LAC-IEE-05-17

ENVIRONMENTAL THRESHOLD DECISION

Country:	Haiti
Activity Title:	Partners in Health and Zanmi Lasante Child Survival and Health Initiative
Activity Number:	521-0267
Life of Project:	FY 2005 – FY 2007
Life of Project Funding:	$2 million
IEE Prepared by:	Danielle Typinski
Date Prepared:	July 15, 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) and (viii), it is recommended that a **Categorical Exclusion** be issued for activities involving technical assistance, training, capacity building, and other actions which will not have an adverse impact on the natural or physical environment, including programs involving nutrition, health care or population/family planning services.

For those components involving the disposal of medical and sanitary waste or use of insecticide (deltamethrin)-treated bednets (ITNs), it is recommended that a **Negative**

Determination with Conditions be issued. PIH and all implementing partners will be required to follow the series of proposed conditions described below:

(1) 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 partners will be made fully aware of the environmental mitigation and monitoring requirements presented in this IEE. In addition, partners must agree to apply listed BMPs and adhere to the requirements.

(2) The contractor monitoring and evaluation process shall incorporate monitoring features into performance reports.

(3) New activities introduced into the project which are substantially different from those presented in this IEE will be first reviewed in accordance with Agency environmental regulations.

(4) This IEE only covers the storage and disposal of medical and sanitary waste and does not cover the procurement, transport, use, storage, or disposal of toxic or hazardous materials. Any situation dealing with such will require an amended or separate IEE. Construction of clinics or medical facilities will also require an amended or separate IEE.

(5) The above mitigation measures and guidelines should be translated into local languages (French and Creole) and distributed to all sub-contractors, who will be responsible for training their personnel in these measures, and posting safety guidelines in all appropriate places. USAID/Haiti will facilitate the translation, which will be funded under the PIH activity.

(6) An amendment to this IEE must be developed prior to implementing the decision to re-treating nets.

(7) PIH is ultimately responsible for compliance with the mitigation measures and conditions of this IEE.

_____Date_____
Victor H. Bullen
Bureau Environmental Officer
Bureau for Latin America & the Caribbean

Copy to:	Erna Kerst,, Mission Director USAID/Haiti
Copy to:	Chris Barratt, Health Officer, USAID/Haiti
Copy to:	Karen Poe, Program office, USAID/Haiti
Copy to:	Danielle Typinski, MEO, USAID/Haiti
Copy to;	Mike Donald, Acting Regional Environmental Advisor for the Caribbean, USAID/Guatemala
Copy to:	Beth Cypser, LAC/CAR
Copy to:	IEE File

Attachment: IEE

File: P:\LAC.RSD.PUB\RSDPUB\EES\Reg 216\IEE\IEE05\IEE05-17.ETD(HA - Health).doc

INITIAL ENVIRONMENTAL EXAMINATION

Activity Location:	Haiti
Activity Title:	Partners in Health and Zanmi Lasante Child Survival and Health Initiative
Activity Number:	521-0267
Funding:	$2,000,000
Life of Project:	FY 2005-2007
Recommended Threshold Decision:	Categorical Exclusion/Negative Determination with Conditions
IEE Prepared by:	Danielle Typinski, Acting MEO USAID/Haiti
Concurrence:	_____ Chris Barratt, Health Officer USAID/Haiti
Mission Director's Concurrence:	_____ Pam Callen, Deputy Mission Director USAID/Haiti
	_____ Erna Kerst, Mission Director USAID/Haiti
Regional Clearance:	_____ Mike Donald, Acting Caribbean REA
Bureau Clearance:	_____ Victor Bullen, LAC Bureau Environment Officer

Background

USAID/Haiti's health program aims to improve the health and well-being of Haiti's most vulnerable population groups, particularly women and children. USAID's primary goal in these sectors is sought by addressing Haiti's most pressing health concerns—malnutrition, child mortality, reproductive health, and HIV/AIDS. As with all development problems facing Haiti, health and related services are rendered more difficult by a high population growth rate and a fragile political and economic environment.

