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Asia & Near East Bureau IPM 101

Integrated Pest Management & Pesticide Procedures

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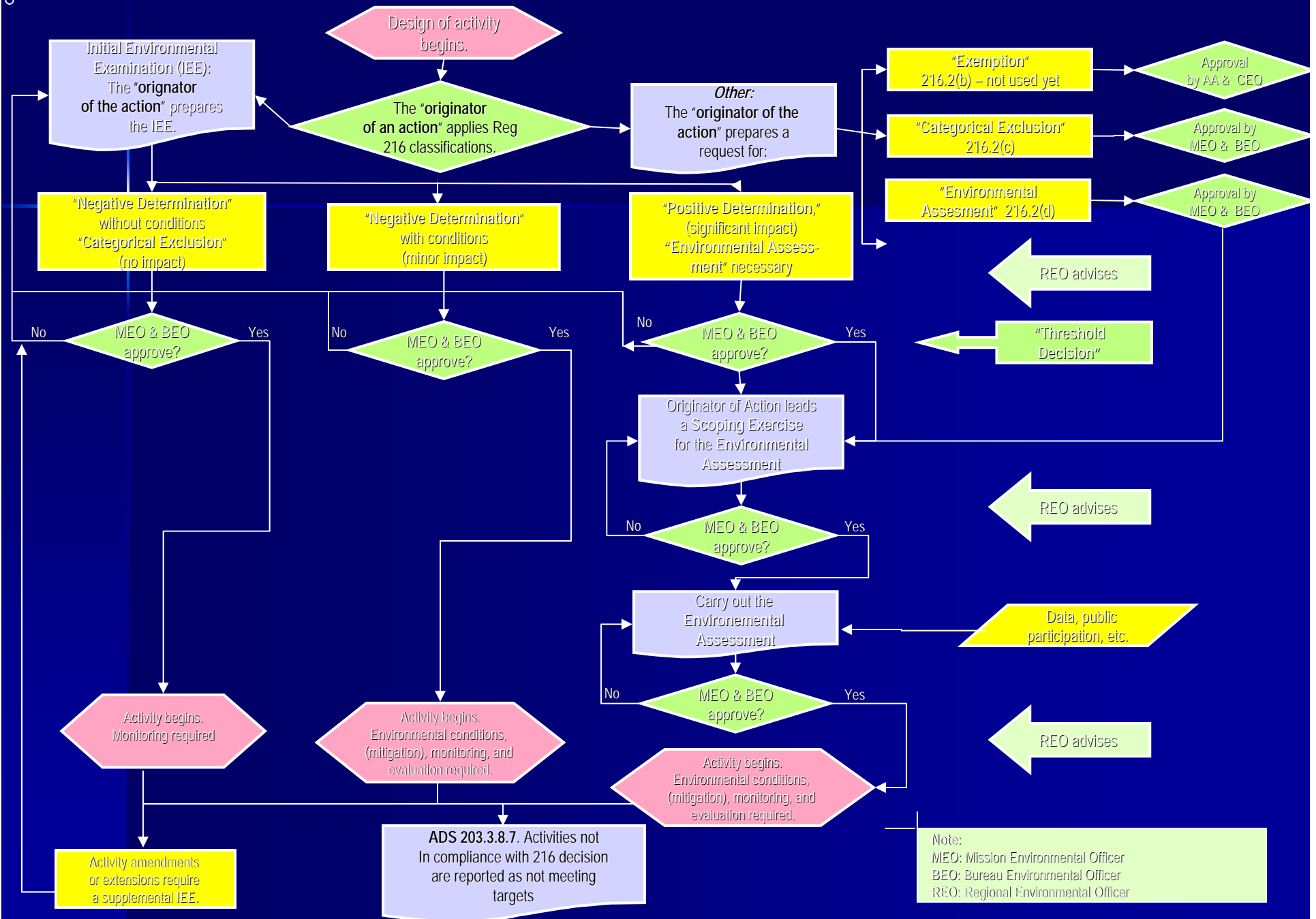
Oops, pesticide mishandling



Pesticides Procedures

- **Reg. 216.3(b)(1)(a) through (l)**
- **Pesticide Procedures (FIFRA) (FQPA)**
- **Exemptions 216.3(b)(2)(a) – *ex.* a plague of locusts, limited research**

USAID Environmental Procedures (22 CFR 216)



Remember

ADS 203.3.8.7. Activities not in compliance with 216 decision are reported as not meeting targets

30+ yr-old obsolete pesticides per 2003-2004 FAO Survey



Plaguicidas Caducados (expired pesticides) & KOH (highly corrosive) jar



FERBAM ($C_9H_{18}FeN_3S_6$) fungicide oral LD50 of 4,000 mg/kg



The Regulations are strict. Why?

