

**Environmental Threats and Opportunities Assessment (ETOA)**  
**with special focus on**  
**Biological Diversity and Tropical Forestry**

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## **I. Introduction**

This Annex to the Strategy Statement is in response to Foreign Assistance Act (FAA) requirement to assess tropical forest and biodiversity conservation needs in Ghana. The FAA 118 Tropical Forest and FAA 119 Biodiversity Analyses are included in the broader Environmental Threats and Opportunities Assessment (ETOA) originally conducted in May 2003, and revised in November 2005. Furthermore, USAID/Ghana will conduct a full Environmental Analysis (EA) during Fiscal Year (FY) 2006, whereby the Mission will thoroughly examine the impact of programs in the areas of biodiversity and natural forest conservation, and incorporate mitigation measures into program implementation. The EA will be updated annually through the Operational Plan.

***Environmental Requirements:*** The core environmental requirements of USAID operating unit strategic plans are spelled out in ADS 201.5.10g, and are derived from provisions of the FAA. Sections 118 “Tropical Forests” and 119 “Biodiversity” Analyses of the FAA codify the more specific U.S. interests in forests and biological diversity. These two provisions require that all country plans include: 1) an analysis of the actions necessary in that country to conserve biological diversity and tropical forests; and 2) the extent to which current or proposed USAID actions meet those needs. Section 118/119 analyses are specific legal requirements of all USAID operating unit strategic plans. Further, 22 CFR 216.5 requires USAID operating units to conduct their assistance programs in ways that are sensitive to the protection of endangered or threatened species and their critical habitats.

Translating the intent of the above legal requirements into a practical strategic planning approach, the ADS provides a priority-setting framework for missions to use in determining environmental threats and opportunities (See 201.5.8; and Supplementary References, Joint Planning and Guidelines for Strategic Plans, and Technical Annex B Environment, dated February 1995). The priority-setting process is intended to guide the setting of environmental strategic objectives, as well as to inform strategic objectives in other sectors.

The Mission analyzed its entire portfolio in relation to impacts on the environment, forests and biodiversity as specified in sections FAA 117, 118 and 119. The focus of this analysis is to address the following questions: (1) what actions in Ghana are necessary for conserving biological diversity and tropical forests; (2) to what extent do current and proposed SO activities address those needs; (3) to what extent do the proposed activities impact the environment, and (4) why might an SO team opt not to incorporate environmental activity.

## **II. Background**

Ghana lies along the Gulf of Guinea in West Africa and covers an area of 240,000km<sup>2</sup>. It is located within Latitudes 4° 44' N - 11° 11' N and Longitudes 3° 11' W - 1° 11' E. The coastline is about 550 km long. The relief and geological features of Ghana are marked by prolonged sub-aerial erosion of ancient rocks and plateau surfaces. About half of Ghana's land surface consists of pre-Cambrian metamorphic and igneous rocks while a greater part of the remaining consists of Paleozoic sediments resting on older rocks (Ayensu et al, 1996).

Ghana's climate is mainly a result of the interplay between two principal airstreams, the dry Harmattan from the north-east and the moist Monsoon from the south-west. The inter-tropical convergence zone along which the two air masses meet, moves north and south as the sun moves between the tropics of Cancer and Capricorn and determines the incidence of rainfall. In the south of Ghana with rainfall between 1,270mm and 2,100mm per annum there are two rainy seasons, April-July and September-November. There is one rainy season in the north, occurring between April and September and with rainfall figures ranging from 1,100mm to 1,270mm per annum. Mean temperatures range between 26° C along the coast and 29° C in the extreme north. Temperatures can, however, rise as high as 42° C in the northern parts of the country.

Soils in Ghana are predominantly light textured with surface horizons being sandy loams and loams and lower horizons having heavier textures, varying from coarse sandy loams to clay. Soils are grouped as follows: (a) oxysols

(ferruginous plinthic Acrisols) found in the south eastern corner where annual rainfall exceeds 1750mm; (b) Ochrosols (Ustisols) associated with the northern and coastal savannas and where annual rainfall is between 900mm and 1650mm; (c) tropical black earth (Vertisols) also found in the two savanna zones; (d) tropical grey earth found in parts of the coastal savanna where rainfall is below 900mm; and (e) laterites, the poorest soils in humid tropical Africa. A sixth category is made up of intergrades of the named soil types and their lowland associates.