USAID works to achieve objectives in the areas of child survival, reproductive health, HIV/AIDS, and tuberculosis (TB). Through a USAID-funded network of health service providers, 2.6 million Haitians have access to basic health care. The increased access to health care has resulted in increased contraceptive use, reduction of chronic child malnutrition, improved child and maternal health, and increased immunization rates. Through a new departmental strategy, USAID is working in collaboration with both the public and private sectors to extend the outreach of these comprehensive health services nationwide.

This Initial Environmental Examination (IEE) addresses the activities implemented under Partners in Health (PIH)'s Child Survival and Health Initiative, in the areas of reproductive health, family planning, infectious diseases, child and maternal health, and orphans and vulnerable children. This IEE also serves as compliance with USAID's Pesticide Procedures (22 CFR 216.3 (b)), which requires that a Pesticide Evaluation Report and Safe Use Action Plan be prepared, addressing strategies for consumer education, packaging and labeling of insecticides, as well as an action plan for ensuring safe handling and disposal of all insecticides and their monitoring.

Program Description

Under this initiative, USAID/Haiti will support PIH's model of healthcare delivery at remote locations. The services and capacity of seven existing clinics will be strengthened and expanded to improve outreach to surrounding communities. This initiative will support USAID/Haiti's health strategic objective (SO3) of "healthier families of desired size" through implementation of the following activity components:

Expansion of Mobile Clinics and Home Visits

To serve the most remote rural communities, PIH plans to dispatch mobile clinic teams that are supplied with medications, vaccinations, medical records, and basic laboratory equipment.

Training

PIH will train health care professionals such as nurses, lab technicians, doctors, and traditional birth attendants in various aspects of health care delivery. Training will take place at the PIH National Training Center and at local clinic sites.

Immunizations

PIH plans to augment current vaccination programs with the addition of Hemophilus Influenza B, Hepatitis B, and Pneumococcal vaccinations. Clinic-based interventions include updating of BCG (tuberculosis), OPV, (oral-poliovirus), and DTP (diphtheria-tetanus and pertussis). Community-based interventions will involve expanded mobile outreach clinics and the holding of "Vaccination Days" or vaccination catch-up drives.

Nutrition

PIH's nutrition interventions include initial treatment (identification of deficiencies and commencement of feeding), rehabilitation (intensive feeding), and follow-up. Weights of the children are recorded and tracked and malnourished children will be fed and given vitamin supplements.

Diarrheal Disease and Safe Water

PIH plans to distribute 50,000-100,000 sachets of Oral Rehydration Solution during the first six months of the program in the context of comprehensive medical care and community education. As part of their Child Survival and Health Initiative, PIH also plans to provide a personal purification system to some of their patients. The purification systems will be comprised of safe water containers and access to chlorox liquid.

Orphans and Vulnerable Children

Under this component, HIV/AIDS and tuberculosis education would be expanded to 300 orphans and other vulnerable children. Small grants will also be provided for school fees, supplies, and uniforms. In addition, access to healthcare and preventative services would be increased.

Maternal Health and Survival

PIH plans to increase access to trained birth attendants, delivery in a health care facility and emergency obstetrical care. More specifically, PIH would expand access to post-partum care, antenatal care and education, screening and treatment for sexually-transmitted diseases. The capacity to perform safe surgical procedures would also be improved related to obstetrical and gynecological care.

Family Planning

PIH plans to expand their family planning program to new geographic areas. Interventions include provision of contraceptive supplies, education, and basic medical services.

Malaria Treatment and Prevention

PIH plans to introduce a specific program of malaria prevention that commences with the most vulnerable population groups. As part of this program, PIH would distribute 1,000 pre-treated insecticide-treated nets (ITNs) called PermaNets 2.0 ™ (manufactured byVestergaard) and treat 5,000 children for malaria. ITNs would be distributed free-of-charge to local families through area clinics.

Description of Environmental and Health Impacts

The majority of the components of this program consist of training, technical assistance, education, and other institutional capacity building activities. Consequently, most of the activities conducted under this program will not have negative impacts on the physical environment or pose any significant risks to the welfare of target populations or surrounding communities. However, direct environmental impacts could result from medical/sanitary waste disposal or the improper use, management, and disposal of ITNs if these activities are not implemented using appropriate mitigation measures.

