LAC-IEE-04-49

ENVIRONMENTAL THRESHOLD DECISION

Activity Location:	Haiti
Activity Title:	Agricultural Sustainable System and Environmental Transformation (ASSET)
Activity Number:	521-0257
Funding:	US$ 2,000,000 (new funding)
Life of Project:	6 months
IEE Prepared by:	Jean W. Camilien Saint Cyr, MEO, USAID/Haiti

Recommended Threshold Decision: Negative Determination for the rehabilitation of tertiary roads and the collection of trash in urban and peri-urban areas

Bureau Threshold Decision: Concur with Recommendation but include conditions in IEE

Comments:

A **Negative Determination with conditions** is issued for for the rehabilitation of tertiary roads and the collection of trash in urban and peri-urban areas**.** The conditions are that all best management practices, mitigating measures, and guidelines recommended in the attached IEE will be carefully followed by the implementing agent.

Also, all recommendations from the LAC-IEE-01-31 are still valid and the contractor shall ensure their continued implementation.

CTOs are responsible for making sure environmental requirements are met, especially the conditions set in the IEE. It is the responsibility of the SO Team to ensure that the SOAG and MAARDs for contracts and grants contain specific instructions to this effect.

The Mission Environmental Officer (MEO) will conduct spot checks to ensure that conditions in the IEE and this ETD are met and to ensure that all activities are implemented in an environmentally sound and sustainable manner in full accordance with all salient Agency and USG policies and regulations.

_____Date_____
George R. Thompson, P.E.
Bureau Environmental Officer
Bureau for Latin America and the Caribbean

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Attachment: IEE

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INITIAL ENVIRONMENTAL EXAMINATION
Amendment# 3 to the ASSET IEE #LAC-IEE-01-31(amendment #2)

Activity Location:	Haiti
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Activity Number:	521-0257
Funding:	US$ 2,000,000 (new funding)
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IEE Prepared by:	Jean W. Camilien Saint Cyr, MEO, USAID/Haiti
Recommended Threshold Decision	Negative Determination for the rehabilitation of tertiary roads and the collection of trash in urban and peri-urban areas

CONCURRENCE

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George Callen, Acting Chief
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LAC CHIEF

ENVIRONMENTAL OFFICER'S DECISION Approved: _____ Date: _____

Background

The Agricultural Sustainable Systems and Environmental Transformation (ASSET) project consolidates all Mission environmental and agricultural activities. The purpose of the ASSET Program is to help create the policy environment and strengthen institutions to increase farmers' income through sustainable use of Haiti's natural resources. The ASSET program aims at empowering Haitian communities, groups and institutions to take charge of the implementation and extension of environmentally-sound production, marketing, conservation and protection technologies and methodologies.

ASSET absorbs several of the activities formerly under the Productive Land Use System (PLUS), and includes a major environmentally-focused initiative targeted on the Riviere Grise and Riviere Blanche watersheds, which ended couple years ago. ASSET was authorized on December 1, 1995 for a period of five years for $45 million. On August 3, 2000 the Project Assistance Completion Date (PACD) was extended to September 30, 2005 and the funding level increased from $45 million to $85 million to accommodate the implementation of a new five-year Hillside Agriculture Program (HAP).

In response to USAID's request to assist in the overall effort to bolster the credibility of the recently designated transitional government in Haiti, the Hillside Agriculture Project (HAP) will undertake a number of short-term, labor-intensive activities, commonly named micro-projects, in an amount of $2 million for a period ranging from three to six months. These interventions will create short-term jobs targeted to the poorer segments of the population. These micro-activities will focus primarily on secondary and tertiary towns and smaller rural locations in Haiti. These activities will be implemented through series of collaborative alliances of Community-Based Organizations (CBOs), private sector entities, local government, and where appropriate, local and other Non-Governmental Organizations (NGOs). Where feasible, the activities will be linked as closely as possible with other longer-term development activities. Priority will be given to activities that have the highest ratio of labor to non-labor costs which would contribute the most to longer-term development activities and which will stimulate collaboration between the public and private sectors.

Purpose and Scope of this Amendment

The purpose of this amended Initial Environmental Examination (IEE) is to revise the LAC-IEE-01-31 (Amendment #2) to take into account the new grants activities which will be implemented under the umbrella of the ASSET program that is being executed by Development Alternatives Inc. (DAI). Since this activity supports a variety of very small-scale interventions that will be undertaken by several implementing agents (CBOs, local NGOs) in various areas, this IEE provides neither comprehensive nor detailed baseline environmental information on the sites and the ecological conditions where the activities will take place. This IEE is set forth in accordance with Agency regulations 22 CFR 216.

