



**USAID**  
FROM THE AMERICAN PEOPLE

# **Pesticides in USAID Projects: Environmental Requirements and Considerations**

WI20

Considerations for Requirements. Softens the title. Already a daunting subject!

Walter Knausenberger, 7/14/2005

# What are pesticides?

**Pesticides are biological, chemical or physical agents used to kill unwanted plants, animals, or disease agents.**

**What about “natural” or “biological” pesticides?**

*Pesticides derived from natural sources (like **Pyrethrum**) are still pesticides.*

**What about disinfectants?**

*The purpose of disinfectants is to kill bacteria or viruses. **Disinfectants are also pesticides.***

W14 CHANGE TO "...kill unwanted plants, animals, or disease agents"

Also, as Brian points out, disinfectants are indeed pesticides.

Walter Knausenberger, 7/14/2005

# Typical pesticide uses in developing countries

WI5

<b>In-field crop protection</b>	<b>Area spraying for mosquito and other disease vector control</b>	<b>Dosing of lakes, ponds &amp; lagoons to control disease vectors</b>
<b>Household insect and structural pest control</b>	<b>Stored product protection (seeds, food aid crops, etc.)</b> WI2	<b>Insecticide treated bed nets</b>
<b>Treatment of export crops, fumigation of timber</b>	<b>Outbreak pest control – locusts, rodents, etc.</b>	<b>Livestock tick control-dipping, spraying, pouring</b>

*And other uses...*

## Slide 3

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**WI2**

replace 'vermin' with 'structural pest'

Add other important use categories. The presenter can add others as they seem relevant. See the two categories added, and other modifications of the text

Walter Knausenberger, 7/14/2005

**WI5**

Africa to developing countries

Walter Knausenberger, 7/14/2005

**In this presentation,  
we will see that that  
USAID's pesticide regulations  
are quite strict. . .**

WI3

**Why ?**

W13

Drop this slide and replace with the two added

Walter Knausenberger, 7/14/2005

# Why are the regulations strict?

**Pesticides are often essential.**

**But pesticides are potent killing agents. Their use has intrinsic dangers.**

**In the developing world, these dangers are worse because:**

- **Quality control** in manufacture, handling, labeling and packaging is **often poor.**
- **Poor use practices** are **wide-spread.**

## **Main dangers of pesticide use:**

**Pesticides can. . .**

- **Damage non-target ecosystems**
- **Affect non-target organisms (e.g., the “good bugs”)**
- **Be dangerous to human health**
- **Persist/accumulate in the environment**
- **Lead to resistance and to resurgence of pests**

WI15

**WI 15**

The comments by Karen highlight the complexities inherent in decisions regarding pesticide use. Lack of knowledge about the human and environmental health effects is one aspect. Another is the perception of IPM as being more labor intensive and knowledge intensive, which leads to pesticides being favored as "silver bullets," assuming they are affordable at all.

Walter Knausenberger, 7/14/2005



**In short,**

**Good development practice requires caution when using pesticides.**



**Obsolete pesticides:  
a serious environmental failure**

picture: UN FAO

**!** **And remember:**  
**Good practice is US LAW.**  
**These pesticide regulations are part of Regulation 216\*.**

Regulation 216 is the result of a lawsuit brought against USAID in the mid-1970s by environment NGOs after several pesticide poisoning incidents. **USAID takes its pesticide procedures very seriously.**

(\*See 22CFR216.3(b))

# Objective of the regulations

It is USAID policy  
to apply the principles of  
**INTEGRATED PEST MANAGEMENT (IPM)**  
to every activity that  
involves or influences  
pesticide procurement  
or use.

WI6

WI7

Properly implemented,  
the regulations should assure  
that the principles of **IPM**  
are realized in practice. . .