***Ghana's Ecosystem:*** Wilcock et al. (2003), in an assessment of Ghana's agriculture, environment and natural resources noted that the ecosystem types in Ghana have been well documented. The two major biomes represented in Ghana are the tropical forests (comprising various associations) and the savannas. The southern half of the country supports the closed forest while the northern half supports savanna vegetation. The closed forest, sometimes referred to as the high forest, is made up of different types of forest ranging from the wet evergreen, which experiences high amounts of rainfall throughout the year, to the dry semi-deciduous type which experiences low amounts of rainfall distributed only at certain times of the year and a well-defined dry season. The wet evergreen forest type, where rainfall averages 2000 mm, is found in the south-western corner of the country. Rainfall generally decreases from this forest type towards the north.

The moist semi-deciduous forest type averages 1,500 mm rainfall a year and there is also a more clearly defined dry season. This forest type may be divided into a north-western sub-type and a south-eastern sub-type. Together, these two sub-types contain most of the country's valuable timber species including the redwoods, the mahoganies and the cedars. A dry semi-deciduous forest type bordering the Guinea savanna may receive between 1,000-1,500 mm of rainfall a year and has a pronounced dry season with its associated high temperatures.

The greater part of the country is covered by savanna vegetation. Two (Guinea savanna and Sudan savanna) of the three major types of savanna are represented in Ghana. The Sahel savanna with much drier conditions is not represented in the country. The Guinea savanna occupies an area of about 148,542 square kilometers, and is further divided into two sub-divisions, northern and southern types, based on floristic composition. The Sudan savanna lies to the north of the Guinea savanna and is limited to the Navrongo-Bolgatanga-Bawku corridor, an area of about 1,955 square kilometers.

In addition to the two major biomes, other minor vegetation types are found in the southern part of the country. There is the coastal savanna, usually referred to as the Accra-Winneba Plains in the south-eastern part of the country, the coastline vegetation along the seashore, and the mangrove vegetation of the lagoons and estuaries distributed all along the coasts of Ghana, from Cape Three Points in the south-western part of the country to Denu in the south-eastern corner of the country.

The Volta River and its tributaries occupy a dominant position in the drainage system of the country. The Volta complex comprising the Black, Red and White Volta's (and their tributaries, the Kulpawn-Sisile, Nasia, Daka and Oti which, together, drain the northern savannah areas) and the Afram which drains the mid-country transitional areas finally empties into the sea at Ada. The southern rivers are - from east to west - the Densu, Ayensu, Nakwa, Amisa, Kakum and the Birim-Offin-Pra complex which drain the predominantly deciduous forest areas and empty separately into the sea. The Ankobra and Tano which drain the rain forest area in the south-west of Ghana also enter the sea separately. The Volta system further includes the Volta Lake, a vast man-made Lake, one of the largest of such lakes in the world, (with a surface area of 8,480 km<sup>2</sup>, 4% of the surface area of Ghana).

There are an estimated 90 coastal lagoons in Ghana. Their surface areas range in size from the 0.010 km<sup>2</sup> - Apantse lagoon near Apam to the 250 km<sup>2</sup> - Keta lagoon complex. The coastal wetlands are part of the coastal zone. The coastal wetlands include lagoons, lagoon depressions, swamps and marshes together with the intervening interfluvies within the coastal catchments. Along the Ghana coast of 550 kilometers, 80 wetland sites comprising lagoons, estuaries, salt pan complexes and stretches of sandy beaches have been regularly monitored by the survey team of the Save the Sea Shore Birds Project since 1986. Most of these sites harbor some bird life, but only 10 of them are considered as important bird sites.

