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LAC-IEE-05-37

ENVIRONMENTAL THRESHOLD DECISION

Country: El Salvador

Activity Title: Economic Growth for the 21st Century (CRECER 21); IR4: Improved Management and Conservation of Critical Watersheds

Activity Number: 519-0462

Life of Project: FY 2006 – FY 2009

Life of Project Funding: \$10.5 million for IR 4 (\$69.5 million for all four IRs under CRECER 21)

IEE Prepared by: Brad Carr,
Mission Environmental Officer

Date Prepared: September 20, 2005

Recommended Threshold Decision: Categorical Exclusion/Negative Determination with Conditions

Bureau Threshold Decision: Categorical Exclusion/Negative Determination with Conditions

Comments:

Pursuant to 22 CFR 216.2(c)(2),

(i) Education, technical assistance, or training programs except to the extent such programs include activities directly affecting the environment (**such as construction of facilities, etc.**);

(iii) Analyses, studies, academic or research workshops and meetings;

a **Categorical Exclusion** is issued for all components of SO4 – Improved Management and Conservation of Critical watersheds including training, education, organizational strengthening efforts, and biodiversity threats analysis and studies.

A **Negative Determination with Conditions** is recommended for activities associated with conserving biodiversity under Program Component 1. Conditions will include using a successful environmental methods developed under the previous USAID AGUA Activity, and employing USAID LAC Environmental guidelines, especially Chapter 8 on Agriculture and Watersheds. The proposed green certification program for coffee activities will be approved by the Mission Environmental Officer (with a copy to the Bureau Environmental Officer).

A **Negative Determination with Conditions** is recommended for Program Component 2, Increased Access to Clean Water. Conditions will include using the attached Environmental Guidelines for Well Drilling in the development of water systems and basic sanitation in rural areas, employing experiences and lessons learned as well as environmental guidelines approved and utilized by the USAID AGUA Activity for water systems and PROSALUD for latrines. In addition, USAID LAC Environmental Guidelines, Chapter 2: Small-Scale Infrastructure will be used in the design of sub-projects under this activity (e.g., all water systems will include appropriately designed sanitation systems and hygiene education).

The project implementer will develop an environmental monitoring and evaluation plan as part of the annual work plan, subject to approval by USAID/El Salvador MEO. Other monitoring and evaluation activities will be carried out as mentioned in the attached IEE. At the end of each fiscal year a report on environmental compliance will be submitted to the MEO for review and approval, with a copy to the BEO

No purchase or use of pesticides or agro-chemical is permitted under this SO unless a pesticide IEE prepared (as per 22 CFR 216.3 (b)) is previously approved by the BEO.

CTOs are responsible for making sure environmental conditions are met. It is the responsibility of the SO Team to ensure that activity related SOAGs, MAARDs and contracting documents contain specific instructions reflecting this Threshold Decision. Local implementing partner swill be made fully aware of the environemntal mitigation and monitoring requirements presented in this IEE.

_____ Date _____

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Attachment: IEE

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4 Watersheds).doc

INITIAL ENVIRONMENTAL EXAMINATION

Activity Location: El Salvador

Activity Title: Economic Growth for the 21st Century (CRECER 21); IR4: Improved Management and Conservation of Critical Watersheds

Activity number: 519-0462

Funding: \$69.5 million for all four IRs under CRECER 21
\$10.5 million for IR 4

Life of Activity: FY 2004-2009 for CRECER 21
FY 2006-2009 for IR 4

IEE Prepared By Brad Carr
Mission Environmental Officer

Approved By Lawrence Rubey
Director, Economic Growth

Recommended Threshold Decision: **Categorical Exclusion** under 22CFR216.2(c)(2)(i) for all Activity training, education, organizational strengthening efforts, and biodiversity threats analysis and studies.
Negative Determination with Conditions for Component 1 Conservation of Biodiversity in Critical Watersheds
Negative Determination with Conditions for Component 2 Increased Access to Clean Water.
Negative Determination with Conditions for Component 3 Improved Natural Resource Management.

Mission Threshold Decision:

Date Prepared: August 29, 2005

Tully R. Cornick
Acting Mission Director

Date

Purpose of this amendment to the IEE:

This IEE addresses only proposed interventions under the IR 4 referenced below.

The Threshold Decision approved under LAC-IEE-04-62 for the other three IRs under the CRECER 21 Activity remains unchanged.

