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Pesticide Risks, Safer Use & Compliance

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Learning Objectives



1. USAID requirements regarding the use or promotion of pesticides
2. Overview the PERSUAP format and contents
3. Review field examples
4. Open discussion with question and answer session



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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.*

USEPA has fact sheets for biological/botanical pesticides



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Typical pesticide uses in developing countries

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.)	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...



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Regulation 216 and Pesticide Use

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

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



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What is Integrated Pest Management?

IPM....:

Is an ecologically-based pest management approach which prioritizes:

- The health of crops and their ecological system;
- Monitoring, degrees of intervention, reduced risk and low toxicity controls such as biological and botanical controls;
- Actions required when pests reach economically-damaging levels.

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

How to select IPM pest control options:

Favor the “least toxic” controls (GUPs)

The more selective the control the fewer non-target impacts.

Safe for the farmer and his family, Safe for the consumer,

Safe for the ecosystem.



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What do **USAID's** regulations require?

Simply stated. . .

IF

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

THEN:

Additional environmental
analysis is *required*



Credit: H. Eysenbach/SMTN

More
specifically. . .



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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, *including training*



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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 EMPR can specify and identify good fertilizer use and soil fertility practices,

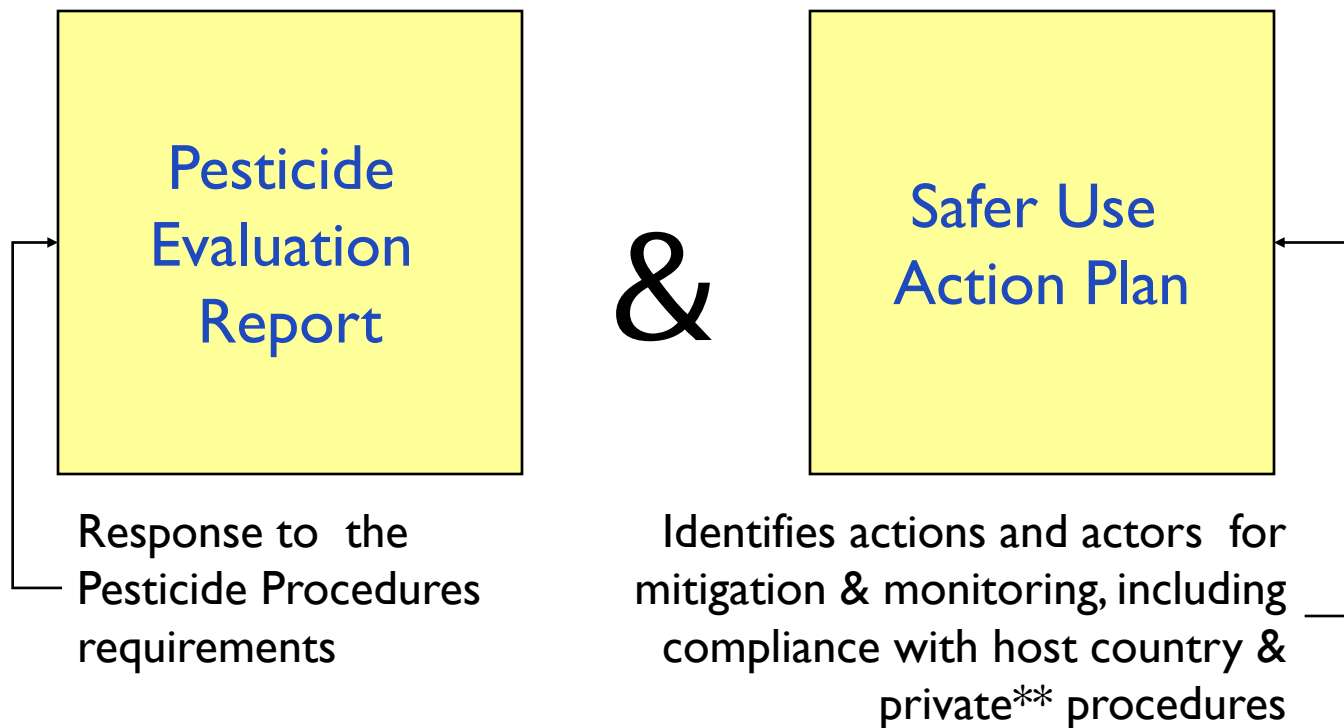
Refer to LAC Guidelines chapter 8 for best management practices.



