



**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 <sup>WI5</sup>

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

*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

# USAID's Pesticide Procedures

## 22 CFR 216.3(b)

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

**Why ?**

WI25

This slide needed a heading, and it is necessary to at least mention the phrase "USAID Pesticide Procedures" as a significant sub-set of the Reg 216 Environmental Procedures. The expression "Pesticide Procedures" is often used instead of pesticide regulations.

Walter Knausenberger, 8/6/2005

# 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 U.S. 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.

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 as 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**

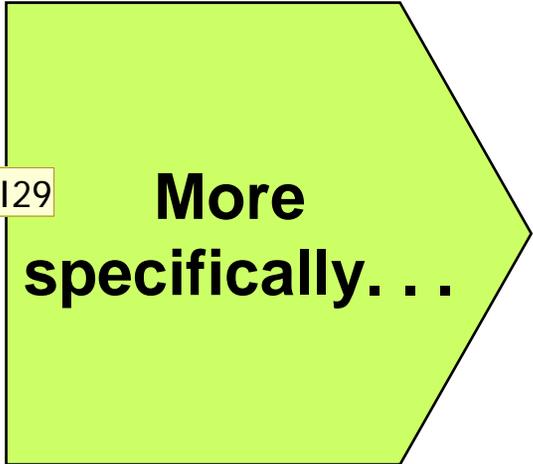
“Pesticide procurement or use”  
is part of a proposed activity,

WI30

**THEN:**

**Additional EIA and  
analysis is *required***

WI29



**More  
specifically. . .**

**WI 29** "extra EIA" is misleading, as it may be interpreted as implying that a formal EA is needed  
Walter Knausenberger, 7/14/2005

**WI 30** See added note, attempting to clarify what "part of" means.

And, it is important to point out that fertilizers are not encompassed by the Pesticide Procedures  
Walter Knausenberger, 8/6/2005

# 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.**

WI33

**WI33**

See notes added about existing Codes of Conduct, EurepGAP certification processes, environmental quality, health and safety standards, and the like, which strive towards the same or similar objectives in the sound use of pesticides, worker safety as does Reg 216 (but with less specificity).

Walter Knausenberger, 8/6/2005

# **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).*

WI24

## 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.**

## Slide 16

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- WI10** Added slide to deal with pesticide exceptions  
Walter Knausenberger, 7/14/2005
- WI24** Clarified the notes section of this slide  
Walter Knausenberger, 8/6/2005

# Fertilizers are *not* subject to USAID's Pesticide Procedures

**Fertilizers** are often lumped with pesticides under the generic heading of “agrochemicals.”

**BUT** the Pesticide Procedures do *not* apply to:

- Use of synthetic fertilizers
- Use of organic fertilizers

**Still**, the IEE can specify and identify good fertilizer use and soil fertility practices.

What does “proper fertilizer use” entail?

WI41

Based on soil chemistry tests, knowing the soil nutrient conditions for thoughtful selection of apt mixtures of nutrients

Integrated soil fertility management, guarding soil health and tilth

Good timing linked to water management

Understanding of the socio-economic conditions

## Slide 17

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**WI36**

Added slide to deal with pesticide exceptions

Walter Knausenberger, 7/14/2005

**WI41**

Fertilizer use often comes up but has not been linked to the Pesticide Procedures presentation previously

Walter Knausenberger, 8/6/2005

B

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

WI18

❖ For pesticides approved by the U.S. Environmental Protection Agency for the *same or similar use*, the pesticide section of the IEE or EA must explain or assess these 12 factors of the Pesticide Procedures:

WI32

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

**Registration status**

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

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

**Why is US EPA registration status important?**



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

**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

**WI 32**

See "same or similar" use definition in notes, plus other categories which must be addressed in an EA

Walter Knausenberger, 8/6/2005

# Why is registration status important? WI18

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!**

**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

**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 (2):

- 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 (3):

- 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*

# The pesticide section of the IEE must **also** explain & assess (4):

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

These 12 items (a-l) constitute the core of the Pesticide Procedures, and must be covered for every proposed pesticide.

