded the progress of the project in achieving its desired results. In particular the team should review the quality and timeliness of inputs and activities by the executing agency, FOE-Ghana, e.g. responsiveness of project management to UNDP and GEF requirements or changes in the project environment, timeliness of work plans and extent to which they were followed, the extent to which budgets were followed, etc. The team should also use the NGO execution modality (by UNDP) to evaluate FOE-Ghana execution of the project. The main contact persons are Theo Anderson, Director of FOE-Ghana and Dr. Stephen Duah Yentumi/Madeleine Bolliger, UNDP-Accra

- ✓ Assess whether Government inputs, at national and local levels, were sufficient and how they could have been improved, if necessary. The main contact will be the Ministry of Finance and Economic Planning in Accra and the 24 village leaders or chiefdoms around Lake Bosomtwe.

- ✓ Examine whether the institutional set-up enhanced full involvement of the stakeholders and provided a sense of actual ownership by the country (if not, what mechanisms

might be used to accomplish this in the follow up of this project or in future projects of a similar nature);

2.2.3 Success

19. The three criteria of success are impact, sustainability and contribution to capacity development.

2.2.3.1. Impact

20. Impact refers to the results of a project that are assessed with reference to the development objectives or long-term goals of that project. In this sense, impact represents changes in a situation, whether planned or unplanned, positive or negative, that a project brings about.

2.2.3.2. Sustainability

22. Sustainability is the durability of positive project results after the termination of the technical cooperation channelled through that project. Static sustainability refers to the continuous flow of the same benefits that were set in motion by the completed project to the same target groups. Dynamic sustainability refers to the use in, or adaptation of project results to, a different context or changing environment by the original target groups and/or other groups.

2.2.3.3. Contribution to Capacity Development

23. As a criterion of success, the contribution made to capacity development relates to the extent to which a project enables target groups to be self-reliant and makes it possible for government institutions, the private sector and Community-Based-Organizations (CBOs) to use positive experiences with the project in addressing broader development issues.

24. Specifically, therefore, the evaluation team shall:

- ✓ List the achievements of the project and assess their effectiveness in solving the perceived problems and limitations;
- ✓ . Assess project impact if possible: Determine the effect of the project on targets groups or institutions: the quality, usefulness and sustainability of the project's achievements and outputs in terms of improving the capacity for an integrated management of a meteoric Lake watershed including its fisheries, community forestry, agricultural settings, and educational system for awareness and citizenry participation;
- ✓ Assess the extent of a feeling of actual ownership of the project's results by the country (at various levels; that is, community, provincial and national;
- ✓ Determine the degree of support given by the District Assembly to integrating the project objectives and goals into the District development plans, and how well the project fits into national development policy;

2.4. Indicators effectiveness

25. Review the effectiveness of the indicators put in place by the project, vis-à-vis of the objectives, the outputs and activities, including objectivity, measurability, methodology of analysis to determine the effect and the impact of the project. If these indicators are not satisfactory, the End of project evaluation team will devise and recommend those more appropriate.

26. The evaluation team will need to specifically address the following issues:

- The relevance of the project context, appropriateness of project design and the approaches to implementation and management at both local and national levels;
- The status of the implementation of planned objectives (goals, purpose and outputs) in

relation to budget execution and timeframes;

- The relevance of thematic interventions of the projects, especially,
  - ✓ capacity building and institutional development,
  - ✓ the community forestry process,
  - ✓ monitoring,
  - ✓ awareness raising and constituency building,
  - ✓ the development of long-term conservation mechanisms,
  - ✓ the sustainability of project activities;

- The inclusion and representation of the major stake-holders in the projects (including the Ministry of Science and Technology and/or the Ministry of Finance and Economic Planning at all levels; other government of Ghana public institutions; FOE-Ghana; other local NGOs; local communities and village chiefdoms; UNDP and other donors;

- The integration of the projects with national, regional District or local level policy direction and implementation, including the dissemination of lessons learned;

27. Specific major technical activities of the projects are regrouped in four components and they include: (a) Establishing an ecological assessment and monitoring program; (b) Environmental Awareness; (c) Protection of Traditional Resource Management Systems; and (d) Community-based Natural Resources Management.