Activity Description

The Economic Growth for the 21st Century Activity (CRECER 21 in Spanish) will stimulate equitable, sustainable economic growth and expand job creation in order to reduce poverty and improve natural resource management by assisting the GOES and the private sector to utilize the favorable macro-economic policy structure and opportunities presented by the Central American Free Trade Agreement (CAFTA). CRECER 21 is comprised of the four components that mirror the CAM Strategy Intermediate Results (IRs): **(1)** Laws, Policies, and Regulations that Promote Trade and Investment; **(2)** More Competitive, Market-oriented Private Enterprises; **(3)** Broader Access to Financial Markets and Services; and **(4)** Improved Management and Conservation of Critical Watersheds. Activities under the first three IRs were obligated in FY 2004 and the Environmental Threshold Decision was approved in 2004.

The fourth IR, Improved Management and Conservation of Critical Watersheds, will be obligated in FY 2005. This IEE describes the Activity components, potential environmental impacts, the recommended environmental threshold decision for the components, and the conditions for mitigating the identified potential impacts. The total estimated USAID contribution for this Activity is \$10.5 million over a four-year implementation period (FY 2006-2009). GOES counterpart contribution is estimated at \$3 million.

IR 4: Improved Management and Conservation of Critical Watersheds (IR 2.4)

- Under IR 2.4 (*Improved management and conservation of critical watersheds*) CRECER 21 will protect and conserve biodiversity and natural resources within two Salvadoran watersheds, Barra de Santiago/El Imposible and Rio Grande de Sonsonate. Interventions will facilitate the management of natural resources in a sustainable manner that will improve the lives of local residents and conserve biodiversity. Primary objectives include:
 - Reducing environmentally destructive livelihood practices and other identified threats;
 - Increasing incomes through sustainable resource use;
 - Increasing access to clean water;
 - Stabilizing protected areas, increasing their effective area, and improving connectivity between them;
 - Improving local and national capacity to manage protected areas and watershed resources.

By the end of the Activity, the following will be achieved:

- Increase of \$5.2 million in farm sales per year for 4,000 farms (increased income for 20,000 total family members)
- Increased access to potable water for 50,000 people
- Increased access to sanitation through new or repaired latrines for 50,000 people and improved water resources for 330,000 people
- Generate \$60,000/year locally to be used for watershed conservation

- Directly improve environmental management of the three selected conservation areas through implementation of management plans, local generation of 75% of operating costs, and management of 30 protected areas by local organizations.
- Expand effective conservation areas by 30%
- Improve management through implemented management plans in at least three protected areas (Apaneca-Lamantepec, El Imposible/Barra de Santiago and Los Cobanos) with 75% of operating costs covered by locally generated funds and 30 protected areas managed by local organizations
- Delineate 10,000 hectares of protected areas for legalization
- Increased conservation of six critical sub-watersheds (approximately 8,000 ha) through implementation of improved management practices
- Development of six watershed management plans, increased local awareness of importance of biodiversity and watershed management, and implementation of a watershed monitoring plan.
- Formation of three farmer associations.

Program Components

A risk mitigation assessment followed by supporting studies will be carried out for biodiversity and critical natural resources within the two Activity watersheds. The analysis will identify and prioritize threats and direct the interventions listed in the Activity's three program interventions below.

1 Conservation of Biodiversity in Critical Watersheds

The objective is to increase the survivability of plant and animal species within Activity watersheds. Management of the protected areas imbedded in these watersheds will be improved through the reduction of further encroachment, improved land-use activities, the reduction in illegal harvesting, hunting or collection of threatened and endangered species, implementation of appropriate management activities, and development of staff capacity to protect the area from harmful human use.

Assessments will identify human populations living within protected areas, their livelihood and impact. Destructive impacts will be addressed by promoting alternatives to agriculture and ensuring that agricultural practices carried out are as low impact as possible. Technical assistance will be provided to the Ministry of the Environment (MARN) to produce land use maps and surveys of boundaries of some target protected areas for their use in officially delineating protected area boundaries with Centro Nacional de Registros (CNR).

Buffer zones and connecting corridors between protected areas will be identified and managed by residents living in the zones. Participant farms in the farmer-to-farmer extension program will be utilized to "bridge" these areas, employing management plans, best practices, and farmer associations.

2 Increased access to clean water

Provision of sustainable water delivery systems will be a primary mechanism for generating revenues for conserving Activity watersheds, based on the model provided in the previous AGUA Activity. Approximately 60% of rural inhabitants of target areas do not have access to clean water. USAID will provide design and management services to facilitate the financing and implementation of approximately 32 water systems, providing clean water access to 50,000 people. As a condition of assistance, community water systems will be required to include a line item in monthly service charges for conservation of the watershed. By the end of this Activity, this water tariff is expected to generate \$60,000 annually for watershed conservation, which can be under the control of legally established WSOs.

Technical support will be given to facilitate new and rebuild existing rural water systems in need of diagnostic, repair and administrative improvements, including design, construction management and administrative training for new systems. Rehabilitated systems will receive diagnostics, training, and the provision of some equipment to insure operational sustainability. Environmental education and training in business administration and technical capacity will help insure that each system is auto-sustainable and can support water source conservation.