Medical Waste—In many cases, PIH clinics may only offer the most basic consultation services on family planning and child survival and generate a minimum amount of waste. However, a few clinics also offer more comprehensive services and generate medical waste that if not properly disposed of, could cause infection through skin puncture or contact. The service provided and associated potential medical wastes are listed below:

Service Provided	**Contaminated Medical Waste**
Surgical Contraception, e.g., tubal ligations, vasectomies	Human tissue (small segments of fallopian tubes and vas deferens), bandages, sutures, gauze, cotton, rubber gloves, scalpel blades, needles/syringes
Gynecological Examination, can include IUD insertion, contraceptive pill prescription, or Depo Provera injection	Swabs, gauze, cotton, rubber gloves, needles/syringes (for Depo Provera)
Obstetrical Services, i.e., sonograms, vaginal births	Human tissue (placentas), gauze, cotton, rubber gloves, needles/syringes
Pediatric Services, e.g., well baby clinics and in limited sites, immunizations	Gauze, cotton, tongue depressors, needles/syringes
Lab Services, e.g., pap smears, blood tests X Ray Machines	Gauze, cotton, lancets, rubber gloves, needles/syringes, culture slides x-ray development solution

The medical waste produced by these clinics is classified into two categories:

- Disposable medical implements: needles, syringes, culture slides, lancets and scalpel blades

- Solid waste: human tissue, bandages, sutures, gauze, cotton, rubber gloves, tongue depressors, and swabs.

Sanitary Waste—Improperly disposed sanitary waste from clinics and hospitals can contaminate ground water, surface water, soil and other parts of the surrounding environment and result in exposure to bacterial diseases.

Insecticide-Treated Nets— The efficacy of pre-treated ITNs in preventing malaria has been well-established. ITNs have environmental advantages over other alternative vector control methods, for example, spraying requires much more pesticide than the amount associated with ITNs. PIH proposes to distribute long-lasting ITNs treated with deltamethrin, a pesticide of the pyrethroid class registered with the Environmental Protection Agency under CAS Number 52918-63-5. Relevant characteristics of deltamethrin are summarized in the below analysis of the 12 informational elements contained in USAID's Pesticide Procedures (22 CFR 216.3(b)(1)(i)(a-1). This analysis serves as the Pesticide Evaluation Report:

a) *Classification in the U.S. EPA Register*: The EPA classifies deltamethrin as a Category II (moderate) for toxicity. There is no evidence of cancer or mutation effects in humans. The symptoms of poisoning include upon inhalation: burning sensation, cough, headache and nausea; upon skin contact: redness, burning sensation and inflammation; upon eye contact: pain and redness.

b) *Basis for the selection of the pesticide*: Deltamethrin is an effective preventive pyrethroid insecticide of wide spectrum in relation to lepidoptera, homoptera, hemiptera, orthoptera, diptera and thysanoptera orders. Its mode of action is through contact and to a lesser extent by ingestion. Deltamethrin affects the peripheral and central nervous systems of the insect. Initially it stimulates the nervous cells to produce repetitive discharges and finally generates paralysis and death.

   PIH has elected to distribute pre-treated PermaNets™ impregnated with deltamethrin. These nets do not require insecticide re-treatment for the average life span of three years and the insecticidal efficacy is maintained after 21 washes.[1] In addition, the World Health Organization (WHO) has determined that deltamethrin is a relatively low-toxicity compound and that the risks of using ITNs are acceptably low, based on studies that have shown that "little or no hazard" is posed by ITNs to users treated with recommended pyrethroid products.