A. Establishing an ecological assessment and monitoring program to provide up-to-date information, including on the taxonomy of flora and fauna using local traditional knowledge and manpower. The program will also generate time series information on the following parameters that are necessary to guide biodiversity conservation. In addition, the overlay of ecological and socio-economic information would help to identify priority areas to implement the environmental awareness program:

(a) status and trends of key aquatic and terrestrial indicator species;
(b) sedimentation and Biodiversity in Lake Bosomtwe;
(c) vegetation cover in the watershed of associated streams;
(d) human population distribution in the watershed area; and
(e) changes in land and other resource use patterns.

The ecological assessment and monitoring program is to be undertaken with the help of the local schools. The project endeavors to help design local environmental management studies aimed at complementing the existing science curriculum. A centre piece of the project is that students, with supervision from their teachers, will collect and analyse data. Schools around Lake Bosomtwe will meet periodically, for example, every three months to compile, analyse the data, and disseminate the information to their communities and other stakeholders. Then this trial program will be tested and proposed to the Ministry of Education to incorporate in the primary and secondary schools curriculum.

B. Environmental Awareness will focus on the development of audiovisual materials to be used in programs aimed at raising awareness in all the 24 villages around the lake on the environmental significance of the area and the threats it faces. As indicated above, ecological and socio-economic information from the biodiversity assessment and monitoring program will be used to identify priority areas and themes for environmental awareness activities, particularly to control habitat degradation and the over-harvesting of the endangered lake biodiversity. Traditional systems, rules and regulations will also be incorporated in the design of awareness packages.
Local schools will play a major role in the implementation of this program.
Environmental awareness will be incorporated into the general science curriculum of the

school, upon the Ministry of Education concurrence, and environmental clubs will be formed in the schools.

C. Protection of Traditional Resource Management Systems through strengthening the capacity of traditional authorities to maintain sustainable traditional resource management regimes. Project support will:

(a) build the capacity of traditional leaders to understand the adverse environmental and socio-economic consequences of a breakdown in sustainable natural resource management systems around Lake Bosomtwe;
(b) creation of a village-based volunteer group to assist traditional authorities to persuade their people to maintain or enforce rules and taboos conducive to sound sustainable resource management.

D. Community-based Natural Resources Management to support community efforts to sustainably use natural resources and to reduce harvesting pressure on biodiversity. The three main elements of this component are:

(a) development and implementation of community management plans for sustainable use of natural resources in and around sacred groves;
(b) assistance to create a buffer zone around sacred groves,
(c) development and adoption of fisheries management plans for the lake;
(d) strengthening and reinforcing the traditional systems for conservation of fisheries resources;
(e) national regulations on sustainable fish catch adapted to local conditions, and adopted by the 24 villages surrounding the lake,
(f) establishment of community woodlots to provide an alternative source of firewood for the local people; and
(g) piloting of sustainable farming systems, including agro-forestry, as an alternative to shifting cultivation.

Finally a revolving fund, based on local traditional solidarity systems, would be established to catalyse the replication of sustainable farming systems piloted under the project and other income-generating activities that have no major adverse impacts on natural/biological resources.

4. OUTPUTS OF THE END OF PROJECT EVALUATION

28. Also the End of project evaluation team will need to submit a report (normally not exceeding fifty ie.50 pages) structured along the following lines:

i) Executive summary
ii) Introduction
iii) The project(s) and its development context
iv) Findings and Conclusions
    - Project formulation
    - Implementation
    - Results
v) Recommendations
vi) Lessons learned
vii) Annexes

The report should highlight recommendations in respect to:

- The strengths and weaknesses of the project context, appropriateness of project design and the approaches to implementation and management at both local and national levels;
- The effectiveness and efficiency of the implementation of planned objectives (goals, purpose and outputs) in relation to budget execution and timeframes and projected status of

implementation;