There are also non-coastal wetlands in various areas of the country. These are topographic depressions or valley bottoms. These sites in the forest may be dominated by raffia palms. The mangroves of Ghana occupy a very narrow, non-continuous coastal area, occurring along the lagoons which extend from the eastern to the western parts of the country. Conversion of mangrove land into other land uses, notably agriculture, housing, roads and salt ponds, has accelerated the destruction of mangroves in the country. For instance, about half of the area potentially occupied by mangroves near the mouth of the Densu River near Accra has been converted into salt ponds.

**Forests and Biodiversity:** Of the 3,600 species of plants recorded for Ghana, over 2,100 species have been identified in Ghana's forest zone. The greatest species numbers have been recorded in primary forest (i.e. unfarmed), with 1,360 species. In the wettest forests, about 150 species of trees (>10cm dbh) have been recorded on 2 ha areas, and if all plants (from herbs and grasses to climbers and emergent trees) are counted in small plots, 400 plant species have been recorded/ha. There are 19 full species endemic to Ghana and at least two further subspecific taxa. Nine of these are trees, 2 are large lianas, 3 shrubs and 5 herbs.

Wet evergreen forests have the highest species richness (200 spp. in 0.0625 ha) and most endemic plants, including four trees (*Hymenostegia gracilipes*, *Cola umbratilis*, *Alsodeiopsis chippii* and *Monocyclanthus vignei*), all of which are of conservation concern. The neighboring moist evergreen forests also have a rich flora (170sp/0.0625 ha), including one endemic. The moist semi-deciduous forest have still fewer species (100sp/0.0625 ha), but hold two endemic species including the tree *Uvariopsis globiflora* (Anionic).

In drier forests (1500 mm rainfall per year), species diversity drops markedly. The dry semi-deciduous forests (40-100 spp/0.0625 ha), on the northern edge of the forest zone can be sub-divided into those that experience fires and those that do not. The two dry coastal forest types, southern marginal and southern outlier, represent the driest of the forest types and are characterized by low floral density. Despite the paucity of species, these two forests have five endemic species, including 3 trees (*Talbotiella gentii*, *Dalbergia setifera* and *Turraea ghanensis*) and the southern outlier forests are unique to Ghana.

On a broader scale, World Resources Institute (EarthTrends, 2003) provides an estimate of the total number of known, described and recorded species in Ghana as shown in Table 1. Plants include vascular species, but do not include mosses. For further information, please visit <http://www.earthtrends.wri.org>. The threatened species include "all full species categorized at the global level as Critically Endangered, Endangered or Vulnerable."

Table 1: Species diversity and status are as follows (EarthTrends 2003).

Status of Species	Total Number	Number Threatened
Higher Plants (total)	3,725	115
Mammals	222	14
Breeding Birds	206	8
Reptiles	131	2
Amphibians	33	X
Fish	90	X

**Land Use in Ghana:** The major categories of land use in Ghana include agriculture, forestry, gathering of forest resources, urban development, mining, tourism, transportation and infrastructure, energy, grazing and fishing. These categories of land uses have varying degrees of effect on biodiversity depending on the extent of macro/micro-habitat modification, technologies employed and the possibility of species introductions. Several factors have been noted to affect the proper use of land and the assurance of maintenance of biodiversity under existing ownership and tenure arrangements (Ayensu et al, 1996). Common ownership as may be found in most parts of Ghana is often associated with limited commitment to land improvement and conservation and without adequate policy guidelines militates against the preservation of biodiversity. In most instances valuable timber trees generally do not belong to the land user in direct contact with the land. The custodian of the land, the chief or head of a clan may share in the non-timber forest produce such as game, fruits and fiber.

The Densu drainage area has been cited in previous environmental reviews and reports, as an area of concern with respect to agricultural activities promoted under the Trade and Investment Reform Program (TIRP), and particularly for pineapple production. During the course of doing the current Initial Environmental Examination (IEE) the Densu drainage area was visited. Extensive agriculture occurs throughout the area, and it has apparently been farmed for decades. The area is also densely populated, is close to the capital Accra, and contains many small towns and villages. At one time the area was probably heavily forested, but only scattered small groups of trees now

remain. Vegetation cover, in the form of tall grasses, shrubs and small trees appears to be extensive. The drainage area does feed into an artificial lake, which provides drinking water for parts of Accra.