[1] Graham et al, "Multi-Country Field Tests Comparing the Wash Resistance of PermaNets™ and Conventional Insecticide-Treated Nets," March 2005.

c) *Extent to which the proposed pesticide use could be part of an Integrated Pest Management (IPM) program:* Using pre-treated ITNs offer several important advantages over conventional mosquito nets, including eliminating the need for re-treatment, and avoiding problems associated with the storage and handling of insecticides by non-professionals and community members. ITNs are one of the lower-risk vector control options and are therefore a natural component of an IPM program, which has reduced pesticide use as one of its goals. Several other vector control options such as house spraying, space spraying, and larviciding involve the use of pesticides in larger volumes than ITNs. Because the use of ITNs requires a decreased amount of chemicals to be effective, it can be considered an important component of an IPM program.

d) *Proposed method of application:* The application of deltamethrin is done at the production unit level. PermaNets™ are long-lasting and can withstand up to 21 washes, hence re-treatment is not envisaged in this program cycle.

e) *Acute and long-term toxicological human and environmental hazards:* In long-term toxicity studies of pyrethroid insecticides, no teratogenic, carcinogenic, or mutagenic effects have been detected in experimental animals. Deltamethrin will not be broadly applied as in agricultural or indoor residual spraying. However, while deltamethrin presents low levels of toxicity for mammals and is non-toxic to birds, it demonstrates a higher lever of toxicity in aquatic organisms such as amphibians and fish. Aquatic ecosystems can be exposed to ITN pesticides through the washing of nets, however recent studies have demonstrated that aquatic effects are unlikely from just a few nets being washed and that the effects are short-lived. Pyrethroids such as deltamethrin do not bioaccumulate and break down rapidly to products that are non-toxic to aquatic organisms. Users should be instructed to not wash nets in natural bodies of water and every effort should be made through training and monitoring to reduce the amount of product that ends up in natural water bodies through improper washing or disposal.

f) *Effectiveness of the requested pesticide for the proposed use:* Deltamethrin is one of the pesticides of the pyrethroid family that has been most widely used given its effectiveness in controlling insects. Pyrethroid-treated mosquito nets have been demonstrated in numerous large-scale studies and projects sponsored by USAID, UNICEF, WHO, and others to be safe and effective in protecting the most vulnerable populations from malaria.

g) *Compatibility of the proposed pesticide use with target and non-target ecosystems:* Deltamethrin is a pyrethroid, soluble in water, with a high level of stability when in contact with light and temperature, low mobility on the soil, and easily degradable by microorganisms. It is not toxic to warm-blooded animals, because there is a very fast biotransformation and is eliminated in most part by the kidneys. This fast metabolizing together with poor absorption explains why pyrethroids have low toxicity levels for humans. Deltamethrin used in ITN form

is compatible with non-target ecosystems as long as precautions are taken, including those described in (e) above.

h) *Conditions under which the pesticide to be used, including weather, flora, fauna, geography, hydrology and soils:* Deltamethrin will only be used in an ITN form and will not be applied broadly to crops or within the household. Proper methods of washing, use, and disposal will essentially reduce the exposure of deltamethrin to flora, fauna, soils, and hydrology.

i) *Availability of other pesticides or non-chemical control methods:* ITNs are the recommended method of prevention per WHO guidelines. Per (c) above, other methods would involve would most likely involve higher volumes of more toxic pesticides.

j) *Host country's ability to regulate or control the distribution, storage, use, and disposal of deltamethrin:* Pesticide use in Haiti has historically been regulated through the Ministry of Environment. At the current time, the Haitian Government is in transition and has little capacity to perform some essential governmental functions such as pesticide regulation and control. However, using pretreated ITNs that will not be retreated eliminates the need for distribution, storage, or disposal of deltamethrin or unused portions thereof. The manufacture's guidelines and Material Data Safety Sheet for Permanet 2.0 will be followed for its storage, use and disposal. Safe methods for final disposal of these ITNs will be examined by PIH.

k) *Provision for training of users:* The project will have technical personnel of PIH who will support the safe use and management of the ITNs. These technical personnel will also be responsible for the monitoring and follow-up visits related to ITN use and effectiveness.

l) *Supervision of the use and effectiveness of the pesticide activity:* The technical personnel of PIH assigned to the specific communities will verify the correct use of ITNs. All dangerous practices for humans, animals, or the environment will be stopped immediately.

Construction—The construction of clinics, medical facilities, or other buildings is not a component under this activity.

Mitigation Measures for Disposal of Solid, Sanitary, and Medical Waste

USAID/Haiti recommends the following steps:

1) Within two months of the approval of this IEE, PIH must verify to the Cognizant Technical Officer (CTO) that training has been conducted for implementing partners on international standards and recommendations for the handling and disposal of medical wastes.