- The strengths and weaknesses and relevance of thematic interventions of the projects, especially,
    - ✓ capacity building and institutional development,
    - ✓ the community forestry process,
    - ✓ monitoring,
    - ✓ awareness raising and constituency building,
    - ✓ the development of long-term conservation mechanisms, and
    - ✓ the sustainability of project activities;

29. Reporting

A preliminary report highlighting some of the major findings of the evaluation will be presented to a team comprising representatives from FoE-Ghana Project Steering Committee; and the Ministry of Finance and Economic Planning representing the Government of Ghana, and UNDP-Accra two weeks after the commencement of work; and on the completion of work in the field. Following the presentation of the preliminary report representatives of stakeholders will have a two-week period to comment on the report before the production of the final report by the evaluation team after addressing comments and suggestions for a further period of two weeks.

30. The final report will be distributed by the evaluation team leader in electronic format to:
Stephen Duah Yentumi
UNDP-Accra Office
E-mail: stephen.duah-yentumi@undp.org

Theo Anderson
FOE-Ghana, Accra
Email: Theokwesi@yahoo.co.uk

Regional Co-ordinator for Biodiversity and International Waters
UNDP-GEF Dakar

And in hard copy format to:

The Chairman of the Project Steering Committee
c/o Ministry of Finance and Economic Planning
Accra; and

Representative of the Ministry of Environment and Science in the Steering Committee
Accra

5. FORMAT OF END OF PROJECT REVIEW REPORT

31. Whilst addressing the specific issues identified throughout the End of project terms of reference, both the preliminary and final reports will be presented according to the following broad format:

Acronyms and Abbreviations
i) Executive summary
ii) Introduction
iii) The project(s) and its development context
iv) Findings and Conclusions
    - Project formulation
    - Implementation
    - Results
v) Recommendations
vi) Lessons learned

vii) Annexes

Terms of reference of the review, itinerary, persons and institutions contacted
List of Figures (if any)
List of Tables (if any)

6. METHODOLOGY

32. The evaluation team members shall familiarize themselves with the project through a review of a number of relevant documents prior to beginning travel to the field. Below is an indicative list of documents that will be distributed electronically or on paper to the evaluation team mission members prior to the start of the mission:

- ✓ Lake Bosomtwe Project Document
- ✓ Project monitoring indicators document
- ✓ Quarterly Progress Reports
- ✓ Annual Project Reports (APR/PIR)
- ✓ UNDP-GEF Project Implementation Reviews
- ✓ Guidelines for developing TORs for final evaluation
- ✓ Tripartite Review Meeting Reports

33. The evaluation team will have access to all project files, correspondence, reports and documents at the FoE-Ghana in the Accra and the field office in Lake Bosomtwe as well as and UNDP Accra office. The team is expected to undertake the End of project evaluation utilizing a number of distinct but complimentary approaches of their choosing among the following:

1. interviews with:

- representatives of government institutions, especially Ministry of finance and Economic Planning, Science and Technology as well as Ministry of Education, at district and local levels;
- Representatives of the District Assemblies-(BAK and Amansie East)
- representatives of local community based organisations working with the project if any,
- representative of women's groups in the project area of intervention,
- Farmers and fishermen groups
- UNDP-Accra,
- Project personnel,
- FOE-Ghana Secretariat,
- other experts involved in the 4 project outputs and processes in Ghana and Lake Bosomtwe

7. COMPOSITION OF THE EVALUATION TEAM

34. The evaluation mission will consist of a team of three national consultants plus a team leader. These consultants should be specialised and have experience in one of the following three areas: The team leader should have knowledge of programmatic planning, monitoring and evaluation as well as working knowledge of the UNDP/GEF processes. The three other specialists should have expertise in the following fields:

(a) environmental awareness for local communities and development of school curriculum in conservation science;
(b) fisheries and biodiversity assessment and monitoring; and
(c) watershed management, community-forestry management , and community-based natural resource management.