Activity Description

This USAID-funded activity would entail support for a variety of interventions in various ecological and socio-economical conditions and will focus on the following activities:

1. **Urban and peri-urban trash removal**:

   Trash will be collected using as much manual labor as possible, supplemented by sufficient state-owned heavy equipment to load and transport it to a final destination. HAP will ensure that all trash is ultimately deposited in Government of Haiti (GOH)-approved landfills located in truitier.

   A possible sub-set of activities under trash collection will include establishing labor-intensive trash collection within public open-market places. This activity will focus on collecting and evacuating the heavy volumes of mostly organic trash from within large markets, e.g. the "Croix des Bossales" public market, to the official designated transit collection points and containers so that it can be more readily channeled into the larger municipal collection programs by official municipal trash collection trucks.

   Also under this component, trash and debris removed from the sewage and drainage canals will be piled and the municipal garbage collection trucks in a coordinately manner will pick it up for transport to and disposal in the officially-designated landfill.

2. **Tertiary and farm-to-market feeder roads and trails repair:**

   This activity will focus on the rehabilitation of existing roads and trials. Under this component, approximately 60 kilometers of tertiary road will be rehabilitated. This will consist of cleaning existing drainage canals, removing landslides, filling in large potholes or sink holes and repairing existing protective gully plugs, gabions and other protective works that have been damaged over time or more recently by the heavy rains that have caused significant damage throughout Haiti.

   It is less likely that DAI will become involved in rehabilitation of water catchments, coffee or cocoa drying areas (known in Haiti as Glacis) and tree planting activities and the rehabilitation or creation of natural resource management (NRM) structures, because with exception of the NRM structures, these activities tend not to be labor-intensive and do not fit within the rapid short-term jobs creation objective of USAID/Haiti's reconstruction program. However, DAI will not preclude the inclusion of such activities should opportunities arise to support employment generation projects of this nature. These types of activities were pursued under the original ASSET/HAP and environmental mitigation measures have been included in the corresponding IEE.

Targeted Ecosystem and Description of Environmental Impact

The physical and topographic conditions, climate, soils, and ecosystem as well as social and economic characteristics that could be encountered are quite varied. Because the specific characteristics and locations of these activities are not definitive, the potential for adverse environmental impacts, although slim, cannot be excluded until additional information about project design and location becomes available. Therefore, each activity requires environmentally-sound design and review to determine the specific nature and magnitude of potential impacts and appropriate mitigation measures.

Waste management and road rehabilitation activities have the potential to adversely affect the physical environment if Best Management Practices (BMPs) and mitigation measures are not implemented.

Recommended Mitigation Measures and Monitoring Plan

1. Waste Management Activities

USAID recognizes that the micro-activities under this program would not constitute a comprehensive waste management initiative; rather, they will be mainly income-generating activities within a reconstruction and humanitarian assistance framework, targeting the poorest and most vulnerable of society. Accordingly, the following appropriate environmental mitigative measures will be applied to all solid waste collection and disposal activities. To that end,

- Any proposal from the community groups/grantees should describe in detail how the solid waste will be collected and stockpiled at the collection point. This information will then be submitted to the CTO, whom, depending on the volume of waste to be collected and other relevant factors, will determine whether or not the activity is allowable. The following BMPs shall be sufficient to alleviate potential negative environmental impact from this activity:

- The implementing partner should ensure that the appropriate tools and equipment are made available to the waste pickers at the designated point of collection to ensure an environmentally-friendly and safe collection.
- DAI needs to ensure that all open trucks loaded with garbage are covered while traveling to the landfill in compliance with local laws and regulations.
- DAI should at the extent possible promote the following three aspects of waste minimization: reduction, reuse and recycling. Good effort should be made to separate the different types of waste from the collect as well as at the disposal site.
- The waste pickers should wear appropriate clothes and have available and safe equipment to handle the wastes. The health of the waste pickers and other monitors shall be protected by making available to them soap or cleaning disinfecting solution and water.
- Most of the wastes coming from the public market places in Haiti are organics (50-60%) DAI should as much as possible promote composting of these highly organic wastes.

Proposals from local group that target composting, and worms culture (Vermiculture) shall be given the right funding priority under the waste management component of this project. Composting is a fine income generation activity.

- Effort should be made to develop structures and processes that are part of a strategy for incremental improvement and should complement other activities that are being supported by USAID/Haiti on waste management.
- DAI shall include in its timely report all unusual situations that happened during project monitoring and solution adopted. The report should also include a section for environmental monitoring and compliance as well as the volume of waste collected and effectively dumped at the landfill.
- The above mitigation measures and guidelines should be translated into local languages (French and Creole) and distributed to all sub-contractors and grantees, which will be responsible for training their personnel in these measures, and posting safety guidelines in all appropriate places.