2) Within four months, PIH and/or implementing partner must develop a mitigation plan for medication waste disposal at the facilities they directly operate based on the guidance described herein. The mitigation measures should be reviewed and filed by the CTO to ensure completion and consistency with guidance. The mitigation plan should include the following:

    a. Procedures for disposal of solid waste, sharp objects, liquid waste, and chemical containers;
    b. Procedures for handling waste containers; and
    c. Procedures for using a combination of incineration and burying to provide the safest ultimate waste disposal.

Note: Outside of Port-au-Prince, facilities are not likely to have access to either a hospital sponsored-incinerator or a municipal landfill. Since the traditional method of handling solid waste in Haiti is burning and there is not a significant problem with air pollution (particulate matter) outside of Port-au-Prince, USAID recommends that each facility consider constructing at a minimum a drum incinerator for the medical waste. The incombustible and ash material can then be buried in a landfill area that must be identified by each clinic (only low volumes are anticipated).

3) Within six months, PIH should provide to the CTO and MEO, a table characterizing the types of services offered at those clinics receiving USAID support, the volume of waste generated, the types of procedures in place, and information on whether the clinic has access to water and sanitation.

4) At least one site visit of each facility to ensure compliance with the mitigation plan is required. The site visit will be conducted by the CTO or designated representative. Any situations of non-compliance must be brought to the attention of the MEO.

5) On an annual basis, a status report will be submitted to the MEO and Regional Environmental Advisor, which will (1) describe the state of medical waste disposal in the clinics; (2) evaluate the effectiveness of the recommended procedures; and, (3) recommend modifications to the recommended procedures, as necessary.

Note: The USAID/Haiti MEO is available to provide advice on any situation that is complicated and requires special technical assistance.

Below are recommendations for handling various types of medical waste. These recommendations were obtained from “Infection Prevention for Family Planning Service Programs" by Linda Tietjen, Wendy Cronin, and Noel McIntosh, JHPIEGO, 1992, and the approved IEE for HS-2004 (LAC-IEE-09-20).

<u>Disposal of Solid Waste</u>

1) Wear thick household (utility) gloves when handling and transporting wastes.

2) Dispose of solid wastes in non-corrosive washable containers (plastic or galvanized metal) with tight fitting covers. Use containers that are clearly marked as dangerous to human health both in both graphic and written form. If possible, use red, reinforced garbage bags to discourage scavengers.

3) Collect the waste containers on a regular basis and transport the combustible ones to the incinerator. If incineration is not available, burn or bury using the procedures described below. Bury non-combustible waste.

4) Wash hands after handling wastes. Decontaminate and wash gloves in a chlorine solution prior to reuse or disposal.

Note: Incinerate (burn) or bury waste immediately. Incineration is the best method to kill microorganisms utilizing wherever possible nearby hospital incinerator facilities for solid wastes.

Disposal of Sharp Objects (needles, razors and scalpel blades)

1) Wear thick, household gloves.

2) If possible, place needles and syringes inside the cap of a glass bottle filled with a chlorine solution. The lancets and blades are also placed in a chlorine solution.

Note: In discussions with a Mission program representative, it was determined that it will not always be practical to use chlorine solution because of time/space constraints in small clinics. This will especially be the case at rally posts, mobile clinics, and at vaccination campaign locations where the health worker sometimes must manually carry his supplies to a remote location.

3) Dispose of all sharp items in a puncture-resistant container. Puncture-resistant containers can be made of easily available objects such as a heavy cardboard box, a tin can with a lid, or a heavy plastic bottle.

Note: Place the container close to the area where it will be used so that workers minimize the distance object are carried before disposal. Avoid accidental needle sticks; do not bend or break needles prior to disposal. Needles should not be recapped routinely; if necessary, a one-handed recap method should be used:

a. Place cap on a hard, flat surface, then remove hand.
b. With one hand, hold syringe and use needle to "scoop-up" cap.
c. When cap covers needle completely, use other hand to secure cap on needle.

d. When the container is 3/4 full; cap, plug or tape it tightly closed. Seal and label the container to indicate danger.