The team leader is expected to be aware of FOE-Ghana functioning and will have some knowledge of UNDP NGO execution modalities as well as GEF requirements for projects in general. The team leader will be responsible for delivering reports. A teamwork spirit should be favoured throughout the mission and for completing the report.

8. QUALIFICATIONS REQUIRED

36. The consultants will have to hold each at least a Master's of Science in one of the major aspects of the project to be evaluated; that is, (a)Environmental Planning and management; (b) community forestry or Natural resources/rangeland or watershed management; (c) environmental education or curriculum development in conservation biology, (d) fishery biology.
Knowledge of customs and spoken languages in the Ashanti areas of Lake Bosomtwe will be an advantage. The consultants need to own a laptop computer to travel with and have word processing computer skills. The consultant will preferably be able to demonstrate previous participation in evaluation of projects. The End of project consultants must have not been involved with the project in a paid capacity before this exercise.

9. PAYMENT CONDITIONS

Consultation fee payment will be based on UNDP Accra's daily scales for national consultants for 15 working days each, but spread across the whole End of project evaluation period.

10. IMPLEMENTATION ARRANGEMENTS OF THE EVALUATION

40. The Committee including representatives from FOE-Ghana, UNDP Accra Office and the Ministry of Finance and Economic Planning, will select the consultants and set dates for the evaluation mission. Accordingly, FOE-Ghana will assist the consultants to meet with key resource persons and institutions across the country especially in Accra and Kumasi, as well as field visits around the 24 villages of Lake Bosomtwe. The project management will provide all the logistical support required for the successful accomplishment of the mission. The project management will also ensure that all relevant documents are available to the consultants upon the commencement of their tasks.

11. TENTATIVE SCHEDULE OF END OF PROJECT EVALUATION

Day	Getting Started in Accra
1-3	Consultants read project information, familiarisation with project documents, meet with key players in Accra, get organized for the trip to Lake Bosomtwe, travel to Kumasi and Lake Bosomtwe areas
4-10	Field Visits in 24 Villages and Stay with Local Communities around Bosomtwe, Write Up of Preliminary Report
11-12	Travel Back to Accra Presentation of Preliminary Report
13-15	Work Home on revision and on final report

Annex C

Persons and Institutions Contacted

Institutions

1. UNDP
2. Ministry of Finance and Economic Planning
3. Friends of the Earth, Ghana
4. Bosumtwe-Atwima-Kwahuma District Assembly

Key Persons/Opinion Leaders

UNDP (Accra)

1. Ms. Madeleine Bolliger
2. Dr. S. Duah-Yentumi

Ministry of Finance & Econiomic Planning

1. Mr. Yaw Okyere-Nyarko

Friends of the Earth, Ghana

1. Mr. T. K. Anderson

Bosumtwe Atwima Kwawuma District Assembly

1. Bright Addai Monukum – District Chief Executive
2. Emmanuel Ntoso- Deputy District Co-ordinating Director
3. Wisdom K. Amenoagbey -Staff

FoE Local Staff

4. Peter Osei-Wusu
5. Rita Konadu Acheampong
6. Hanna Ntiabah
7. George Ofori-Ankomah
8. Jane Addai
9. Anthony Marfo

Lake Bosumtwe Community Opinion Leaders

10. Kwame Adu Brempong – Assembly Man (Abonu-Adwafo-Obby Electoral Area)
11. Amankwa Gordon
12. Nana Kusi Amankwa
13. Kofi Abam – Chief Fisherman,
14. Yaw Obeng Abass
15. Nana Korbie
16. Kwesi Badu
17. Nana Oppong Kyekyeku I
18. Kweku Boakye
19. Akua Manu
20. Akumeni-Mensah Eric – Asst. Head Teacher, Pipie Junior Secondary School.
21. Adjei Mathias – Head Teacher, Pipie Junior Secondary School
22. Fosu Appiah –Teacher Pipie Junior Secondary School
23. Charles Agyapong -Teacher Pipie Junior Secondary School