Selection criteria for potential water systems include the existence or ability to obtain proper sanitation infrastructure, location within a critical watershed area, protected area buffer zone or corridor, community willingness to participate and support project objectives, and local financial support.

Watershed Organizations (WSOs) will be formed to build local management capacity, coordinate conservation activities and help protect biodiversity. The WSOs will be core stakeholders in the process of developing and implementing conservation area plans with the MARN and will serve a primary role as a communication forum for water users and to assist in voluntary enforcement and compliance at the local level. Each WSO will develop and implement a management plan that will identify critical needs, organization members, principal risks to the watershed, including biodiversity threats to protected areas, mitigation measures, and means of financial support.

3 Improved Natural Resource Management

In order to reduce the degradation of watershed resources, which impact on the availability of clean and abundant water, residents will be trained in best agricultural practices through a farmer-to-farmer extension program. Destructive practices related to subsistence farming will be replaced with diversified, managed and environmentally friendly methods for 4,000 farms and 8,000 hectares.

Best practices will include enrichment planting and reforestation, biodiversity risk mitigation, habitat improvement, soil and water conservation, integrated pest management, alternative land clearing methods, and crop diversification. Participant farmers will also receive business oriented, farm management training. Farm plans will be used by each farmer to organize interventions and to track outcomes, sales, and expenditures. Farmer associations will be formed to improve efficiency and sustainability of individual farms.

Shade coffee farms will be a major focus of best practice activities at altitudes that produce quality coffee, above 800 meters. A green certification program will be an important component of this Activity, providing market incentives to coffee farms in these areas in return for approved practices certification. Farm diversification at lower altitudes will be promoted using the farmer-to-farmer program with the goal of conserving the shade forests that benefit watershed management and many plant and animal species.

Given low levels of environmental knowledge among local residents and their government representatives, targeted outreach campaigns will focus on providing the information necessary to raise comprehension of ecological processes and linkages with their economic well-being.

Application of Procedures

The Environmental Procedures 22 CFR 216.2 provides for the classification and determination of the potential environmental effects of USAID funded activities and in selected cases for the Categorical Exclusion from these requirements. Section 216.2 (c) (2) provides for Categorical Exclusions for:

- (i) Education, technical assistance, or training programs except to the extent such

- programs include activities directly affecting the environment (such as construction of facilities, etc.);
- (iii) analyses, studies, academic or research workshops and meetings;

Under Section 216.2(d), the Environmental Procedures defines classes of action that normally have a significant effect on the environment and these always require a Positive Determination and the preparation of an Environmental Assessment. Activities such as construction, irrigation, including dams and impoundments, road and bridge construction, all require a Positive Determination. Under Section 216.3 (3) (iii), the activity qualifies for a Negative Determination if “the Agency has developed design criteria for such an action which, if applied in the design of the action, will avoid a significant effect on the environment.”

Determination

All of the education, training, biodiversity risk analysis, and supporting studies funded under CRECER 21 for Improved Management and Conservation of Critical Watersheds qualify for a **Categorical Exclusion** under 216.2.c.2.(i) “Education, technical assistance, or training programs...”) and in (iii) Analyses, studies, academic or research workshops.

A **Negative Determination with conditions** is recommended for efforts associated with conserving biodiversity under Program Component 1 and mitigating destructive human practices and natural resources management under Program Component 3. These include efforts to reduce destructive agricultural and other human practices, improve farm income through diversification and more efficient methods, and increase the effective area and management of protected areas. Destructive human practices such as non sustainable agriculture, burning, deforestation, and use of agro-chemicals, will be reduced or eliminated through Activity interventions. Interventions will improve management and conservation of natural resources such as soil and water by working with participant farmer plots of less than 3 hectares (average).

Successful environmental methods developed under the previous USAID AGUA Activity will be employed here. These methods were shown in evaluations and Activity results to be effective in the reduction of environmental destruction relating to the degradation of watersheds. The conditions will include the use of these experiences and lessons learned in the design of the new Activity. An additional condition is that USAID LAC Environmental Guidelines for Development Activities will be made part of agreements with implementers and will be used to further mitigate any potential negative environmental impact. Of particular importance are interventions related to small scale irrigation, and integrated pest management. For these, USAID will use LAC Guidelines’ Chapter 8, Agriculture and Watershed Management, with references to C. Small Scale Drainage and Irrigation Systems, and D. Pesticides and IPM. As per these guidelines, all reforestation efforts to be carried out within protected areas will be done so with native species. No purchase or use of agro-chemicals is contemplated under this Activity; nevertheless, a Pesticide Evaluation Report and Save Use Action Plan (PERSUAP) will be carried out by Activity implementers on an annual basis and reported in their annual report to USAID.

