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LIBERIA ENVIRONMENTAL THREATS AND OPPORTUNITIES ASSESSMENT (LETOA)

FY 2008 WORK PLAN: JUNE 21 THROUGH SEPTEMBER 30, 2008

MAY 29, 2008

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LIBERIA ENVIRONMENTAL THREATS AND OPPORTUNITIES ASSESSMENT (LETOA)

FY 2008 WORK PLAN

JUNE 21 THROUGH SEPTEMBER 30, 2008

Submitted to:

USAID/Liberia, Office of Economic Growth

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Cover Photo: View of a section of the proposed National Park at Lake Piso,
Robertstport.

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ACRONYMS

ARD	Associates in Rural Development
CCC	Civilian Conservation Corps
CI	Conservation International
CRS	Catholic Relief Services
DAI	Development Alternatives Inc.
EIA	Environmental Impact Assessment
EPA	Environmental Protection Agency
ETOA	Environmental Threats and Opportunity Assessment
FAA	Foreign Assistance Act
FAF	Foreign Assistance Framework
FAO	Food and Agricultural Organization
FDA	Forestry Development Authority
FFI	Fauna and Flora International
FFI	Fauna and Flora International
GIS	Geographic Information Systems
IP	Implementing partner
IRG	International Resources Group
IUCN	The World Conservation Union
LCIP	Liberia Community Infrastructure Program
LEAP	The Liberia Energy Assistance Program
LETOA	Liberia Environmental Threats and Opportunities Assessment
LIAP	Liberian Integrated Assistance Program
LISGIS	Liberia Institute of Statistics and Geo-Information Services
LOE	Level of effort
LRCFP	Land Rights and Community Forestry Program
NGO	Non-governmental organizations
NIMAC	National Information Management Centre
PLACE	People, Livelihoods, and Conserving Ecosystems
PMP	Performance Monitoring Plan
SDI	Sustainable Development Institute
SEA	Strategic Environmental Assessment
STCP	Sustainable Tree Crops Program
STEWARD	Sustainable and Thriving Environment for West African Regional Development
TAMOA	Technical Assistance to the Ministry of Agriculture
UL	University of Liberia
USAID	United States Agency for International Development
WFP	World Food Program

LIBERIA ENVIRONMENTAL THREATS AND OPPORTUNITIES ASSESSMENT (LETOA)

FY 2008 WORK PLAN: JUNE 21 THROUGH SEPTEMBER 30, 2008

A. INTRODUCTION

There are clear links among environment, development, security, and good governance in Liberia. Poor environmental management, overexploitation of natural resources, and poverty are some of the issues that have fueled conflict in the past. After years of instability and war, Liberians have begun the process of transformation, recovery, and reconstruction. This is a major challenge. To help meet this challenge and facilitate the transition from a relief to a more development-oriented economic growth strategy and program, USAID/Liberia has contracted with Development Alternatives Inc. (DAI) to carry out the Liberian Environmental Threats and Opportunities Assessment (LETOA).

In this context, DAI hereby presents the FY 2008 work plan for the LETOA covering the period from May 21 through September 30, 2008. DAI was awarded the LETOA Task Order under the People, Livelihoods, and Conserving Ecosystems (PLACE) indefinite quantity contract (IQC) on May 21, 2008. The implementation period for the LETOA is 480 days, with a programmed Task Order completion date of October 13, 2009.

Operating under the United States Agency for International Development (USAID)/Liberia's Office of Economic Growth, the goal of the LETOA is to go beyond traditional Foreign Assistance Act Sections 118/119 requirements by providing USAID/Liberia with the tools and information required to facilitate Mission planning and decision making in the environmental sector. The specific objectives of the LETOA are to:

- Identify key environmental threats and their underlying causes across ecosystems - green (forests, agricultural systems), brown (urban, industrial systems) and blue (marine and freshwater systems) - and examine interactions between these ecosystems;
- Identify synergies and other opportunities to integrate environmental issues into existing or planned Mission activities;
- Provide educational tools, maps and training sessions which can help to inform Mission staff, the Government of Liberia, and others on present trends and recent data on Liberia's tropical forests, biodiversity and environmental issues.
- Develop and produce an environmental report composed of three distinct sections including: 1) a State of the Environment report; 2) a Tropical Forests and Biodiversity Report (Foreign Assistance Act Sections 118/119); and 3), an environmental data collection, monitoring and adaptive management plan.

The FY 2008 work plan was developed in collaboration with key Government of Liberia (GOL) partners, notably the Forestry Development Authority (FDA) and the Environmental Protection Agency (EPA), with input from a wide cross section of non governmental organizations (NGO) including Fauna and Flora International (FFI) and Conservation International (CI), and USAID/Liberia implementation partners including the Liberia Community Infrastructure Program (LCIP), the Civilian Conservation Corps (CCC) Program, the Land Rights and Community Forestry Program (LRCFP), the Sustainable Tree Crops Program (STCP), and the Liberian Integrated Assistance Program (LIAP). We have also actively consulted with the World Bank supported Strategic Environmental Assessment (SEA) team and expect that at least one member of the team will be in country during June for additional consultations/coordination. Finally, USAID's timely recruitment of the two local specialists for the LETOA team - Varney Conneh from EPA and James Kpadehyea from FDA – greatly facilitated the work planning process.

From discussions with these organizations and individuals, implementation strategies for each work plan task were developed and key activities were defined. These were then elaborated by the LETOA team to include timelines, responsibilities and realistic benchmarks.

The document which follows is organized into three sections: 1) a narrative description of the work plan organized by task and activity; 2) the Performance Monitoring Plan (PMP); and 3) project administration, including estimated monthly funding requirements for the work plan year.

B. FY 2008 DETAILED WORK PLAN

B.1 CROSS CUTTING ACTIVITIES

Three activities – stakeholder consultations, workshops and field visits contribute to all tasks and are detailed below.

B.1.1 STAKEHOLDER CONSULTATIONS AND ANALYSIS

The first stages of stakeholder analysis, to meet with stakeholders and inform them of our scope of work and schedule and solicit their initial input, began on May 21 with meetings with USAID/AFR and USAID/EGAT staff and will continue in country through June 5, when the team will make a presentation to USAID's implementing partners (See section B.1.2 below). This activity will extend throughout the field work component of the project, as team members meet and interact with stakeholders in the field and follow-up on specific issues with Monrovia-based partners. Additionally, on his return to the U.S. on June 26, 2008, the LETOA Team Leader will meet with the United States Forest Service's (USFS) Sustainable and Thriving Environment for West African Regional Development (STEWARD) program to solicit input, particularly in terms of transboundary collaboration.

Benchmark:

- Stakeholder consultations and analysis completed by July 3, 2008.