Wilcock et al. (2003), in their assessment did not identify insurmountable problems in the areas of natural resource and environmental management in Ghana. However, it is also quite evident that the GOG and its development partners need to devote greater resources to protecting and enhancing Ghana's natural resource base for use by future generations.

***Potential Threats to Ghana's Forests and Biodiversity:*** The two key natural resource management issues in Ghana are deforestation and land degradation linked particularly to inappropriate farming practices and unsustainable harvesting of agricultural crops. Related to these issues are the lack of enforcement of policies and the need for increased involvement of local communities.

Past policies in Ghana have led to the conversion of forested lands to other land use forms, including agriculture, and resulted in serious degradation and loss of biological diversity. The biological diversity of the country is under threat through human encroachment, land degradation, hunting and loss of habitat. Ghana loses annually over 22,000 ha of its forests turning healthy forest lands into "wastelands" resulting in a loss of biodiversity and leading to only short term gains in agricultural production. Environmental legislation in Ghana is fragmented; much of it has been initiated in an ad hoc manner due to the lack of coherence in environmental planning and policy process.

Presently, Ghana is considered to have made remarkable progress in developing environmental policies. But in spite of the existence of a number of institutions and departments, biodiversity management and conservation has been far from satisfactory. A major constraint has been the lack of coordination, collaboration and networking between and among policy developing institutions on one side and policy-implementing institutions on the other side. The consequences have been overlaps, duplications, conflicts, unhealthy competitions, disharmony, etc. Furthermore, there are undeniable weaknesses in the capacities and capabilities of some institutions and deficiencies in information management. There currently is almost no resource management planning at any level (national, regional or community).

The forestry policy of 1994 introduced the notion of "annual allowable cut" and the Timber Resource Management Act of 1998 introduced a system of logging permits, which was designed to limit harvests of logs to one million cubic meters per year. In spite of the good intention, there was virtually no enforcement of harvest limits and as a result the volume of illegal logging in 1999 was more than 2.5 times legal logging limits in Ghana.

To offset current trends, investment in the area of institutional capacity for resource policy reform and enforcement should be a priority. Any interventions should be looked as a long-term investment opportunity since consumers, especially in more affluent export markets, will be demanding and often willing to pay for enhanced socio-economic accountability, environmental protection, and product safety and quality.

***Conservation Efforts:*** Environmental Protection Council (EPC) was established in the mid 1970s and was charged with safeguarding the country's natural environment in relation to the planning and execution of development projects. However, it was not until the mid-1980s, and the development of the Ghana Investment Code, that legislation to protect the environment took effect. An important Government of Ghana (GoG) initiative to protect the environment was the development of the National Environmental Action Plan (NEAP). The plan, to be implemented over a ten year period (1991-2000) defined the key environmental issues and provided policy and institutional strengthening recommendations to make Ghana's economic development strategy environmentally sustainable. During the same period, the GoG published draft guidelines for Environmental Impact Assessments (EIAs). The draft guidelines were used extensively by the EPC to evaluate the potential effects of a large number of development projects, most of which were in the mining sector. But formal adoption of EIA guidelines did not occur until 1994 with the passage of the Environmental Protection Agency Act 490, legislation which established an EPA to replace the EPC.

The GoG published guidelines for EIAs used for evaluating the potential effects of a large number of development projects, most of which were in the mining sector. With respect to agricultural and natural resources sector, EIAs are required by law for agriculture and forestry projects that are classified as environmentally critical. In agriculture and forestry, any single project exceeding 40 hectares requires an EIA.

The Ministry of Forestry and Wildlife promulgated its current forestry policy in 1994 as part of a revised approach to forestry management. The forestry policy is based on the principle, outlined at Rio and elsewhere, that

environmental conservation and economic development are not separate issues and thus, proper use of forest resources can lead to sustained development, and enrich the lives of local communities. Thus, forestry policy in Ghana aims to utilize forestry resources to improve the livelihoods of local individuals and communities, while ensuring long term sustainable use.