## Slide 8

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- WI6**      add/change: "intended to ensure" instead of "should assure"  
Walter Knausenberger, 7/14/2005
- WI7**      addition of IPM policy statement  
Walter Knausenberger, 7/14/2005
- WI8**      See Presenters' notes: the subject of value chain standards is an important one deserving a full slide  
Walter Knausenberger, 7/14/2005

# What is

# Integrated Pest Management?

WI23

## IPM is:

**Ecologically-based pest management that promotes the health of crops and animals, and makes full use of natural and cultural control processes and methods, including host resistance and biological control. It uses chemical pesticides only where and when the above measures fail to keep pests below damaging levels.**

**All interventions are need-based and applied in ways that minimize undesirable side effects.\***

**In IPM, the use of pesticide is a “last resort.”**

## When a pesticide IS used:

**The pesticide chosen is the “least toxic” to do the job.**

**IPM requires that application be as safe and selective as possible.**

**Safe for the farmer and his family, Safe for the consumer, Safe for the ecosystem.**

**WI23**

This is a dense slide, offering a definition, but no examples. Some added to Notes.  
Walter Knausenberger, 7/14/2005

# What do USAID's regulations require?

Simply stated. . .

**IF**

“Pesticide procurement or use”  
is part of a proposed activity,

**THEN:**

**Additional EIA is  
REQUIRED**

W19

**More  
specifically. . .**

W19

"extra EIA" is misleading, as it may be interpreted as implying that a formal EA is needed

Walter Knausenberger, 7/14/2005

# What do USAID's regulations require?

## Reg. 216 states:

“ When a project includes assistance for procurement or use of pesticides....., 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))

To comply, you must know:

A

what is “procurement or use?”

B

What is required in the “extra section” of the IEE?

A

# What is “pesticide procurement or use”?



**Be aware...**

**USAID interprets  
“pesticide procurement  
or use” very broadly.**

**Specifically...**

A

# What is “pesticide procurement or use”?

## Procurement includes . .

1. **Direct purchase of pesticides**
2. **Payment in kind, donations, provision of free samples and other forms of subsidies**
3. **Provision of credit to borrowers could be procurement**
4. **Guarantee of credit to banks or other credit providers could be procurement**

## Use includes . .

1. **Sale**
2. **Handling, transport, storage,**
3. **Mixing, loading, application**
4. **Disposal**
5. **Provision of fuel to transport pesticides**
6. **Technical assistance in pesticide management**

A

# What is “pesticide procurement or use”?

**AND the regulations also usually apply to . . .**

**export-oriented projects involving commodities that require pesticides, even if USAID is not using or procuring directly.**

**This is a type of indirect procurement/use.**

# **A** WI13 The definition of “procurement or use” does **NOT** include. . .

- ❖ Pesticide used in **evaluation plots** & other research, **IF** the following requirements are met:
  - *Surface area of under 4 ha,*
  - *Supervised by researchers,*
  - *Application by trained individuals*
  - ***The treated products are not consumed by people or animals,***
- ❖ **Technical assistance for development of host country pesticide regulatory capabilities**
- ❖ **Support for training in safer pesticide use, **not involving actual application or use of pesticides.****

WI11

## Slide 15

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**WI11**

increased font to 24

Walter Knausenberger, 7/14/2005

**WI13**

See added slide (next) and edited notes

Walter Knausenberger, 7/14/2005

# What about EMERGENCY SITUATIONS and other exceptions?

The Pesticide Procedures do not apply to:

- Projects under **emergency conditions**.
- Projects where **USAID is a minor donor**.

**However**, a decision to provide assistance will be based to the maximum extent possible on the factors normally required in the pesticide section of the IEE.

*See 216.3(b)(2).*

## What are “emergency conditions”?

The USAID Administrator determines in writing that:

**A pest outbreak** has occurred or is imminent;  
**AND**

**Significant health or economic problems will occur** without prompt use of the proposed pesticide;  
**AND**

**Insufficient time is available** to follow normal procedures.

WI10

Added slide to deal with pesticide exceptions

Walter Knausenberger, 7/14/2005

B

# What does the “additional analysis” (EIA process) include?

WI18

The pesticide section of the IEE must explain & assess:

a. The host country & US EPA **registration status** of the requested pesticide;

b. **Basis for selection** of the pesticide;

## Registration status

Under US law, US EPA “registers” particular pesticides to particular uses.