B.1.2 NATIONAL LEVEL WORKSHOPS

We had originally intended to conduct a "visioning/validation" workshop in collaboration with the SEA team early on in the ETOA process to clarify issues and seek stakeholder input into the work plan. We have decided to forego this workshop for three reasons. First, through a two day series of group meetings with EPA and FDA on the team's arrival in country, we were able to satisfy the objectives of the proposed workshop with this key set of GOL stakeholders. Second, at the request of USAID, we will conduct a presentation on the LETOA for USAID's Economic Growth implementing partners which will serve to bring this set of stakeholders into the process. Finally, our experience in Liberia suggests that we will get more active GOL stakeholder participation in the ETOA process by providing stakeholders with something "concrete" to react to (i.e., findings, conclusions and recommendations).

Given the above, we will still hold two national-level stakeholder workshops designed to validate the ETOA process and verify results. Details of these workshops are provided below.

- **LETOA initial findings, conclusions, and recommendations workshop.** It will be critical for stakeholders to have the opportunity to comment on the preliminary results of the LETOA. Led by the LETOA Team Leader, we will hold our first national-level workshop on June 24, 2008 to present draft findings, conclusions,

and recommendations, and review the suggested outline for the final report. A provisional list of participants for this workshop is provided in Appendix A, although we expect to add additional participants as a result of our field visits. This will bring a much needed field perspective to the workshop to complement input from Monrovia-based stakeholders.

- **Draft report review workshop.** We will incorporate stakeholder comments and suggestions from the above workshop into a revised draft report which we will circulate to participants via email for additional review and comments by July 25, 2008. After submittal of the draft ETOA, the Team Leader and GIS Specialist will return to Liberia from August 4-8 to hold a second stakeholder workshop to present the draft report and solicit additional input for the preparation of the final report to be submitted to USAID/Liberia on August 18, 2008.

Deliverables:

- Preparatory workshops (EPA and FDA group meetings and USAID implementing partners) completed by June 5, 2008;
- Tentative list of participants for the first workshop submitted to USAID by June 6, 2008;
- Agenda for the first national workshop submitted to USAID by June 16, 2008;
- First national stakeholder workshop held on June 24, 2008;
- Draft ETOA report submitted to USAID and stakeholders by July 25, 2008;
- Tentative list of participants and agenda for the second national workshop submitted to USAID by July 25, 2008;
- Second national stakeholder workshop held on August 7, 2008;
- Final ETOA report submitted to USAID by August 18, 2008.

B.1.3 SITE VISITS

Site visits will be critical to the ETOA process. We will use site visits to:

- Validate and/or further clarify issues raised during national-level consultations;
- Identify issues that have not been raised at the national level;
- Allow the team to collect anecdotal evidence to substantiate the issues raised at the local and national levels;
- Provide a means to confirm national qualitative information with additional data and to “triangulate” these data with national data sets; and
- Examine regional and local institutional capacity to handle emerging issues in the sector.

Our itinerary presented in Table 1 maximizes the ETOA team’s exposure to a wide range of environmental issues and possible opportunities, while minimizing rainy season risk. Because ETOA team members have overlapping skills, they will be divided into two site visit teams, each composed of two expatriate and one national specialists

(with team member selection based on site issues to be examined). This will enable us to cover more ground in a much shorter period of time.

TABLE 1: PROPOSED SITE VISITS

Date(s)	Site(s)	Team	Issues/Opportunities	Means
May 30, 2008	Firestone rubber Marshall wetland/ Margibi Mangrove (proposed new protected area)	Seyler, Thomas, and Kpadehyea (FDA)	<i>Issues:</i> Firestone rubber (wastewater management/expansion), Marshall wetland pollution (Ramsar site). Mangrove dieback, pollution, charcoal, cheap land sales and land fills <i>Opportunities:</i> Coastal zone management, ecotourism, fisheries. Public-private partnerships, environmental management plans	Day trip by car
May 31, 2008	Monrovia waste management and landfill sites	Krahl, Goodnough and Conneh (EPA)	<i>Issues:</i> Urban pollution <i>Opportunities:</i> Environmental impact assessments (EIAs)	Day trip by car
	Mesurado wetland	Krahl, Goodnough and Conneh (EPA)	<i>Issues:</i> Urban pollution, pharmaceutical waste, charcoal, over-fishing <i>Opportunities:</i> Management plan, public-private partnerships	
June 2-3, 2008	Lake Piso (proposed protected area)	Seyler, Thomas, Krahl, Goodnough, Kpadehyea (FDA) and Conneh (EPA)	<i>Issues:</i> Dredging (gold and diamonds) proposals, proposed road rehabilitation (LCIP), charcoal, multiple-use issues <i>Opportunities:</i> Ramsar site and proposed protected area, coastal zone management and stabilization, old growth mangroves, ecotourism, landscape management (ridge to reef), improved fisheries	Day trip by car
	Guthrie rubber plantation	Seyler, Thomas, and Kpadehyea (FDA)	<i>Issues:</i> Expansion into critical habitats, biofuel issues, problems <i>Opportunities:</i> Public-private partnerships for conservation	

Date(s)	Site(s)	Team	Issues/Opportunities	Means
	West Africa Agricultural Company (Palm oil)	Seyler, Thomas, and Kpadehyea (FDA)	<i>Issues:</i> Expansion into critical habitats, biofuel issues, tenure problems <i>Opportunities:</i> Public-private partnerships for conservation	
June 4-5, 2008	Buchanan	Krahl, Goodnough and Conneh (EPA)	Buchanan Renewable Energies –chipping, conversion and export of rubber chips Equatorial Biofuels – palm oil to biodiesel (expansion, etc) Liberia Agriculture Company – rubber (land tenure issues) LCIP – Buchanan Greenville Road Oil palm issues (plantation expansion, Liberia Agriculture Corporation, social issues with regard to oil palm—land expropriation);	By car
June 9-13, 2008	East and West Nimba protected areas	Seyler, Goodnough and Conneh (EPA)	<i>Issues:</i> Iron ore mining concession (Mittal Steel), agriculture encroachment, bushmeat trade <i>Opportunities:</i> Environmental management plans, IUCN FDA capacity-building initiatives, multiple use	By car
	Reserve Buffer Zone areas	Seyler, Goodnough and Conneh (EPA)	<i>Issues:</i> Encroachment, mining, lack of alternative incomes <i>Opportunities:</i> Sustainable Tree Crops Program including cocoa production/cocoa as alternative income; shade grown cocoa and biodiversity; farmers field schools and farmer-to-farmer extension for biodiversity/conservation	
	Sanniquellie—LRCFP community forestry sites	Seyler, Goodnough and Conneh (EPA)	<i>Issues:</i> Impact on threats, community access to natural and financial resources, open access <i>Opportunities:</i> Markets	
	Gbeidin and Kpatawee wetlands (Ramsar sites)	Seyler, Goodnough and Conneh (EPA)	<i>Issues:</i> Hydropower proposals (Kpatawee), endangered migratory birds <i>Opportunities:</i> Ecotourism, swamp rice production	