4) Ultimate Disposal--First Choice: If a hospital is nearby, transport all syringes/needles and other disposable implements to the hospitals for incineration**.** Ultimate Disposal--Second Choice: Burn waste materials in a container to decrease likelihood of scavenging and to reduce the risk of infection. Needles and other sharp objects may not be destroyed by burning, and may later cause injuries which can lead to a serious infection. Therefore, when the container is 3/4 full, incineration or burning should be followed by transport to either a municipal or local landfill meeting the criteria described herein for burying. If that is not possible, sharps should be buried in a plastic or clay-lined pit.

5) Wash hands after handling containers and decontaminate and wash gloves.

Disposal of Liquid Contaminated Waste (blood, feces, urine and other body fluids)

1) Wear thick household (utility) gloves when, handling and transporting wastes.

2) Carefully pour wastes down a utility sink drain or into a flushable toilet. Liquid wastes can also be poured into properly designed latrines. Avoid splashing.

Note: Please determine where the sink or toilet drains before choosing to pour the waste down the sink or drain. The ultimate disposal location for untreated waste should meet the criteria for latrines.

3) Rinse the toilet or sink carefully and thoroughly with water to remove residual wastes. Avoid splashing.

4) Decontaminate specimen container with 0.5% chlorine solution or other locally available and approved disinfectant, by soaking for 10 minutes before washing.

5) Wash hands after handling liquid wastes and decontaminate and wash gloves.

Disposal of Used Chemical Containers

1) Rinse glass containers thoroughly with water. Glass containers may be washed with detergent, rinsed, and reused.

2) For public containers which contained toxic substances rinse three times with water and dispose by burial. Do not reuse these containers for other purposes.

3) Tips for handling waste containers:

   a. Use non-corrosive washable containers (plastic or galvanized metal) with covers for contaminated wastes.

b. Place waste containers at convenient places for use (carrying waste from place to place increases the risk of infection for handlers).

c. Do not use equipment to hold and transport wastes for other purpose in the clinic on health care facility; contaminated waste containers should be marked as dangerous.

d. Wash all waste containers with a disinfectant cleaning solution (0.5% chlorine solution) and rinse with water.

e. When possible, use separate containers for combustible and non-combustible wastes to avoid workers from having to handle and separate wastes by hand later. Combustible wastes include paper, cardboard, and contaminated wastes such as used dressings and gauze. Non-combustible wastes include glass, metals and plastics.

f. If available, use heavy work gloves when handling wastes.

g. Wash hands after handling wastes.

Building a Simple Drum Incinerator for Waste Disposal (SEARO, 1988)

Note: Open burning is not recommended because it results in scattering of the waste which is dangerous and unsightly.

1) Select a site downwind from the clinic.

2) Build a simple incinerator using local materials (mud or stone) or a used oil drum. The size of the incinerator will depend upon the amount of waste that is collected per day.

3) Place the incinerator on hardened earth or a concrete base.

4) Ensure that the incinerator has sufficient air inlets underneath for good combustion, an adequate opening for adding fresh refuge and removing ashes, and a chimney that is sufficiently long to allow for good draught and evacuation of smoke.

5) Burn all combustible wastes, such as paper and cardboard, as well as used dressings and other contaminated wastes.

6) Ash from incinerated material can be treated as non-contaminated waste.

Making a Burial Site for Waste Disposal (SEARO, 1988)

1) Bury in a specified location:

    a. Select a site at least 50 meters away from any water source, to prevent contamination of the water table.
    b. The site should have proper drainage, be located downhill from any wells, and free of standing water.
    c. Ensure that the burial site is not in an area which is prone to flooding.

2) Dig a pit one meter (three-four feet) wide and two meters (six feet) deep. The bottom of the pit should be six feet above the water table.

3) Cover with 15-30 centimeters (6-12 inches) of earth each day. Final cover should be 30 centimeters (24 inches) deep.

4) Fence the site to keep animals and children away.

Mitigation Measures for the Use of ITNs

The mitigation measures outlined below comprise the Safer Use Action Plan as required by USAID's Pesticide Procedures:

1) Choose long-lasting, pretreated nets that retain their effectiveness over the lifetime of the net. Long-lasting nets reduce the need for re-treatment as well as exposure opportunities. PIH has agreed to use PermaNets™ that are pretreated with deltamethrin and do not need to be retreated during the course of their use.