## Why is US EPA registration status important?



**Note:**  
see 22 CFR 216.3 (b)(1) for full text

**WI18** This is a great format!

However, an overview slide that gives all in one may be a useful summary slide in case certain audiences do not need the detail.

Walter Knausenberger, 7/14/2005

# Why is registration status important?

When the proposed pesticide is **NOT** approved for a similar use by **US EPA**,

Reg. 216 requires a **full Environmental Assessment**.

When the proposed pesticide **IS** approved for a similar use by **US EPA**, **BUT** the proposed use is **RESTRICTED** by **US EPA** on the basis of **USER HAZARD**,

Reg. 216 requires that the **IEE ALSO** contain a **user hazard evaluation**.

**!** Pesticides restricted by or not approved by **US EPA** are considered **high-risk!**

**WI 18** This is a great format!

However, an overview slide that gives all in one may be a useful summary slide in case certain audiences do not need the detail.

Walter Knausenberger, 7/14/2005

**B**

# The pesticide section of the IEE must **also** explain & assess:

c. Extent to which the proposed pesticide use is **part of an integrated pest management program**;

## Elements of an IPM program:

1. The pests and outbreak levels that trigger chemical control
2. The mix of control techniques to be used
3. Measures for pest monitoring
4. Measures for ensuring control methods are correctly and safely used
5. Use and maintenance of personal protective equipment
6. Training in safer use

**B**

# The pesticide section of the IEE must **also** explain & assess:

- d. **Method(s) of application & availability of application & protective equipment;**
- e. **Any toxicological hazards;**
- f. **Effectiveness of the requested pesticide for the proposed use.**
- g. **Compatibility of the pesticide with the local ecosystems**

## **Effectiveness vs. unintended effects:**

The pesticide portion of the IEE must evaluate **BOTH** how effectively the pesticide kills the target pest, and what impacts it **COULD** have on non-target organisms and ecosystems.

B

# The pesticide section of the IEE must **also** explain & assess:

- h. **Environmental conditions** under which the pesticide is to be used;
- i. **Availability and effectiveness of other pesticides or non-chemical controls**;
- j. **Host country's ability to regulate the requested pesticide(s)**;

## Non-chemical control methods might include. . .

*Biological control*

*Manipulation of the environment*

*Induced sexual sterility*

*Physical control and repellants*

*Attractants and traps*

*Genetic manipulation of pest populations*

**B**

# The pesticide section of the IEE must **also** explain & assess:

- h. Provisions made for **training of users and applicators**
- i. Provision made for **monitoring the use and effectiveness** of the pesticide.

**AND**

If the proposed pesticide use is **RESTRICTED** by US EPA on the basis of **USER HAZARD**,

**the IEE must also include a USER HAZARD EVALUATION.**

# Mitigation and monitoring for pesticides

The pesticide portion of the IEE requires you to consider a number of mitigation and monitoring measures

**The effective and successful IEE will address these M&M issues proactively.**

## The IEE should emphasize. . .

- Non-chemical methods of pest control within an IPM program
- Provision of pesticide training and protective equipment
- Monitoring of pesticide use & application techniques
- Verifying registration status of the pesticide on an annual basis

WI22

Good additoin re: annual verification of registration status

Walter Knausenberger, 7/14/2005

# Mitigation: Exposure Minimization Opportunities

Opportunities to minimize exposure exist before, during and after pesticide use. . .

Consider transport, packaging & storage practices

- Waiting periods
- Clean/bathing
- Storage & disposal practices



- Choice of formulation and equipment,
- Use of buffer zones



**All options  
require training &  
monitoring!**

# What decision follows from the IEE?

WI21

- ❖ If the IEE finds that the pesticide use presents a **significant hazard to the environment or human health** (a positive determination), an EA will be required.
- ❖ For small scale projects, this often means that support will be denied

WI21

Perhaps the slide on "more risky" pesticides should be linked to this one.