Under the Timber Resources Management Act, Timber Utilization Contracts (TUCs) were introduced to replace the ad hoc system of logging permits established under the 1994 Forestry Policy. Firms could bid for TUCs to log specific forest areas for a period of 40 years. The administration of TUCs has not been flawless and the World Bank reports that some TUCs were traded to other enterprises for profit, thereby transforming value that could have been allocated to communities into rents for the original holder of the TUC. Thus, government is presently focusing on improving the administration of timber TUCs in order to manage forestry resources more sustainably.

The role played by local community participation and traditional knowledge in resource use and biodiversity conservation, are recognized as a first step towards ensuring the implementation of policies and programs. Another innovative step that has been taken by the GoG is the development of an environmental education strategy being implemented under the leadership of the Environmental Protection Agency (EPA). Ghana also works with the convention secretariats and the multilateral and bilateral development institutions such as the World Bank, International Monetary Fund and the African Development Bank in various programs aimed at the sustainable development of the county's natural resources.

There are well over 100 indigenous and community based organizations engaged in natural resource management activities. While they are not well-established to receive direct USAID support some of these organizations do work in partnership with Private Voluntary Organizations (PVOs) receiving direct support. Through the P.L. 480 Title II program, improved agricultural practices have been introduced throughout the country and especially in the Northern Regions. Adventist Development and Relief Agency (ADRA) food security enhancement program has a Natural Resource Management component that focuses on community afforestation and conservation and has resulted in remarkable growth in agro-forestry plots and food production, increased protection of water bodies, increased access to fuel wood, and a fight against desertification.

During the period from 2000 to 2004, USAID/Ghana through its Trade and Investment Reform Program (TIRP) provided support to the GoG for the protection of 370 square kilometers of Tropical Forest as nature reserve which resulted in the establishment of the Kakum National park. The Mission also funded ecotourism activities with an aim to develop community-owned and operated ecotourism activities at environmentally sensitive rural destinations throughout the country. The activities created opportunities for rural communities to earn income and provide tourism jobs through the conservation of ecosystems and avoidance of unsustainable extractive exploitation. Another of the TIRP activities that had positive implications for Ghana's forest was the promotion of an energy saving stove that was designed to reduce charcoal use thereby reducing deforestation and reducing household expenditure on charcoal.

The EPA is working towards providing assistance to communities and districts to plan for appropriate utilization resources, especially land and forests. Resource planning on a district level should reduce the number of EIAs done and reduce the amount of time needed to issue permits to developers.

### **III. How USAID/Ghana's Strategic Objectives relate to the Forests and Biodiversity**

The following is a brief review of USAID/Ghana's interventions, by Strategic Objective, to meet some of the threats to biodiversity and forestry, as well as more general environmental concerns. In addition, opportunities for cross-cutting, cross-sectoral linkages within each of the SOs are identified. It is important to note that all current activities are in compliance with approved Initial Environmental Examinations (IEEs).

#### **Democracy and Governance (SO5)**

This strategic objective supports Ghana's effort to consolidate democracy by supporting the civic participation in the democratic process and ensures that local and national governments are responsive to the interest of the citizens. Activities under the strategy will consist of technical assistance, training and the procurement of commodities in support of strengthening local organizations and GOG institutions to foster greater civic involvement and better governance. There is no activity that focuses explicitly on the environment, however:

- **IR 5.1 Enhanced responsiveness of key governance institutions to citizens:** Activities under this IR focus on building the capacity of parliament to become more receptive and responsive to civic input. The SO team will work at building more permanent linkages between parliament and civil society organization (CSO) to encourage their input into legislation with the intent of impacting Mission programming in education, health, environment and economic growth at the national, district and sub-district levels. Given the demand-driven approach the SO team has used in the past and will continue to use, the chances of dealing with biodiversity and tropical forest issues are open.
- **IR 5.2 Strengthened District Assembly Capacity for Democratic Governance:** USAID's efforts at the local level to date have focused on enhancing CSOs' and CBOs' abilities and opportunities to engage local government in policy discussions. The USAID program, which works on a demand basis, has helped communities to leverage their assets and to establish district development plans through democratic, consultative processes. Some examples of tangible improvements include increased tax revenues, cleaner and more functional markets, community reforestation, traffic and safety control, and urban sanitation. Environment-related benefits are expected under this IR, especially as there are well over 100 indigenous and community based organizations engaged in natural resource management activities and are becoming increasingly strong at lobbying politicians.