Date(s)	Site(s)	Team	Issues/Opportunities	Means
	LIAP sites TBD	Seyler, Goodnough and Conneh (EPA)	<i>Issues:</i> Land degradation, lack of alternative incomes/livelihoods <i>Opportunities:</i> Multifaceted approach to food security	
	Gbarnga town	Seyler, Goodnough and Conneh (EPA)	<i>Issues:</i> Data collection and management at the county level <i>Opportunities:</i> LISGIS roll-out of information management to the counties; county statistics officer	
June 9-13, 2008	Wologizi and Wonegezi (proposed protected areas)	Thomas, Krahl and Kpadehyea (FDA)	<i>Issues:</i> Iron ore mining concession (BHP Billeton), bushmeat trade, forest management and timber sale concessions <i>Opportunities:</i> Public-private partnerships, elephant corridors, transboundary initiatives with Zياما Reserve in Guinea, multiple use, other non-timber forest products	UNMIL and vehicle
	Buffer zones— LCIP sites	Thomas, Krahl and Kpadehyea (FDA)	<i>Issues:</i> Encroachment, mining, lack of alternative income <i>Opportunities:</i> Shade-grown coffee and cocoa and <i>Arabica liberica</i> niche market; alternative incomes	
	LIAP sites TBD	Thomas, Krahl and Kpadehyea (FDA)	<i>Issues:</i> Land degradation, lack of alternative incomes/livelihoods <i>Opportunities:</i> Multifaceted approach to food security	
June 16-20, 2008	Greenville area	Krahl and Conneh (EPA)	<i>Issues:</i> LCIP (Buchanan to Greenville Road— environmental impact); <i>Opportunities:</i> county collaboration for wider landscape issues	UNMIL and vehicle
	Senkwehn proposed protected area	Thomas, Seyler and Kpadehyea (FDA)	<i>Issues:</i> Illegal logging, bushmeat trade, incursion, mining <i>Opportunities:</i> Senkwehn proposed protected area, ridge to reef management	

Date(s)	Site(s)	Team	Issues/Opportunities	Means
	LRCFP community forestry sites	Thomas, Seyler and Kpadehyea (FDA)	<i>Issues:</i> Impact on threats, community access to natural and financial resources, open access <i>Opportunities:</i> Markets	
	Sapo National Park (CI/ActionAid Civilian Conservation Corps activities in Jallay and Chiebioh Towns, and in Keh and Putu Jawaordee)	Thomas, Seyler and Kpadehyea (FDA)	<i>Issues:</i> Artisanal gold mining, heavy commercial bushmeat trade, <i>Opportunities:</i> Lessons learned/replicability, alternative incomes (cassava)	
June 21, 2008	Todee Road (LCIP)	Krahl and Conneh (EPA)	<i>Issues:</i> Environmental impact <i>Opportunities:</i> Integrated road building and development program	By car

Additionally, we have developed a field data collection form, the outputs of which will be used to geo reference input for the visualization tool. A copy of this form is provided in Appendix B. (See also Section B.3.1 below.)

Benchmark:

- Site visits completed by June 21, 2008.

B.2 TASK NUMBER 1: STATE OF THE ENVIRONMENT REPORT AND TASK NUMBER 2: TROPICAL FORESTS AND BIODIVERSITY REPORT (FAA SECTIONS 118/119)

For work planning purposes, these two tasks have been combined. Our approach for these tasks will follow USAID guidance and use the three-pronged approach which:

1. Identifies the underlying causes of environmental degradation and suggests strategic options to address them;
2. Identifies and describes approaches and interventions by all institutions (e.g., Government of Liberia, NGOs, private sector) and results (if any) under given enabling conditions including the effectiveness of the existing legal and regulatory environment to enable effective environmental management; and
3. Analyzes opportunities and constraints associated with all environmental elements.

This approach serves as the framework and guidance for our fieldwork; information and data gathered from the cross cutting activities detailed above will drive activities under these tasks and will be used for both Part I (State of the Environment Report) and Part II

(Actions Necessary and Planned to Conserve Tropical Forests and Biodiversity) of the final report. Most of the activities associated with Tasks 1 and 2 will be accomplished from May 26 through June 30, when the team will be in Liberia. Selected specific activities under the framework are highlighted below.

B.2.1 CONDUCT COMPREHENSIVE LITERATURE REVIEW AND PRODUCE LIST OF REFERENCES

B.2.2 IDENTIFY THE ARRAY OF ENVIRONMENTAL/CONSERVATION ISSUES AND INTEREST GROUPS

These two activities began before the team arrived in Liberia, as DAI began to collect and review relevant literature and identify issues and interest groups prior to submitting its proposal and has continued with this effort since the award of the contract. Collection and review of literature will continue throughout the initial period of fieldwork (May 26 through June 30). In early July, the documents will be compiled, organized by subject matter and cataloged so that the CD can be produced and distributed to stakeholders shortly after the draft ETOA report. CDs will be forwarded to LCIP via DHL for distribution to stakeholders.

Benchmarks:

- List of references for the draft ETOA report produced by July 15, 2008;
- Reference CD produced and distributed by August 1, 2008.

B.2.3 CONDUCT POLICY, LEGAL AND REGULATORY REVIEW

We have obtained copies of all relevant agriculture, environment and natural resource/forestry policies and legislation, including draft copies of the proposed Fisheries and Wildlife Acts, and the National Climate Change Adaptation Action Plan. We will be reviewing these regulatory instruments during the course of our field work and will incorporate findings on their current and potential effectiveness into the draft report, prior to the team's departure.

Benchmark:

- Draft policy and legislation sections of the ETOA report completed by June 30, 2008.

B.2.4 IDENTIFY AN PROMOTE THE USE AND REPLICATION OF ENVIRONMENTAL AND CONSERVATION BEST PRACTICES

Preliminary discussions with stakeholders suggest that in some cases – particularly with relief/post conflict activities, best practices are not being used in the areas of value chains which link biodiversity conservation with economic development, collaborative management, community-based natural resource management and Environmental

Impact Assessment (EIA). Yet activities under these types of projects should serve as pilots for future development programs. In other projects, best practices are used as a normal operating procedure. Given this situation, we will identify and document best practices being used across the spectrum of USAID partner and other programs, and disseminate these via the ETOA report. We will also provide guidance to stakeholders on best practices in certain critical subsectors through the provision of best practice guidelines, links to appropriate websites and through informal discussions.

Benchmark:

- Best practices (opportunities) identified and disseminated by June 25, 2008.

B.2.5 IDENTIFY AND PRODUCE PLAN TO HARNESS PRIVATE SECTOR PARTICIPATION IN ENVIRONMENTAL PROTECTION AND BIODIVERSITY CONSERVATION

As in most developing countries, Liberia's public environment and conservations sectors rely on donor funds, primarily classified as official development assistance. Yet there is no reason why the state should have a monopoly on funding or managing these sectors, particularly as Liberia has an efficient and rapidly expanding private sector, including large-scale commercial concerns as well as small-scale and community-level groups. There is great potential for encouraging private and community sector investment in environmental management and conservation. This can not only generate funds, it can increase public participation in biodiversity conservation and environmental management and transfer some of the cost burden away from government. In this context, we will identify opportunities for public-private partnerships and provide guidelines for developing such partnerships.

