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
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.
Typical pesticide uses in developing countries

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

*CGIAR policy statement on IPM
Simply stated. . .

**IF**

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

**THEN:**

Additional environmental analysis is **required**

More specifically...
## 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*
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.*
**PERSUAP** is triggered by an IEE determination and has two major parts:

- **Pesticide Evaluation Report**
  - Response to the Pesticide Procedures requirements

- **Safer Use Action Plan**
  - Identifies actions and actors for mitigation & monitoring, including compliance with host country & private** procedures
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**;
4. Pesticide availability and its 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.

The Pesticide Evaluation Report must also explain & access:

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

Credit F. Littlejohn-Carrillo/SMTN
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.
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
The PERSUAP requires you to consider and address a number of mitigation and monitoring measures proactively.

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

Consider transport, packaging & storage practices

Prior to use

Use

After use

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

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

All options require training & monitoring!
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
US pesticide labels are legal documents containing language, regulated by the EPA on product use and safety.
IPM, Safer Use & Pesticide Registration Status Resources

- EPA Pesticide Reregistration Status page http://www.epa.gov/oppsrdr1/reregistration/status.htm
- Biopesticides http://www.epa.gov/oppbppd1/biopesticides/ingredients/index.html
- EXTOXNET (Extension Toxicology Network), http://extoxnet.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.encapafrica.org
Open Discussion:

Examples from the Field