Although the DG team has not focused explicitly on sustaining the environment, the demand-driven approach makes it likely to address environmental needs when communities identified them as being pertinent. Of particular note is the "Government Accountability Improves Trust" (GAIT) program, whereby in the Asutifi and Tarwa Districts, USAID works with the local community through the District Assembly to effectively dialogue with two mining firms, Newmont and Goldfields on issues regarding the firms' social and environmental responsibility to the community and in Ghana as a whole. Activities are expected to increase in these two districts and directly benefit biodiversity and tropical forest management.

### **Economic Growth (SO6)**

The purpose of the Economic Growth (EG) SO is to increase employment opportunities and income levels for poor Ghanaians and increase private sector competitiveness to compete in the world markets. Exports are emphasized because domestic markets are too small to kick start rapid growth. Ghana's economy being predominantly agricultural based suggests that this SO has inherent linkages to natural resource management. Key development challenges include degradation of land linked to inappropriate farming practices and deforestation linked to unsustainable harvesting of timber. Inappropriate use of agro-chemicals and fertilizer and poor pest management are also reported to have significant adverse impact on the environment and exports.

These environmental issues and others are being addressed through policy reforms, institutional building and enterprise development. Activities being funded will (a) improve the enabling environment for the private sector; and (b) increase the capacity of the private sector to respond to trade opportunities. The primary vehicle for achieving these results is the Trade and Investment Program for a Competitive Export Economy (TIPCEE). A number of the activities from the previous Trade and Investment Reform Program (TIRP) are being continued, most of which involve the provision of technical assistance and training.

- **IR 6.1 Enabling environment supportive of private sector competitiveness strengthened:** Given the market focus of SO6, support to policy reforms in its core program is directed at macroeconomic management, financial intermediation and improvements in the trade regime. With additional funding under the Initiative to End Hunger in Africa (IEHA), the SO has planned to provide analytical resources for forestry policy because the future availability of logs for the wood products industry depends on a sustainable forestry policy effectively implemented and enforced. Natural resource conservation issues, as they relate to agricultural production, will be addressed by the Ghana Strategy Support Program which among other activities will provide strategic information on environmentally hotspots for policy decision making to addresses poverty reduction without placing increasing pressure on the natural resource base. In addition the Program for Biosafety Systems (PBS) is assisting the Government of Ghana to develop a comprehensive policy framework for biotechnology applications and thus, providing assistance for establishing policies and regulations governing the introduction of bio-engineered crops to ensure that introductions are adequately reviewed for environmental and health safety.

- **IR 6.2 Capacity of private sector Enterprises to compete in selected product categories strengthened:** The program for enterprise development aims at strengthening firms to compete profitably in world, regional and domestic markets. IR 6.2.2 focuses on assisting Ghanaian enterprises to improve the quality, volume and timely delivery of their production so that their products conform to the requirements of markets they want to supply. A review of proposed activities indicate increased risk of significant adverse environmental impacts if activities result in increased agricultural production without corresponding investments in sustainable natural resource use. One activity planned by USAID is the promotion of environmentally sustainable agricultural practices, e.g. integrated pest management and appropriate application of fertilizer and agro-chemicals as well as how to meet increasingly stringent standards for entry into the European Union and American markets. The activity reduces the risk of adverse environmental impact as well as improves the chances of marketing Ghanaian produce globally. Support to eco-tourism is another investment that will continue to contribute to efforts at reducing the depletion of forest and biodiversity.
- **Initiative to End Hunger in Africa:** TIPCEE also contributes to key IEHA results, including: modernizing select agricultural supply chains through improved technology; use of information and communication technology (ICT) applications; input and output market integration; quality assurance; and business planning to improve overall competitiveness in the market place. TIPCEE will help to integrate rural producers, including small holder farmers and small and medium scale enterprises (SMEs), so that they can participate effectively and more formally within Ghana's agricultural-based economy. The provision of technical assistance and training to private sector suppliers of agricultural inputs – seeds, fertilizer and agro-chemicals – to make them better providers of agricultural extension information will be encouraged. The import of this activity is to assure the proper use of agricultural inputs in order to make production by small holders efficient and environmentally sustainable.