Benchmark:

- Public-private sector partnership opportunities identified and guidelines for forging partnerships produced and incorporated into the draft ETOA report by June 30, 2008.

B.2.6 DEVELOP PMP WITH INDICATORS AND BENCHMARKS RELATED TO REDUCTION OF THREATS TO BIODIVERSITY

Drawing on DAI's extensive experience in developing PMPs for a wide variety of environment/natural resource programs, and in close consultation with major stakeholder, particularly FDA and EPA, we will develop a set of realistic indicators and benchmarks related to reduction of threats to biodiversity, status of World Conservation Union (IUCN) vulnerable or endangered species or those protected by Liberian law, improvement in environmental status, policies and capacity to monitor and manage biodiversity, forests and other natural resources.

Benchmark:

- PMP recommendations will be finalized by June 30, 2008 and incorporated into the draft ETOA report by July 25, 2008.

B.3 TASK NUMBER 3: ENVIRONMENTAL DATA COLLECTION MONITORING AND ADAPTIVE MANAGEMENT

Spatial visualization and analysis is an effective tool for mitigating environmental threats and identifying potential opportunities for intervention. The following activities will provide the ETOA workplan with a solid foundation in assessing the current spatial data inventory and management capacity, as well as developing a plan for increasing analysis and management capacity in local Liberian institutions.

B.3.1 IDENTIFY GAPS IN DATA

We will leverage existing data inventory assessments done under the LCIP program, and update this inventory list with additional information that may be of use to the ETOA. We will procure any datasets that are needed but not part of our current inventory.

We will develop a data collection form with key attributes (e.g., ecosystem type, threat/hazard, institutions on the ground, etc.) that will be used to systematically collect information from the site visits. Using these forms, a database for information retrieval and synthesis will be developed which will be used for both report writing purposes and development of a data layer for the visualization tool.

Benchmarks:

- Data collection form developed by May 31, 2008;
- Data set inventory and additional data sets obtained from FDA and EPA by June 8, 2008;
- Database for housing the field data and photographs developed by June 8, 2008.

B.3.2 VALIDATE EXISTING GEOSPATIAL DATASETS WITH LOCAL EXPERTS AND FIELD VISITS

Based on our consultations with FDA, EPA and LISGIS stakeholders, we will identify four existing datasets that will contribute to validating GIS information quality. A preliminary data set testing has been undertaken for swamps, mangroves and 2002 land cover, and we will finalize data set selection by June 6, 2008. Using GPS units and laptops, these data sets will be validated during the site visits by driving through the landscape and spot checking/validating particular areas of interest.

Benchmarks:

- Final selection of datasets made by June 6, 2008;
- At least four datasets spot-validated by June 21, 2008.

B.3.3 DEVELOP AND PRODUCE GIS MAP-BASED VISUALIZATION TOOL

We will format field data and related spatial data for display on a web-based geospatial application – notably GoogleEarth^{TM1} – as a means to inform ETOA stakeholder planning decisions and on-going monitoring.

Deliverables:

- A draft version of the tool will be submitted with the draft ETOA on July 25, 2008, with the final version submitted on August 18, 2008. Increased functionality will be integrated throughout the remainder of the contract;
- At least 50 high-resolution photographs will be included in this visualization tool as well as specific areas of interest, base datasets relevant to the ETOA.

B.3.4 CONDUCT ASSESSMENT OF CAPACITY OF LIBERIAN INSTITUTIONS COLLECTING AND MANAGING DATA

The ETOA team will meet with Liberian agency representatives that develop and manage geo-spatial data (FDA GIS unit, LISGIS, NIMAC and EPA) to assess current human resource capacity and determine training needs that allow a smooth transfer of ETOA and other spatial information and processes designed and deployed for analyzing and monitoring environmental threats and opportunities. Additionally, in conjunction with Tasks 1 and 2 above, the Biodiversity Specialist will assess the current human and institutional capacity to inventory biodiversity and to monitor changes over time, with findings to be incorporated into the ETOA draft report and linked to the GIS capacity assessment.

Benchmark:

- GIS capacity assessment report on current data collection and management processes completed by July 8, 2008.

¹ The GoogleEarth trademark is owned by Google. There is currently no association between DAI and Google, nor does Google endorse use of their product in this manner at this time.

B.3.5 DEVELOP WORK PLAN FOR BUILDING CAPACITY OF LIBERIAN INSTITUTIONS TO COLLECT/MANAGE DATA

Drawing on the above capacity assessment and using intelligence gathered from field visits and from stakeholder meetings, we will develop a workplan for capacity building in the areas of collecting, analyzing, and managing environmental spatial data. Emphasis will be placed on using existing data relevant to the ETOA process as well as on metadata management concepts.

Deliverable:

- Workplan for GIS capacity building submitted to USAID/Liberia by August 30, 2008.

B.3.6 GIS WORKSHOPS

The ETOA represents an opportunity to advance better environment natural resources management through improving the quality of information used in decision-making. Held regularly at the NIMAC office, the GIS User Coordination meeting brings together bright Liberian individuals from several organizations with personal and professional interest in developing their skills for better project management. Led by Mapping and GIS Specialist Robert Bouvier, we will conduct two half day workshops/training sessions targeting Liberia's GIS user community.

The first workshop will target EPA, FDA, and LISGIS and selected USAID implementing partners (IP) and will focus on mapping as a decision-making support tool. Drawing on findings from the final report and capacity assessment, we will use data derived from the field visits and other sources to provide a hands-on, practical workshops for participants. A special field visit will be the centerpiece of this workshop whereby the participants can see how GIS technologies are used on the ground in developing data for decision-making purposes.

As metadata management has been cited as a significant hurdle to successfully using GIS, the second workshop will focus on metadata management. Using open-source examples of metadata services as workshop tools, we will facilitate a discussion on the development of Liberia's standard metadata fields and have participants agree upon and define metadata cataloging standards and an approach to managing and accessing spatial data. This workshop will be targeted to GIS professionals.

In order to build GIS skills among USAID's IPs, we will identify a key contact within each selected IP who will participate in all workshops and thus be able to track relevant GIS information and add to it over time.

Benchmarks:

- Workshop participant list and agenda submitted to USAID by August 1, 2008;

- Mapping/decision making workshop held by August 7, 2008;
- Metadata workshop held on August 14, 2008.

B.3.7 DEVELOP RECOMMENDATIONS FOR A METADATA CATALOG

The above metadata workshop will provide the ETOA team with enough information to make recommendations for metadata management solutions, including development of a series of standardized metadata fields and a list of options for metadata services.

Benchmark:

- Workshop consensus report on metadata produced by September 15, 2008.