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

PERSUAP is triggered by an IEE determination and has two major parts:





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Additional Analysis

The **Pesticide Evaluation Report (PER)** includes 12 factors that must be described:

1. US EPA **registration status** of the recommended pesticides for approval;
2. **Basis for selection** of the pesticide;
3. Extent to which the proposed pesticide use is **part of an IPM plan**;





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The Pesticide Evaluation Report must also explain & access:

4. Pesticide availability and it's method(s) of application;
5. Any toxic hazards;
6. Effectiveness of the requested pesticide for the proposed use.
7. Compatibility of the pesticide with the local ecosystems



A master farmer ready to spray at a USAID Haiti training center.

Credit F. Littlejohn-Carrillo/SMTN



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The Pesticide Evaluation Report must also explain:

8. Environmental conditions under which the pesticide is to be used;
9. Availability and effectiveness of other pesticides or non-toxic controls (*other alternatives?*);
10. Host country's ability to regulate the requested pesticide(s);

11. Provisions made for training of users and applicators
12. Provision made for monitoring the use and effectiveness of the pesticide.



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**An adequate pesticide
SAFER USE ACTION PLAN
should *at minimum* do the following:**

- **Monitoring plan and reporting**
- **Training, development and distribution of appropriate information, education and communication**
- **Establish pesticide quality standards and control procedures**
- **Require good packaging and clear and adequate labeling**
- **Define and assure safe use practices**
- **Define appropriate methods of pesticide handling, storage, transport, use and disposal.**
- **Assure accessibility of protective clothing and equipment needed.**
- **Discussion of proper handling, use, and disposal of pesticides**
- **Identify Roles and Responsibilities**
- **Disposal provisions for used pesticide containers**



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Mitigation and monitoring for pesticides

The PERSUAP requires
you to consider and
address a number of
mitigation and
monitoring measures
proactively.

The PERSUAP should emphasize...

- Ensure accurate information on an annual basis (EPA registration and use)
- Provision of pesticide training and protective equipment
- Monitoring of pesticide use & application techniques
- Methods for cleaning and disposal of pesticide containers
- Methods of pest control within an IPM and weed management program, organized by crop

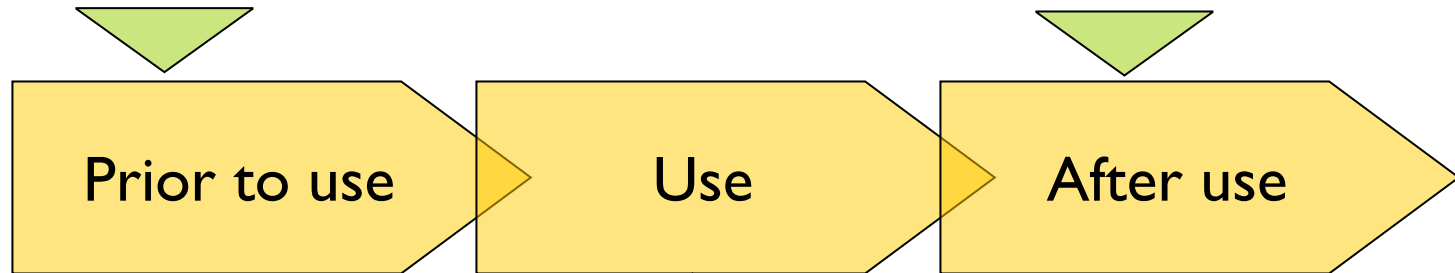


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Mitigation: Exposure Minimization Opportunities

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!



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Additional Recommendations and Best Practices

- Minimize exposure risks
- Minimize product toxicity
- Use personal protective equipment (PPE) as required by the pesticide label
- Enforce Restricted Entry Intervals (REI**) and Pre-Harvest Intervals (PHI**) as specified by EPA registration eligibility decision and label
- Follow technical assistance, application rates and dosages from the labels





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US pesticide labels are legal documents containing language, regulated by the EPA on product use and safety.



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IPM, Safer Use & Pesticide Registration Status Resources

- Pesticide Action Network database (<http://www.pesticideinfo.org/>). “Chemicals” “By Name” “Details” “View U.S. Products” “Currently Registered Products”
- EPA Pesticide Reregistration Status page
<http://www.epa.gov/oppsrrd1/reregistration/status.htm>
- Biopesticides <http://www.epa.gov/oppbppd1/biopesticides/ingredients/index.html>
- Biopesticide updates (2010 and before)
http://www.epa.gov/oppbppd1/biopesticides/product_lists/new_ai_2009.html
- EXTOWNET (Extension Toxicology Network),
<http://extownet.orst.edu/pips/ghindex.html>
- EPA California <http://www.cdpr.ca.gov/docs/label/labelque.htm>
- CABI Crop Protection Compendium www.cabi.org/compendia/cpc
- Pesticide Action Network Database www.pesticideinfo.org
- PERSUAP preparation guidance www.encapafrika.org





Open Discussion:

Examples from the Field