An Initial Environmental Examination (IEE) of the SO6 program resulted in a threshold of 'negative determination with conditions' for Export Business Development component of TIPCEE and PBS. The conditions, monitoring and mitigation measure stated in the IEE will be rigidly applied through out the implementation of the two programs in order to avoid any potential risks they are likely to pose. TIPCEE activities involving assistance for the use or procurement of pesticides shall be undertaken in accordance with an approved Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP). If mitigation measures recommended in the PERSUAP are implemented, TIPCEE assistance for the use and procurement of pesticides is not expected to have a significant effect on the environment or on human health.

As TIPCEE adds on to its client beneficiaries, the enterprises of new entrants will be screened using an approved Environmental Screening Form to determine the nature and extent of environmental impacts and the need for mitigation and monitoring measures. Use of the screening form, which will incorporate necessary mitigation at an early stage in activity design, will ensure that TIPCEE activities do not result in significant environmental impacts. In addition, monitoring the implementation of best practices shall be incorporated into TIPCEE monitoring activities.

### **Health (SO7)**

The new Health program builds on USAID/Ghana's comparative advantage and leadership in the areas of community health service provision, child survival and reproductive health, social marketing, health insurance and HIV/AIDS prevention. The Strategic Objective includes a focus on the health needs of the urban poor, emphasizes private sector involvement, strengthens newborn care, expands HIV/AIDS activities beyond prevention to care and support, addresses key GOG organizational constraints, such as personnel performance management, and enhances decentralized local capacity development.

With limited resources, the health team addresses health issues that impede Ghana's economic growth efforts in areas where they have a comparative advantage. The team has no activity that is explicitly focused on environmental issues in spite of the fact that the health status of the country has a direct relationship with the environmental conditions. SO7 does not have the resources for direct management of the environmental causes of the reported health condition. However, assistance to reduce fertility would directly address rapid population growth, a fundamental threat to the environment and thereby contribute to environmental sustainability.

The SO is responsive to potential environmental health risks the activities being implemented might pose. The team takes cognizance of the fact that support for HIV testing has a potential for generating bio-hazardous waste. Under the strategy for FY1997-2004, four Public Health Reference Laboratories (PHRLs), at which the specimens are

tested, have been established. With funding from USAID, the PHRLs have developed and disseminated through annual training courses their own guidelines on “Basic Infection Control for Laboratory Professionals.” Site visits to these centers confirm that they are complying with the guidelines. For instance, all sharps are collected in puncture-proof plastic or metal containers; all materials (e.g. gauze, rubber gloves) contaminated during collection of blood samples are collected in leak-proof plastic bags; all disposable materials used for testing are disinfected with a liquid disinfectant before being collected in plastic bags; and finally, all disposable materials are periodically burned with diesel fuel and wood in a specially designed, perforated drums before being buried at a landfill.

Support for the use of insecticide-treated bednets and their re-treatment with insecticides create some modest risks to human health and the environment throughout the life cycle of the insecticide products. In order to minimize the risks associated with the use of insecticide-treated materials (ITMs), USAID/Ghana is working to ensure that the approved Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP) developed to guide proper pesticide product selection, appropriate labeling, and user educational campaigns are effectively used. In addition, the program continues to monitor for adverse health and environmental effects, to make certain that risks are adequately understood and appropriate and timely interventions put in place to reduce risks.