- **Regulation 216 was written in response to a pesticides lawsuit**
- **20% of the articles of Reg. 216 concern pesticides**

Why we monitor pesticide use

- Overuse accelerates pest resistance which leads to increased use, generating a spiral where more and more pesticides are needed to control pests (*pesticide treadmill*)
- Significant resistance often requires switching to less safe and more costly pesticides
- Misuse can kill natural enemies that control pests



Why we monitor pesticide use

- Misuse can result in chronic sickness, birth defects, cancers, workday losses, and death of farmers, processors and consumers
- Misuse can result in refusal of individual export shipments or even long-term cancellation of a country's ability to export to major markets
- Movement of pesticides away from the target site can adversely affect the environment



What is a Pesticide?

- A chemical agent that kills or in some other way diminishes the actions of pests; ex. fungicides, insecticides, rodenticides, *etc.*
- GMOs? Probably, if designed to control pests; GC opinion is being requested
- Fertilizers are not pesticides, but may still have effects on the environment

Pests include **harmful**: invertebrates such as insects, mites, snails, *etc.*; weeds; microorganisms; and vertebrates such as birds, rodents, and other mammals

USAID's Definition of Pesticide Use

- USAID interprets *pesticide procurement or use* in its broadest sense
- It encompasses all direct and most indirect forms of support to the actual acquisition and use of pesticides

Use includes

- **Sale, handling, transport, storage, mixing, loading, application**
- **Disposal of pesticides**
- **Provision of fuel to transport the pesticides**
- **Technical assistance to pesticide management**

Procurement includes

- **Direct purchase**
- **Payment in kind, donations, provision of free samples, and other forms of subsidy**
- **Provision of credit to borrowers - or even guarantee of credit to banks or other credit providers - for pesticide inputs**

When to examine pesticide use

REG 216: "Pesticide procedures - (1) Project Assistance. Except as provided in paragraph (b)(2) of this section, all proposed projects involving assistance for the procurement or use, or both, of pesticides shall be subject to the procedures prescribed in paragraphs (b)(1) (i) through (v) of this section."

When to examine pesticide use

“ When a project includes assistance for procurement or use of pesticides *registered for the same or similar uses by USEPA without restriction*, the Initial Environmental Examination for the project shall include a separate section evaluating the *economic, social and environmental risks and benefits* of the planned pesticide use to determine whether the use may result in significant environmental impact.” (22 CFR 216.3(b)(1))

Uses **Not** Subject to Scrutiny
under the Pesticide Procedures:

1. Support to limited pesticide **research**, that is, **on a surface area of under 4 ha, supervised by researchers, with application done by trained applicators, and the treated products are not consumed by people or animals**

(Note: Demonstration plots are not research)

Uses *Not* Subject to Scrutiny
under the Pesticide Procedures:

2. Technical assistance and related support to development of enforcement of the host country's pesticide regulatory activities

Other Pesticide Procedures aspects

Support can be provided for training in safer pesticide use, as long as it does not involve actual application or use of pesticides by the farmer or household

USAID also strongly encourages that integrated pest management and alternatives to pesticides be included in any training on pesticide use

Other Pesticide Procedures Aspects

Pesticides are considered a tool of *last resort* and the pesticides chosen should, as far as feasible, be the *least toxic* available

PERSUAP

- **USAID adopted a tool termed the *Pesticide Evaluation Report and Safer Use Action Plan* = PERSUAP**
 - **a reasonable way to address USAID pesticide procedures without invoking an Environmental Assessment**
 - **a Pesticide Evaluation Report (PER) section and a Safer Use Action Plan (SUAP) section, the latter linked to partners' implementation**