C. PERFORMANCE MONITORING PLAN

A performance-based approach to the LETOA is essential to the success of the initiative. To measure and evaluate the performance of the LETOA, we will rely on a rigorous monitoring and evaluation system, grounded in adaptive management. This will allow the LETOA technical team to build on successes, take advantage of opportunities and take corrective action when results are less than anticipated.

In constructing our Performance Monitoring Plan, we have recognized that we cannot simply assume the achievement of our performance targets will automatically result in meeting our objectives in terms of the impact we anticipate. Nor can we assume that our customers and partners will be happy with the results. We have therefore identified four types of indicators:

- Succinct indicators for monitoring whether critical assumptions are being met
- Overarching indicators that align with the Foreign Assistance Framework
- Impact indicators—for measuring success in meeting GIS capacity building objectives
- Performance indicators—for gauging progress in completing proposed project activities.
- Service indicators—for gauging the level of customer or stakeholder satisfaction with the ETOA and capacity building process.

C.1 MONITORING CRITICAL ASSUMPTIONS

The attainment of LETOA goals is conditional upon certain external factors remaining unchanged or any expected changes occurring as anticipated. These are regarded as assumptions critical to the timely and successful accomplishment of project goals and objectives. They must be monitored in order to ascertain whether any failure to achieve project objectives is the result of internal, manageable factors or to uncontrollable, external forces. Table 2 provides four critical assumptions that relate to political, legislative, and financial support for the ETOA process. While these are largely qualitative indicators, they provide an overall framework for gauging responsiveness to the project's overall goals and objectives.

TABLE 2: LETOA – CRITICAL ASSUMPTIONS

INDICATOR	INDICATOR DEFINITION/ UNIT OF MEASURE	UNIT OF MEASURE	MEANS OF VERIFICATION	SCHEDULE/ FREQUENCY
CRITICAL ASSUMPTIONS				
Political stability/ security	Political and security situation in Liberia remain conducive to program implementation	Qualitative assessments	Government of Liberia, State Department, USAID, World Bank, donor and NGO reports and assessments	Data collected quarterly, reported annually

INDICATOR	INDICATOR DEFINITION/ UNIT OF MEASURE	UNIT OF MEASURE	MEANS OF VERIFICATION	SCHEDULE/ FREQUENCY
Environmental stability	Environmental conditions in Liberia remain conducive to program implementation with no significant deterioration in climatic trends/natural disasters and repatriation trends.	Qualitative assessments	Government of Liberia, State Department, USAID, World Bank, donor and NGO reports and assessments,	Data collected quarterly, reported annually
Continued Government of Liberia and USAID support for the LETOA	Support for the LETOA from the Government of Liberia and USAID is maintained over the duration of the program.	Funding levels; shifts in priorities	USAID and Government of Liberia environment, natural resource and biodiversity budgets	Data collected and reported annually
Continued international support for Liberia environment, conservation and development initiatives	International support for forest conservation and linked rural development remains strong; stable funding, staffing levels, and mandate.	Funding levels; shifts in priorities	Donor reports	Data collected and reported annually

C.2 OVERARCHING “F” INDICATORS

We are committed to providing monitoring information to USAID that meets the requirements and guidelines in USAID’s ADS 200—particularly ADS 203—and the new Foreign Assistance Framework (FAF) for monitoring and reporting developed by the U.S. Government as part of the foreign assistance reform process. However, the nature of the LETOA limits us to reporting on only two F indicators as presented in Table 3.

TABLE 3: LETOA F INDICATORS

INDICATOR	INDICATOR DEFINITION/ UNIT OF MEASURE	MEANS OF VERIFICATION	SCHEDULE/ FREQUENCY	ACTUAL/ BASELINE	TARGET	
					2008	2009
Indicator 5: Number of policies, laws, agreements or regulations promoting sustainable NRM and conservation that are implemented as a result of U.S. Government assistance DRAFT METADATA POLICY PRODUCED	Policies, laws, agreements and regulations include those formed and formally endorsed by governmental, non-governmental, civil society, and/or private sector stakeholders with the intent to strengthen sustainable NRM. Implementation is demonstrated by adequate institutional structure, capacity, and investment necessary to carry out changes.	Government of Liberia reports, Ministerial decrees, donor and LETOA reports	Data collected semi-annually and reported annually			1

INDICATOR	INDICATOR DEFINITION/ UNIT OF MEASURE	MEANS OF VERIFICATION	SCHEDULE/ FREQUENCY	ACTUAL/ BASELINE	TARGET	
					2008	2009
Indicator 7: Number of people receiving U.S. Government-supported training in NRM and/or biodiversity conservation PARTICIPANTS FROM GIS TRAINING SESSIONS	The number of individuals participating in learning activities intended to teach or impart knowledge and information on NRM and biodiversity conservation to the participants and having designated instructors or lead persons, learning objectives, and outcomes, conducted full time or intermittently	LETOA training reports	Data collected semi-annually and reported annually		12	12
Number of women					6	6
Number of men					6	6

C.3 IMPACT INDICATORS

Impact indicators presented in Table 4 will measure LETOA success in meeting capacity building and conservation objectives, building capacity for community-based conservation efforts, and income generation from sustainable development initiatives.

TABLE 4: LETOA IMPACT INDICATORS

INDICATOR	INDICATOR DEFINITION/ UNIT OF MEASURE	MEANS OF VERIFICATION	SCHEDULE/ FREQUENCY	ACTUAL/ BASELINE	TARGET	
					2008	2009
Liberian agencies utilize technical findings and technology to identify new areas of interest vis a vis NRM, improving transparency in decision-making	The number of Liberian agencies that provide updates to the visualization tool for monitoring purposes, request the tool for review, and/or use the ETOA report and/or visualization tool to identify locations of environmental interest	Follow-up consultation with LISGIS, FDA, EPA, USAID, and other agencies.	Annually	0	1	3
USAID and other implementing partners requesting additional information in GIS tools and applications	Number				2	4

USAID implementing partners adopting best practices in environmental/natural resource management	Number	Partner reports	Annually	TBD	1	1
Active stakeholder participation in workshops	Percent of invited workshop participants who actually attend	Workshop records	Annually	0	90%	

C.4 PERFORMANCE INDICATORS/BENCHMARKS

Performance indicators - used to gauge progress in completing proposed project activities under each component/task - are presented in Table 5 below. These indicators also serve as a management tool for the Team Leader during the course of implementation.