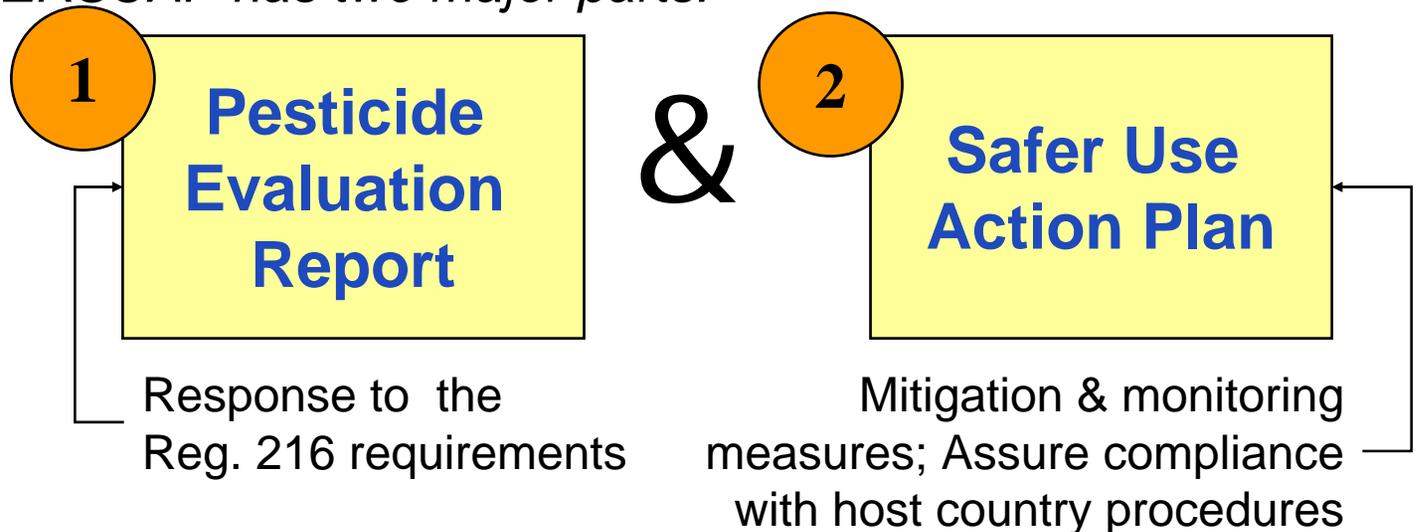
Walter Knausenberger, 7/14/2005

# Pesticide Evaluation Report Safer Use Action Plan (**PERSUAP**)

W119

❖ Originated in the Africa Bureau, but increasingly being adopted elsewhere, the **PERSUAP** constitutes the pesticide section of the IEE

- *The PERSUAP is attached to the IEE, or submitted later to resolve a deferral for pesticide use\**
- *PERSUAP has two major parts:*



WI19

Edited to make more inclusive, not just Africa Bureau any more. See also Hester's presentation and incorporate aspects as apt, in line with Brian's comments.

Walter Knausenberger, 7/14/2005

# Some key resources for PERSUAPs, IPM & Safer use.

## IPM, Safer Use & US Registration Status

**Pesticide Action Network**

[www.pesticideinfo.org](http://www.pesticideinfo.org)

**US EPA Office of Pesticide Programs**

[www.epa.gov/pesticides](http://www.epa.gov/pesticides)

**CABI Crop Protection Compendium**

*Small-scale guidelines*

**ENCAP WEBSITE**

[www.encapafrika.org](http://www.encapafrika.org)

## How to prepare a PERSUAP

**PERSUAP preparation guidance**

**ENCAP WEBSITE**

[www.encapafrika.org](http://www.encapafrika.org)

 **Also included in this sourcebook!**