PERSUAP

- If pesticides are to be used, a “Pesticide Evaluation Report and Safer Use Action Plan” (PERSUAP) can be helpful in planning their proposed use
- PERSUAPs should analyze threats, consequences and safety issues related to pesticide use
- PERSUAPs can be challenging to implement, and thus partners often seek deferrals before carrying them out

PERSUAP

Reports must be precise and adapted to local realities

The target audience and capacity to enforce guidelines can be different due to specific country situations

The safer use action plan reflects practical actions which can be taken to reduce the risks generated by pesticide use



PERSUAP

If a USAID partner intends to use pesticides through their promotion, purchase or use, it is recommended they consider hiring an expert pesticide advisor for the preparation of both the IEE (or EA) and the PERSUAP

USAID Missions intending to prepare a PERSUAP or IEE for pesticide use can seek advice from the BEO, environmental advisor, or NRM pesticides advisor

**PERSUAPs or Pesticide IEEs must
consider and discuss**

22 CFR 216.3 (b)(1)

- a. Host country & USEPA registration status of the requested pesticide**
- b. Basis for selection of the requested pesticide**
- c. Extent to which the proposed pesticide use is part of an integrated pest management program**
- d. Proposed method or methods of application, including availability of appropriate application and safety equipment**

PERSUAPs or Pesticide IEEs must consider & discuss (cont'd)

- e. Acute and long-term toxicological hazards, human or environmental, associated with the proposed use and measures available to minimize such hazards**
- f. Effectiveness of the requested pesticide(s) for the proposed use**
- g. Compatibility of the proposed pesticide with target and non-target ecosystems**
- h. Conditions of use (climate, flora & fauna, geography, hydrology, and soils)**

PERSUAPs or Pesticide IEEs must consider & discuss (concluded)

- i. Availability and effectiveness of other pesticides or non-chemical control methods**
- j. Host country's ability to regulate or control distribution, storage, use, and disposal**
- k. Provisions made for training of users and applicators**
- l. Provisions made for monitoring the use and effectiveness of the pesticide**

Alternatives to Chemical Pesticides

- **Biological control**
- **Manipulation of the environment**
- **Induced reproductive sterility**
- **Physical control and repellents**
- **Attractants and traps**
- **Genetic manipulation of pest populations**

Steps in Integrated Pest Management (IPM)

- 1. Identify the major pests and establish economic injury levels**
- 2. Select the best mix of control techniques**
- 3. Monitor the field regularly**
- 4. Use all control methods correctly and safely**
- 5. Comply with all legal controls**
- 6. Develop educational, training, and demonstration programs for farmers and extension workers**

Typical Mitigation Measures

- **Emphasize non-chemical methods of pest control and IPM systems**
- **Provide pesticide training and protection to project personnel and participating farmers**
- **Monitor pesticide use**
- **Comply with local laws and regulations**

ANE PERSUAPs

- Afghanistan, long-lasting insecticide-treated nets
- Cambodia, long-lasting insecticide-treated nets
- East Timor, cattle fattening, coffee, vanilla
- Iraq, agri-reconstruction, strategic cities, marshlands
- Jordan, agri-advances, irrigation water use, reuse
- Lebanon, olive & oil, potatoes, bananas, citrus fruits, carrots, nurseries, organic farming
- Pakistan, orchards
- RDM/A, avian influenza

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PERSUAP Approvals

- Records of Environmental Decision (ROD)
- RODs or ETDs approve PERSUAPs
- May be Approved with Conditions
- *May approve environmental compliance documents prepared by other agencies*

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Organizations who prepare PERSUAPs

- Dr. Alan Schroeder, DC
- CADMUS
- Catholic Relief Services
- Chemonics
- Cooperative Housing Foundation, Lebanon
- Mercy Corps
- World Vision
- Dr. Youssef Abou Jaoude, Lebanon

Information Sources

Oct. 21-24, 2007 IPM & Food Safety, Jordan
Agency, ANE, AFR guidelines

Universities, agencies, ministries, USEPA,
pesticide vendors

- *usaid.gov/our_work/environment/compliance*
- *ane-environment.net*
- *encapafrika.org*
- *dec.usaid.gov*