TABLE 5: PERFORMANCE INDICATORS

BENCHMARKS AND DELIVERABLES		DUE DATE
B.1.1	Stakeholder Consultations and Analysis	
B	Stakeholder consultations and analysis completed	June 3, 2008
B.1.2	National Level Workshops	
D	Preparatory workshops (EPA and FDA group meetings and USAID implementing partners completed	June 5, 2008
D	Tentative list of participants for the first workshop submitted to USAID	June 6, 2008
D	Agenda for the first national workshop submitted to USAID	June 16, 2008
D	First national stakeholder workshop held	June 24, 2008
D	Draft ETOA report submitted to USAID and stakeholders	July 25, 2008
D	Tentative list of participants and agenda for the second national workshop submitted to USAID	July 25, 2008
D	Second national stakeholder workshop held	August 7, 2008
D	Final ETOA report submitted to USAID	August 18, 2008
B.1.3	Site Visits	
B	Site visits completed	June 21, 2008
B.2.1 and B.2.2	Conduct comprehensive literature review and produce list of references; Identify the array of environmental/conservation issues and interest groups	
B	List of references for the draft ETOA report produced	July 15, 2008

BENCHMARKS AND DELIVERABLES		DUE DATE
B	Reference CD produced and distributed	August 1, 2008
B.2.3 Conduct policy, legal and regulatory review		
B	Draft policy and legislation sections of the ETOA report completed	June 30, 2008
B.2.4 Promote the use and replication of environmental and conservation best practices		
B	Best practices (opportunities) identified and disseminated	June 25, 2008
B.2.5 Develop and produce plan to harness private sector participation in environmental protection and biodiversity conservation		
B	Public-private sector partnership opportunities identified and guidelines for forging partnerships produced and incorporated into the draft ETOA	June 30, 2008
B.2.6 Develop PMP with indicators and benchmarks related to reduction of threats to biodiversity		
B	PMP recommendations will be finalized and incorporated into the draft ETOA report.	July 25, 2008
B.3.1 Identify gaps in data		
B	Data collection form developed	May 31, 2008
B	Data set inventory and additional data sets obtained from FDA and EPA	June 6, 2008
B	Database for housing the field data and photographs developed	June 8, 2008
B.3.2 Validate existing geospatial datasets with local experts and field visits		
B	Final selection of datasets made	June 6, 2008
B	At least four datasets spot-validated	June 21, 2008
B.3.3 Develop and produce GIS map-based visualization tool		
D	A draft version of the tool will be submitted with the draft ETOA on July 25, 2008, with the final version submitted. Increased functionality will be integrated throughout the remainder of the contract. At least 50 high-resolution photographs will be included in this visualization tool as well as specific areas of interest, base datasets relevant to the ETOA.	August 18, 2008
B.3.4 Conduct assessment of capacity of Liberian institutions collecting and managing data		

BENCHMARKS AND DELIVERABLES		DUE DATE
B	GIS capacity assessment report on current data collection and management processes completed	July 8, 2008
B.3.5 Develop work plan for building capacity of Liberian institutions to collect/manage data		
D	Workplan for GIS capacity building submitted to USAID/Liberia	August 30, 2008
B.3.6 GIS workshops		
B	Workshop participant list and agenda submitted to USAID	August 1, 2008
B	Mapping/decision making workshop held	August 7, 2008
B	Metadata workshop held	August 14, 2008
B.3.7 Develop recommendations for a metadata catalog		
B	Workshop consensus report on metadata produced	September 15, 2008

B – Benchmark, D - Deliverable

C.5 MONITORING CUSTOMER SATISFACTION

Indicators that gauge the level of customer or stakeholder satisfaction with the improved services that the LETOA will provide are presented in Table 6. Customer surveys will be carried out via email with all stakeholders three months before the end of the project.

TABLE 6: MONITORING CUSTOMER SATISFACTION—INDICATORS

	Overall impact	Information exchange
Performance Indicator	Number of partner organizations and clients receiving requested technical support services for implementation activities and sustainable development practices	Stakeholders rate LETOA information exchange and liaison as good to excellent
Indicator Definition	Partners that rate LETOA capacity building and support services as good to excellent	Percentage of stakeholders that rate LETOA information exchange and liaison as good to excellent based on an annual survey
Unit of Measurement	Number of partners and clients	Percentage
Data Source	LETOA	LETOA
Method/Approach of Data Collection	Survey	Survey

	Overall impact	Information exchange
Schedule/Frequency	Annual	Annually
Reporting	Annual	Annually
End Users	USAID, Government of Liberia, USAID implementing partners	USAID, Government of Liberia, USAID implementing partners
Target	50	90%
Baseline Data	<10	0%
2008 Target	10	50%
2008 Actual		
2009 Target	20	60%
2009 Actual		

C.6 ANALYZING DATA AND REPORTING RESULTS

The LETOA PMP will be managed by the LETOA Team Leader. The added capacity to link the PMP to GIS will enable us to report progress against our targets by region or specific site. Most important, we will be readily able to provide maps and other graphics to help our partners visualize the performance and impact of the work of the LETOA and our partners.

We will prepare annual reports on progress toward meeting performance and impact targets, and information on critical indicators will also be incorporated in quarterly progress reports.

D. PROJECT ADMINISTRATION

The ETOA team's in-country schedules and estimated level of effort for the workplan year are presented in Table 7. Estimated monthly funding requirements for the work plan year are provided in Table 8.

TABLE 7: IN-COUNTRY SCHEDULES AND ESTIMATED LEVEL OF EFFORT

TEAM MEMBER	POSITION	DATES IN COUNTRY	TOTAL LOE	LOE LIBERIA	LOE U.S. (WRITE UP)
Jim Seyler	Team Leader/Forester	May 25-June 25	38	29	3
		August 4-8		5	1
Lane Krahl	Environment Specialist	May 25-June 25	34	31	3
Duncan Thomas	Biodiversity specialist		34	31	3
Erin Goodnough	Assistant GIS Specialist		22	21	1
Bob Bouvier	GIS Specialist	June 18-30	26	11	1
		August 6-14		7	