2) Choose long-lasting, pretreated nets that use active ingredients with high efficacy and relatively low toxicity to humans that are recommended by the WHO. Deltamethrin is a pyrethroid with these qualities that the WHO has recommended for use for ITNs.

3) Avoid the packaging of large quantities of ITNs whenever possible.

4) Assure proper labeling of all pesticide products and educate users and employees—PIH should develop appropriate labeling and education messages to be used with the distribution of the nets. All packs should bear, durably and legibly, in Creole, the following information, the name of the active ingredient, the concentration of the active ingredient, date of production and expiry date, the manufacturer's identity, and minimum cautionary advice that is necessary to ensure safe and effective use. Pictograms on the use of the product and disposal of contaminated materials are essential for users who may have limited literacy.

5) Users should be instructed to wash nets in basins away from natural bodies of water. Large quantities of nets should never be washed in rivers, ponds, or streams. The ITN education program should include information on the proper washing of nets and depict the product's toxicity to fish.

6) If PIH decides to re-treat the ITNs at the completion of the nets' life-cycle, guidance must be obtained from the Mission Environment Officer (who will consult with the Regional Environmental Advisor and Bureau Environment Officer). The mitigation measures described in this IEE do not cover re-treatment and an amendment to this IEE with relevant measures and guidance must be developed prior to the occurrence of re-treatment.

7) PIH should establish a system for the proper disposal of used nets that have reached the end of their life cycle and are no longer effective for mosquito control. PIH should set up a mechanism through its area clinics for the collection of used nets from users and dispose of them through burning or in a landfill.

8) Monitoring related to the use and effectiveness of ITNs should be built into the activity and evaluating the risks of benefits of ITNs should be an ongoing, dynamic process. The performance of the ITNs should be monitored in everyday use throughout their lifespan to assess their durability. Monitoring programs should actively investigate the following issues:

    a. Effectiveness of information, education and communication materials and activities in promoting safe handling, use and disposal of ITN products;
    b. Adverse health and environmental effects and the frequency and severity with which they occur; and
    c. Quality control of ITN products.

6) On an annual basis, a status report will be submitted to the MEO and Regional Environmental advisor which will (1) describe the state of the ITN activity; (2) evaluate the effectiveness of the recommended mitigation measures; and, (3) recommend modifications to the recommended procedures, as necessary.

Recommendations

Pursuant to 22 CFR 216.2 (c)(2)(i) and (viii), it is recommended that a Categorical Exclusion be issued for activities involving technical assistance, training, capacity building, and other actions which will not have an adverse impact on the natural or physical environment, including programs involving nutrition, health care or population/family planning services.

For those components involving the disposal of medical and sanitary waste or use of ITNs, it is recommended that a Negative Determination with Conditions be issued. PIH and all implementing partners will be required to follow the series of proposed conditions described below:

(8) Local implementing partners will be made fully aware of the environmental mitigation and monitoring requirements presented in this IEE. In addition, partners must agree to apply listed BMPs and adhere to the requirements.

(9) The contractor monitoring and evaluation process shall incorporate monitoring features into performance reports.

(10) New activities introduced into the project which are substantially different from those presented in this IEE will be first reviewed in accordance with Agency environmental regulations.

(11) This IEE only covers the storage and disposal of medical and sanitary waste and does not cover the procurement, transport, use, storage, or disposal of toxic or hazardous materials. Any situation dealing with such will require an amended or separate IEE. Construction of clinics or medical facilities will also require an amended or separate IEE.

(12) The above mitigation measures and guidelines should be translated into local languages (French and Creole) and distributed to all sub-contractors, who will be responsible for training their personnel in these measures, and posting safety guidelines in all appropriate places. USAID/Haiti will facilitate the translation, which will be funded under the PIH activity.

(13) An amendment to this IEE must be developed prior to implementing the decision to re-treating nets.

(14) PIH is ultimately responsible for compliance with the mitigation measures and conditions of this IEE.