### **Basic Education (SO8)**

The Basic Education Strategic Objective focuses on improving the quality of and access to basic education. Intermediate Results expect to achieve the strategic objective are: (a) increased educational opportunities for girls in underserved areas; (b) improved instructional system; (c) improved management accountability; (d) increased community advocacy for and contribution to quality education; and (e) improved HIV/AIDS prevention program in the education sector. The objective is to assure that the majority of children who enter and complete primary school are able to read with understanding. This is not to suggest that only reading is important, but it is the key requisite for children to be able to learn basic life skills and to gain knowledge in other subject areas. With such specificity, it is difficult to incorporate activities with environmental focus. The SO is supporting long and short term technical assistance; training, workshops and seminars; commodities; instructional materials; research, studies and surveys; institutional strengthening grants to districts and nongovernmental organizations. These activities are not likely to adversely affect the environment. Nevertheless, it could be expected that increased literacy would increase awareness about environmental issues.

## **IV. Opportunities for the Mission**

A number of interventions have been identified for the mission to continue to develop or explore, and include:

**Ecotourism:** Nature Conservation Research Center’s (NCRC) Community-based Ecotourism Project (CBEP II), a public-private-partnership endeavor, presents ample opportunities for the Mission to increase interventions to promote biodiversity use and conservation through ecotourism, while addressing general environmental issues. A total of 30 destinations have been identified countrywide which include both Wildlife Division and Wildlife Society sites, as potential project beneficiaries. CBEP II’s prime objectives will focus on: Increasing ecotourism opportunities for private sector growth in rural communities; Ensuring sustainable natural resource management, biodiversity conservation and cultural protection at project destinations; Building capacity of institutions to sustainably manage natural resources, biodiversity and ecotourism enterprises and expanding the utilization of existing destinations and develop new destinations through engaging private sector participation. To meet the project goals, CBEP II intends to source extra funding from the Global Development Alliance (GDA). CBEP II addresses two primary areas of interest to the GDA, viz. the environment and economic growth and trade capacity building. Additionally, negotiations are on-going with Newmont Gold Ltd., Diageo Plc and Barclays Bank to support the promotion of new initiatives that help communities identify value and better manage freshwater and coastal resources under their control.

**Extractive Industries:** The GOG has identified the Extractive Industries (EI) sector as a major growth area, and this was reaffirmed with the new, recent large scale investment by Newmont. Frequently the EI sector, and particularly mining, is seen as a threat to forest and biodiversity. The sector also brings with it many social challenges, from land compensation to population explosions (and increased demands on local government for services). USAID/Ghana, Gold Fields Ghana (a major Gold producer in Ghana) and Newmont have entered discussions to development a Memorandum of Understanding (MOU), based around the common goals of promoting democracy, stability and economic prosperity in Ghana, with particular emphasis on improving the

quality of life in, and fostering the sustainable social and economic growth of local communities in the mining areas. The purpose of this MOU would be to establish a partnership, working in close conjunction with interested stakeholders (e.g. national and local government, communities, NGOs and other donors such as DfID and GTZ) to: support initiatives to improve upon the capacity of local government to manage and sustain economic growth; foster innovation in, and provide support for economic development of local communities; support initiatives to increase the self-governance and self-reliance of local communities; support initiatives to improve upon the health status of residents in local communities; support initiatives to improve upon the availability and quality of education in local communities and in tertiary institutions training professionals for the mining industry; foster communication and collaboration amongst regional stakeholders; and integrate appropriate environmental protection and management measures into operational practices. Over the course of the next year, a concept paper will be developed to address key issues identified in the MOU and that are in direct support of the USAID/Ghana Strategic Statement and Strategic Framework for Africa.

**Sustainable Tree Crops Program:** The cocoa industry has collaborated with the international agricultural research community to develop the framework for a more active regional program of research and extension to support environmentally sustainable cocoa production in West African countries, including Ghana. Although a key social issue in the industry is child-trafficking and child-labor, many opportunities exist for USAID/Ghana to work with small-scale farmers to improve environmental standards and off-set the lost of biodiversity in heavy cultivated areas.

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