Table 8: Estimated monthly funding requirements for the work plan year

	Name	Rate	Accrued		Jun-08		Jul-08		Aug-08		Sep-08		TOTAL
			LOE/Units	Cost	LOE/Units	Cost	LOE/Units	Cost	LOE/Units	Cost	LOE/Units	Cost	Cost
Salaries and Wages													
<i>1. Short Term Technical Assistance- Expat</i>													
Team Leader/Forester	Jim Seyler	\$490.72	23	\$11,286.56	4	\$1,962.88	3	\$1,472.16	3	\$1,472.16	3	\$1,472.16	\$17,665.92
Environmental Management Specialist	Lane Krahl	\$500.00	27	\$13,500.00	4	\$2,000.00	3	\$1,472.16	0	\$0.00	0	\$0.00	\$16,972.16
Biodiversity Specialist	Duncan Thomas	\$440.00	18	\$7,920.00	8	\$3,520.00	8	\$3,925.76	0	\$0.00	0	\$0.00	\$15,365.76
Mapping/GIS Specialist	Bob Bouvier	\$367.20	4	\$1,468.80	7	\$2,570.40	5	\$2,453.60	5	\$2,453.60	5	\$2,453.60	\$11,400.00
Associate GIS/GPS Analyst	Erin Goodnough	\$195.07	21	\$4,096.47	1	\$195.07	0	\$0.00	0	\$0.00	0	\$0.00	\$4,291.54
<i>2. Short Term Technical Assistance -CCN</i>													
Forest Policy/Management Specialist	TBD												
Environmental Protection Specialist	TBD												
Total Short Term Technical Assistance - CCN													
<i>3. DAI Home Office Support</i>													
Administrative Back Stop	Kate Ogorzaly	\$142.31	2	\$284.62	3	\$426.93	3	\$1,472.16	3	\$1,472.16	3	\$1,472.16	\$5,128.03
Total Labor				\$38,556.45	\$10,675.28	\$10,795.84	\$5,397.92	\$5,397.92	\$70,823.41				
			Base	Base	Base	Base							
Fringe Benefits		\$0.41	\$17,136.45	\$6,940.26	\$5,155.28	\$2,087.89	\$5,397.92	\$2,186.16	\$5,397.92	\$2,186.16	\$5,397.92	\$2,186.16	\$15,586.62
Overhead		\$0.52	\$24,076.71	\$12,568.04	\$7,243.17	\$3,780.93	\$7,584.08	\$3,958.89	\$7,584.08	\$3,958.89	\$7,584.08	\$3,958.89	\$22,597.86
Total Labor Indirects				\$19,508.31	\$5,868.82	\$6,145.05	\$6,145.05	\$6,145.05	\$6,145.05	\$38,184.49			
Travel, Transportation and Per Diem													

Table 8: Estimated monthly funding requirements for the work plan year

	Name	Rate	Accrued		Jun-08		Jul-08		Aug-08		Sep-08		TOTAL
			LOE/Units	Cost	LOE/Units	Cost	LOE/Units	Cost	LOE/Units	Cost	LOE/Units	Cost	Cost
1. International Travel													
Short-Term Technical Assistance													
Team Leader/Forester	Jim Seyler	\$5,016.88	1	\$5,016.88	0	\$0.00	0	\$0.00	0	\$0.00	1	\$5,016.88	\$10,033.76
Environmental Management Specialist	Lane Krahl	\$6,708.15	1	\$6,708.15	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$6,708.15
Biodiversity Specialist	Duncan Thomas	\$4,206.18	1	\$4,206.18	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$4,206.18
Mapping/GIS Specialist	Bob Bouvier	\$4,193.52	1	\$4,193.52	0	\$0.00	0	\$0.00	0	\$0.00	1	\$4,193.52	\$8,387.04
Mapping/GIS Specialist	Erin Goodnough	\$3,267.40	1	\$3,267.40	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$3,267.40
2. Per Diem													
Short-Term Technical Assistance	Monrovia	\$250.00	93	\$23,250.00	24	\$6,000.00	0	\$0.00	0	\$0.00	8	\$2,000.00	\$31,250.00
3. Miscellaneous Travel Expenses													
Short-Term Technical Assistance		\$600.00	5	\$3,000.00	5	\$3,000.00	-	\$0.00	-	\$0.00	-	\$0.00	\$6,000.00
Total Travel				\$3,000.00		\$9,000.00		\$0.00		\$0.00		\$11,210.40	\$69,852.53
Other Direct Costs													
Communications		\$720.00	0.5	\$360.00	0.5	\$360.00	0	\$0.00	0	\$0.00	1	\$720.00	\$1,440.00
Bank Fees		\$50.00	0.5	\$25.00	0.5	\$25.00	0	\$0.00	0	\$0.00	1	\$50.00	\$100.00
Computer Supplies		\$150.00	1	\$150.00	1	\$150.00	0	\$0.00	0	\$0.00	1	\$150.00	\$450.00
Vehicle Fuel		\$1,500.00	0.25	\$375.00	0.25	\$375.00	0	\$0.00	0	\$0.00	0.5	\$750.00	\$1,500.00
Vehicle + Driver Rental - #1		\$7,000.00	0.25	\$1,750.00	0.25	\$1,750.00	0	\$0.00	0	\$0.00	0.5	\$3,500.00	\$7,000.00
Vehicle + Driver Rental - #2		\$6,000.00	0.25	\$1,500.00	0.25	\$1,500.00	0	\$0.00	0	\$0.00	0.5	\$3,000.00	\$6,000.00
Vehicle + Driver Rental - #3		\$4,000.00	0.25	\$1,000.00	0.25	\$1,000.00	0	\$0.00	0	\$0.00	0.5	\$2,000.00	\$4,000.00
Office Supplies		\$200.00	0.25	\$50.00	1	\$200.00	0	\$0.00	0	\$0.00	1	\$200.00	\$450.00

Table 8: Estimated monthly funding requirements for the work plan year

	Name	Rate	Accrued		Jun-08		Jul-08		Aug-08		Sep-08		TOTAL
			LOE/Units	Cost	Cost								
Return shipment of project files		\$500.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	1	\$500.00	\$500.00
In-Country Flights		\$4,000.00	0	\$0.00	1	\$4,000.00	0	\$0.00	0	\$0.00	0	\$0.00	\$4,000.00
Internet and Cell Phone Costs		\$820.00	0.25	\$205.00	0.25	\$205.00	0	\$0.00	0	\$0.00	0.25	\$205.00	\$615.00
Procurement													\$0.00
Satellite Phones		\$475.00	2	\$950.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$950.00
Field Trip Kits (Tools, Shovel, Mosquito Nets)		\$300.00	3	\$900.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$900.00
GPS/Photographic Equipment		\$2,000.00	1	\$2,000.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$2,000.00
Data Acquisition		\$2,500.00	1	\$2,500.00	0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	\$2,500.00
Support Staff													\$0.00
Logistics Coordinator	TBD	\$50.00	5	\$250.00	5	\$250.00	0	\$0.00	0	\$0.00	10	\$500.00	\$1,000.00
Project Activities													\$0.00
Workshops Room Rental - Stakeholder Training Session		\$500.00	\$0	\$0.00	1	\$500.00	0	\$0.00	0	\$0.00	0	\$0.00	\$500.00
Workshops Room Rental - GIS Training Session		\$200.00	\$0	\$0.00	1	\$200.00	0	\$0.00	0	\$0.00	0	\$0.00	\$200.00
Workshop Other Costs - Stakeholder Training Session		\$1,250.00	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	1	\$1,250.00	\$1,250.00
Workshop Other Costs - GIS Training Session		\$650.00	\$0	\$0.00	0	\$0.00	0	\$0.00	0	\$0.00	1	\$650.00	\$650.00
Total ODCS				\$12,015.00		\$10,515.00		\$0.00		\$0.00		\$13,475.00	\$36,005.00
Total Program Costs				\$73,079.76		\$36,059.10		\$16,940.89		\$11,542.97		\$36,228.37	\$214,865.43
G&A		\$0.09		\$6,650.26		\$3,281.38		\$1,541.62		\$1,050.41		\$3,296.78	\$19,552.75
Fixed Fee		\$0.08		\$6,378.40		\$3,147.24		\$1,478.60		\$1,007.47		\$3,162.01	\$18,753.45
Total Costs				\$86,108.41		\$42,487.72		\$19,961.11		\$13,600.85		\$42,687.16	\$253,171.63