2. Road and Trail Rehabilitation

Many adverse environmental impacts of road projects can be avoided or minimized by applying environmentally-sound design, construction, and operation and maintenance practices. These potential impacts include soil erosion, degraded water quality, altered hydrology, deforestation, uncontrolled settlements, etc. However, if the following BMPs and mitigative measures are implemented, these impacts may be mitigated.

Sequence of Activities, rehabilitation, and Maintenance

Before any road rehabilitation begins, DAI will need to prepare and submit to USAID Mission Engineer and/or the CTO a BMP plan that includes a site drawing and information about the sequence and schedule of construction activities, construction details in an appendix, and planned maintenance activities and specific BMPs. When selecting the site for rehabilitation activities, DAI will need to review all restrictions and note compliance with those requirements in the site-specific BMP plan.

Construction details that will be used to rehabilitate the road and establish specific vegetative or structural controls to protect the environment during rehabilitation can be attached as an appendix.

Sequence of rehabilitation

The BMP plan must describe a sequence, plan, budget and schedule for rehabilitation activities. The schedule is important because rehabilitation activities that require an extended schedule or have land-clearing occurring during the rainy season will require additional consideration for what erosion control devices are appropriate. Road rehabilitation requires the following sequenced construction activities described below:

- Installing Erosion Control Devices
- Site Clearing
- Grading, Excavating, and Hauling
- Using Borrow and Stockpiling Soil
- Constructing Embankments
- Constructing Side Slopes
- Constructing Road Drainage
- Compacting Surfaces
- Establishing Final Vegetative Cover

Installing Erosion Control Devices

Before beginning site clearing, grading, and excavation, the implementer will determine what soil erosion control measures are appropriate to prevent uncontrolled runoff during construction and will include these measures in the BMP plan. Of particular importance for road rehabilitation is the protection and proper disposal of soil piles, stabilization of sides of the roads, protection of areas down-gradient from any land-clearing activities, proper compaction of soil, and appropriate design of culverts. The site-specific BMP plan should include erosion control practices.

Using Borrow and Stockpiling Soils

To obtain material for a highway, "borrow" material must be brought to the site from another location. Sometimes, material for fills is obtained from "side borrows" from near the roadside. These side borrows may become a hazard and a trap for rainwater. Excavated soil is usually stockpiled, especially top soil which then can be replaced on the surface to establish vegetation. Any soil pile is subject to erosion.

Constructing Embankments

Construction of embankments requires removing "cuts" of soil and placing "fills" to raise the roadway surface above the natural grade to the required construction specifications by spreading materials in relatively thin layers and compacting. Usually, the last layer of material is "crowned" that is, given an inclination of about three to four percent from the road axis to facilitate water runoff. When the road is straight, the road surface will have an inclination on both sides from the center to the borders. During rehabilitation a road may have to be rerouted to avoid erosion-prone terrain or to obtain a flatter grade.

Constructing Side Slopes

Road side slopes are constructed with cuts that are steeper than the original ground surface. Side slopes for high fills often are made as steep as the material will stand in order to reduce the quantity of embankment. In either event, slides may occur during construction or at a later date

after the road is in service. It may be better practice to risk some sliding or adjustment of large cut slopes than to flatten them all and thus increase cost.

Constructing Road Drainage

The road must be constructed to drain surface water runoff from the roadway. Proper drainage requires the construction of lateral drainage ditches alongside the roadway or traverse drainage across the roadway at the same time as the excavation and/or construction of the embankment. Lateral drainage is typically a ford, a pipe, box culvert or a bridge. A diversion is a channel and a ridge constructed approximately on the contour or to a predetermined grade. It collects and moves runoff laterally to a stable outlet without erosion. Depending on the importance of the road, drainage structures should consider being designed to accommodate at least a 10 year, 24-hour storm and include diversions for larger floods.

Maintenance of Roads

Road maintenance is important to prevent failure of the road and its auxiliary devices which can lead to soil erosion and flooding of private properties. In addition, having a maintenance system in place with defined activities has a positive impact on the sustainability of the USAID investment. In the BMP plan, regular maintenance activities will need to be identified as well as the people or group responsible for the activities during the participatory design process. Several important maintenance activities include:

- Repairing breaches in the road surface;
- Repairing eroded channels or dikes;
- Re-seeding and moving vegetative surfaces, including road shoulders; and
- Cleaning drainage structures and removing sediment.

Recommended Best Management Practices for Road Rehabilitation

The following BMPs shall be implemented.