## Note:

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.**

WI31

fourth slide in a series describing the 12 factors of the USAID Pesticide Procedures, with a new box underlining this

Changed the last two to k & l

Walter Knausenberger, 8/6/2005

# 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 pesticides are for “**same or similar uses**” as for general use USEPA registered products, the IEE can cover the proposed use(s). WI38
- ❖ If the IEE finds that the pesticides proposed present a **significant hazard to the environment or human health** (i.e., a positive determination), an EA will be required.\*
  - *Restricted Use Pesticides (RUPs) will result in such a determination*
- ❖ For small scale projects, this often means that support will be denied.

## Slide 26

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**WI21**

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

Walter Knausenberger, 7/14/2005

**WI38**

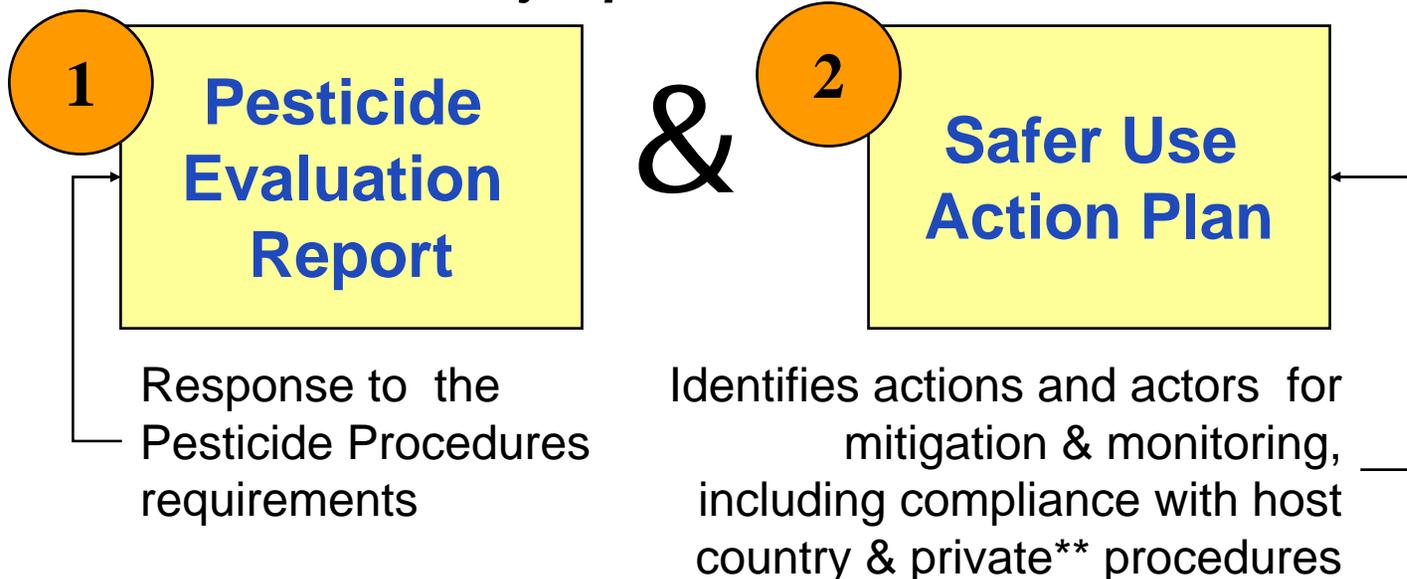
further edited and notes added (same as in earlier slide on B. Additional Analysis

Walter Knausenberger, 8/6/2005

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

WI19

- ❖ Originated in the Africa Bureau, but increasingly being adopted elsewhere, the **PERSUAP** constitutes the pesticide analysis of the IEE\*, or takes its place.
  - *The PERSUAP can be self-standing, be attached to the IEE, or submitted later to resolve a pesticide use deferral*
  - *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
- WI39** Further edits added  
Walter Knausenberger, 8/6/2005

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

## IPM, Safer Use & USEPA Pesticide Registration Status Resources

**Pesticide Action Network Database**  
[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**  
[www.cabi.org/comp/enda/cpc](http://www.cabi.org/comp/enda/cpc)

***Africa Bureau IPM and Pesticide Use Guidelines***  
[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 the Participants' Sourcebook!***

WI40

Edits added, as URLs, heading adjustments, color scheme adjustments

Walter Knausenberger, 8/6/2005