**APPENDIX A
PROVISIONAL LIST OF WORKSHOP PARTICIPANTS**

**APPENDIX A
PROVISIONAL LIST OF WORKSHOP PARTICIPANTS**

Donors

Name	Title	Institution	Contact #
Moses Massah	Program Manager, Energy and Environment	UNDP	6558574
Peter Lowe	Forest Officer	World Bank	06937144
Joseph Boiwu		FAO	06-553891
Webby Bwanali	Head, Env./NR Dept.	UNMIL	06 577 348
Louis Imbleau		WFP	
Rick Scott	Acting Mission Director	USAID	
Mac Homer	Head, Economic Growth	USAID	
Daniel E Whyner	USDA FS Advisor	USAID	
Bill Massaquoi, Joe-Hoover Gbadyu	Ag. Dev. Specialist	USAID	

USAID Implementing Partners and NGOs

Name	Title	Institution	Contact #
F.K. Odoom	Facilitator	IUCN/NPA	06401191
Aiah Lebbie	Country Director	Environmental Foundation for Africa	5673372 or 6552724
Alex Peal	Country Director	Conservation International	05 511138 or 06511138
Ian Deshmukh	Chief of Party, Liberia Community Forestry Program	ARD	6497022
James Quarshie	Program Coordinator, Liberia Integrated Assistance Program	CRS	06986990
Jessica Donovan	Program Director	Conservation International	6646778
M Kadalla Gray	Sustainable Tree Crops Program	IITA	06530028 or 077530028
Michael S. Doe	Program Coordinator, Conflict and Management	ActionAID	6525076
Jallah Koryahn	Agriculture Officer	SDI	77099346
Jonathan Nya	Program Officer	SDI	6426271
Silas Siakor	Executive Director	SDI	6424870
TBD		Africare	
Heather Robertson	DCOP	LCIP	06421593
Alfred Brownell		Green Advocates Fauna Flora International	04 790951
TBD			

Tom Downing		GEMAP	
Quan Dinh	COP	ARD TAMOS	657921
Simba Mangwengwende	Power. Prod. Spec.	IRG LEAD (EPP)	656225
Thomas Pichet	Project Manager	LiberFor	06 874 352
TBD	Samaritan's Purse		

Government of Liberia Institutions

Name	Title	Institution	Contact #
Benjamin Karmorh	Manager, Monitoring	EPA	6518928
Cecelia Kollie	Focal Point, Wetlands	EPA	
Henry O. Williams	Manager, Inter-Sectoral	EPA	6587734
Johansen T. Voker	Planning, Policy & Legal	EPA	6520042
Jonathan Davies	Manager, Inspectorate	EPA	6523544
McAlbert Donnie	Inspector	EPA	6960274
Varney L. Corneh	EIA Coordinator	EPA	6531029
Alfred Kortio	Authorizing Officer	FDA	6554063
Ben T. Donnie	Executive Director	FDA	6511387
Bledee V. Dagbe	Socio-Economic	FDA	6988794
Edmond K. Zowulu	Manager, Statistics	FDA	6449276
Francis K. Kpadeh	Reforestation Officer	FDA	5679140
Isaac Wheh	Conservation Officer	FDA	77400741
J. Gayflor Kokro	Sr. Ext. Officer	FDA	6998805
James Kpadehyea	Manager, EIA	FDA	6599715
Jangar Kamara	Commercial Manager	FDA	6518395
Joseph N. Toah	Manager, Wildlife	FDA	77728557
Miaway Luo	Awareness & Ecotour.	FDA	6552392
Mitchell S. Kumbelay		FDA	6595905
Moses Gorpudolo	Chain of Custody	FDA	6577484
Myer Jargba	Manager, Strategic Plan	FDA	6595181
Rebecca G. Tabolo	Sr. Ext. Officer	FDA	656446
Theo Freeman	Manager, Conservation	FDA	6511776
John Gweama	Law Enforcement	FDA	6557511
Daoda V. Metzger	Personnel Manager	Guthrie Plantation	6534351
Sam Sumo	Operations Manager	Guthrie Plantation	6521377
Dr. Edward Liberty	Director	LISGIS	6550678 or 77550678
James B. Logan	Deputy Minister	MOA	
Yeviewuo Subah	Director of Fisheries	MOA	6517742
Fred Towalid	GIS Assistant	NIMAC	6532934
TBD		University of Liberia	
TBD		W. Africa Ag. Co.	

Private sector/other

Name	Title	Institution	Contact #
Ray Jonston	Operations Manager	BHB Billiton	06810074
Steven Cancio-Newton	Project Leader	BHB Billiton	06943953
Anyaa Vohiri	Independent Consultant	Independent Consultant	6514013
TBD		Mittal Steel	
Roosevelt Gould	Vice President	Buchanan Renewable Energy	077 989 066
David Packard	Liberia Operations Inc.	Equatorial Biofuels	
Geoffrey de Vernou	Plantation Manager	Liberia Ag. Corp.	077 921 606
Stephen Kelleher	Consultant	WB SEA Team	
Grant Wroe-Street	Consultant	WB SEA Team	06 534 726

APPENDIX B
FIELD DATA COLLECTION FORM

**APPENDIX B
FIELD DATA COLLECTION FORM**

Site Visit Field Form

Name:

Site Visited:		Date:	GPS Unit#	Ecosystem*:
Environmental Threat(s)**	Way-point	Source of Threat(s)		Root Cause(s)
Environmental Hazard(s)***	Way-point	Source of Hazard(s)		Root Cause(s)
Root Cause (From above)				
	Policies Affecting			
	Associated Institutions			
	Current Interventions & Best Practices†			

	Opportunities††	
	Monitoring Needs	
Root Cause (From above)	Policies Affecting	
	Associated Institutions	
	Current Interventions & Best Practices†	
	Opportunities††	
	Monitoring Needs	

Root Cause (From above)	Policies Affecting	
	Associated Institutions	
	Current Interventions & Best Practices†	
	Opportunities††	
	Monitoring Needs	

Notes:

- * Open dense forest, closed dense forest, Savanna, Agro-industrial plantation, Agricultural land, Lake, River, Swamp/Marsh, Littoral ecosystem complex, Population center
- ** Any human activity that causes a negative trend in a terrestrial or aquatic ecosystem. Generally includes land management activities as opposed to end of pipe of smokestack pollutants.
- *** The potential for negative health consequences for humans, animals and plants as a result of human activities, including activities that deposit harmful chemical or biological substances in air, water and/or soil as well as those that may cause or exacerbate natural disasters (e.g., landslides and flooding).
- † Who is doing what with whom? If possible, include an assessment of effectiveness.
- †† With whom, doing what.