1- Existing road alignments will be followed in and out and within the landfill. Road widths will be kept to the minimum required to achieve objective of all-year vehicle access.
2- The road surface shall be stabilized with gravel or any other rocky surfacing material.
3- Careful and selective bulldozing may be feasible in some cases, but DAI shall consider that dozer tracks can easily expose soil to erosion and do more harm than good.
4- Possible drainage structures shall be installed during rather than after rehabilitation. Diversion structures shall be installed. Diversion structures, such as cross drains, rolling dips, or water bars shall be installed in such a way that water can be moved off the road frequently and easily to minimize its concentration.
5- Stabilize outlet ditches (inside and outside) with small stone riprap or vegetative barriers placed on contour to dissipate energy and to prevent the creation or enlargement of gullies
6- DAI will ensure that efforts are made at road reconstruction sites to avoid/retard soil erosion and to immediately address any potential erosion problems.

7- The integrity of the completed road rehabilitation will be checked after the first heavy rain and thereafter. Specific indicators that will be monitored include formation of gullies in roadside ditches, on road surfaces, or on adjacent slopes affected by the work; soil erosion at culvert outfalls, stability of cut and fill slopes; and reestablishment of vegetation along right of way and borrow areas.
8- Topsoil removed during excavation shall be used to establish vegetative cover within 30 days of ceasing construction or to allow natural re-vegetation for slopes and for excavated material left on the canal banks; the BMP plan should determine before rehabilitation begins what measures are appropriate.
9- The majority of materials used is to be of local origin and will not contain hazardous materials. Excess construction materials will be recycled wherever possible and disposal of unusable materials will be accomplished in an environmentally safe manner.
10- Due to environmental risks associated with construction/rehabilitation of roads, periodic site visits will be performed by the MEO and the Mission Engineer at each location.
11- The above guidelines and procedures shall be translated into local language and incorporated into contracts with sub-grantees or construction firm implementing the rehabilitation works. The firm shall be accountable for their effective implementation.
12- All periodic reports of the implementing partner (DAI) shall contain a section on environmental impacts, success or failure of mitigative measures being implemented, results of environmental monitoring, and any major modifications/revisions to the project, including mitigative measures or monitoring procedures.
13- As a matter of policy, DAI shall ensure that those proposals which include the mitigation of potential environmental impacts and the development of an environmental monitoring system shall be prioritized over the others. DAI shall be ultimately accountable for the implementation of agreed-upon mitigation measures and the monitoring of impacts.

As already stated, because the site characteristics and locations of these road rehabilitation activities are not definitive, the CTO and or the Mission Engineer shall be part of the technical review for each proposal that DAI receives and intends to fund on a routine basis. The technical review will include an environmental screening process and will determine how activities will comply with the proposed USAID mitigation measures and BMPs outlined in this IEE. DAI will ensure that special staff or a specially-designated team is recruited and be responsible to environmentally review, monitor, and train the sub-grantees and follow up actions to make sure that appropriate mitigation measures are carried out.

Recommendations

Pursuant to USAID environmental regulations expressed in 22 CFR 216.2 (c)(1)(I), USAID/Haiti recommends that:

- All recommendations from the LAC-IEE-01-31 are still valid and the contractor shall ensure their continued implementation;
- A Negative Determination with conditions is issued for both the urban and peri-urban trash removal and tertiary and farm-to-market road rehabilitation activities.

The conditions and environmental monitoring:

- All proposed mitigation measures and BMPs shall be implemented; and
- Funds shall not be used for the development and use of new dumpsites other than those officially designated by the GOH.
- Sufficient funds shall be set aside for the environmental monitoring requirements under this agreement
- The implementation of the mitigation measures and BMPs shall be reported in project Activity Reports. The MEO will perform environmental monitoring field trip or spot checks to ensure complete compliance with all environmental mitigation measures and guidelines.
- During the first week of activity approval DAI and/or the CTO shall visit the site where the rehabilitation will take place to assess the conditions (physical, environmental) of the road and document it. Environmental "hot-spots" or problem locations, such as easily-eroded sites or notoriously unstable slopes, can be identified during that visit Photos of potential environmental hazards shall be taken and filed,
- Right after the above site visit the team or staff in DAI that oversees these activities shall meet with the sub-grantee, the CTO to discuss the findings of this pre-implementation assessment to address all issues and find the right approach to mitigate possible negative environmental impacts. Then the implementation can begin.
- The MEO will conduct spot checks to ensure that all decisions agreed upon during the above meeting are implemented and documented
- At the final weeks of project implementation, the CTO, the MEO, the DAI team and the sub-grantee will visit the site to evaluate the implementation of all mitigation measures and Best Management Practices. Photos of the spots where the potential environmental hazards have been identified will be taken and filed. These photos will be inserted into the final report side by side and labeled "before and after picture".
- This IEE does not cover pesticides or other activities involving procurement, transport, use, storage, or disposal of toxic materials. Any situation dealing with such will require an amended or separate IEE.
- The contractor shall, upon work completion; restore the environment around the site. A report will be submitted by the Mission Engineer or the CTO certifying that such site restoration work has been completed and accepted by the Mission.

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