A **Negative Determination with conditions** is recommended for efforts under Program Component 2, Increased Access to Clean Water. Included is the development of water systems and basic sanitation in rural areas. Of primary concern are environmental conditions for wells and latrine construction. Sub-projects to be carried out under this

Activity will be similar to those carried out under other USAID activities, and this Activity will use similar methodologies, experiences, and lessons learned in the design and implementation processes. Experiences and lessons learned as well as environmental guidelines approved and utilized by the USAID AGUA Activity for water systems and PROSALUD for latrines will be applied by the implementer. Salvadoran Ministry of Public Health Regulations governing the design and construction of rural latrines will also be adhered to. In addition, USAID LAC Environmental Guidelines for Development Activities, Chapter 2: Small Scale Infrastructure will be used in the design of sub-projects under this Activity and will be made part of agreements with implementers to further mitigate any potential negative environmental impact.

Monitoring and Evaluation

Monitoring and evaluation of compliance with the conditions set forth in this IEE and the effectiveness of these conditions to mitigate potentially negative environmental impacts of this Activity will be carried out by USAID working with the implementer. The implementer will be tasked, as part of his/her agreement with USAID, with developing a monitoring and evaluation plan as part of the annual work plan, subject to approval by USAID. The monitoring and evaluation plan will detail the results of interventions aimed at satisfying the conditions of compliance set forth in this IEE and will describe the effectiveness of the interventions as well as any negative environmental impacts either measured or observed. Interventions and conditions may be modified to improve their effectiveness of mitigating negative environmental impacts, depending on the results of monitoring and evaluation. USAID will also perform periodic inspections to assess the effectiveness of interventions aimed at mitigation.

Environmental Guidelines for Well Drilling

The National Administration of Water and Sewage (ANDA) provided USAID with guidelines that will be followed for well drilling. They contain the following:

- A. General Information
- B. Mobilization
- C. Perforation and Construction
- D. Well Characteristics
- E. Plan view
- F. Excavations and soil movements
- G. Terms on Quantity and Costs
- H. Project site map
- I. Liabilities and contractor guarantees.

The implementor will also provide a detailed Hydro-Geological study on each site to be developed with the following content:

1) GEOLOGY

- a. Determination of Geology of the area.
- b. Historical geology
- c. Differentiated geological formations

2) HYDROLOGY

- a. Climate
- b. Rain fall
- c. Soil permeability, (based on geological formation)
- d. Underground water availability (Superficial drainage, flow direction)
- e. Hydric Balance
 - Rain fall at the site
 - Drainage
 - Evotranspiration
 - Infiltration

ENVIRONMENTAL MITIGATION

One of the outputs of the AGUA Activity is a watershed diagnostic for the watersheds in the activity area. These studies will help indicate where to implement remedial environmental actions and how to manage the impact of additional wells. Specific remedial activities that will be considered are:

- a. Delimitation of Infiltration areas
- b. Soil protection measures
- c. Reforestation
- d. Environmental Education
- e. Watershed conservation activities

RECOMMENDATIONS

The grantee has assisted USAID in the preparation of this amended IEE, and has agreed to follow the recommendations contained in this amended IEE to avoid any significant negative effects on the environment or the availability of underground water resources.

A negative determination with conditions is issued for well drilling activities. The Mission Environmental Officer will monitor implementation of both the guidelines and mitigation measures.

RECOMMENDED CONDITIONS

The following conditions are necessary to grant a Negative determination and should be complied with by the grantee or any of their sub-contractors.

A. DESIGN

1. The implementer will conduct a hydro-geologic study for each well.
2. The implementer will maintain compliance with an appropriate Watershed Management Plan (if such plan exists in the watershed where the sub-project is being implemented).

B. CONSTRUCTION

1. Soil material excavated during well drilling activities (barrow) should be deposited in protected areas such as pits, to avoid sedimentation and fugitive dust.
2. Cut areas should be protected by safe slopes; re-vegetation and other appropriate techniques will be employed to avoid soil erosion and slides.
3. Waste drilling composed of bentonite and/or other drilling material must be stored and kept moist to prevent fugitive dust and buried at the end of drilling activities.
4. Special care must be exercised with the use and handling of MAX GEL (Crystalline Silica) to ensure that the dust is not inhaled or does not come in contact with skin.

Care should be taken to avoid any contamination of the well area with petroleum combustibles or lubricants.

DETAILED RESULTS

The implementer will request design approval from the National Water and Sewage (ANDA) before construction of any water project. In addition, a hydro-geological study is required for each water well sub-project.