



SESSION 17. PESTICIDE COMPLIANCE, IPM & SAFER USE

Dakar, Senegal ■ June 2018

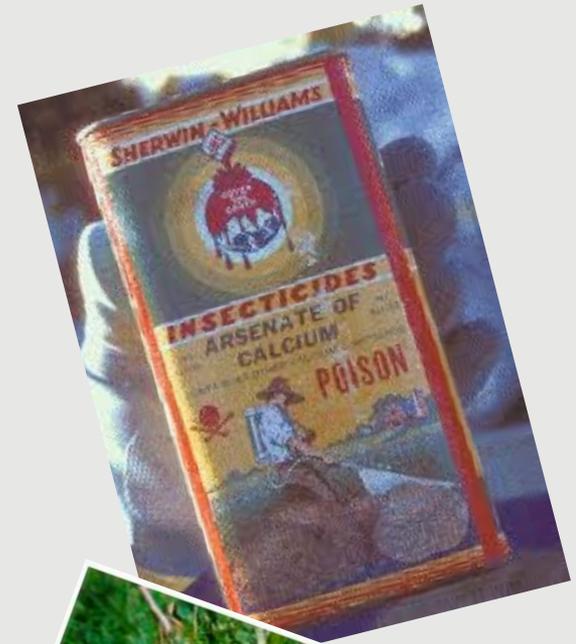


GLOBAL ENVIRONMENTAL
MANAGEMENT SUPPORT

SESSION OBJECTIVE & OUTLINE

Understand:

- Pest and pesticide concepts
- The need to manage pesticide risks in USAID
- The entailed programming and regulatory, context





USAID follows the US EPA definition of pests

PESTS ARE. . .

Living organisms that occur where they are not wanted or that cause damage to crops, animals, humans or other animals.

Examples include: insects, mites, ticks, rodents (and other animals), unwanted plants (weeds, invasive species), fungi, bacteria and viruses.



A PESTICIDE IS. . .

Any substance or mixture of substances intended for:

preventing,

destroying,

repelling, or

mitigating any pest.

Includes biopesticides and disinfectants (except household bleach, common cleaners).

Does not include drugs used to control human or animal diseases.



USAID follows the US EPA definition of pesticides.

The need for pesticides in agriculture. . .is as old as Agriculture:

4500 years ago

- Elemental Sulfur—
still used today
- Sodium Chloride (salt) weed killer—
can still be used



600 years ago

- Mercury
- Lead
- Arsenic



~USD 60bn global market with **~900** AIs in **20,000+** products



NEED FOR SCRUTINY & CONCERN



Pesticides are often essential.

But pesticides are potent killing agents. Their mis-use and mis-management is dangerous

In developing areas, these dangers are worse because:

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

- Damage non-target ecosystems
- Affect non-target organisms (e.g., the “good bugs”)
- Cause chronic sickness, birth defects, cancers, & even death
- Persist/accumulate in the environment
- Lead to resistance and to resurgence of pests
- Result in loss of export markets

PESTICIDE IMPACTS ON HUMANS

- **Acute Toxicity:** Immediate (acute) poisoning leading to serious sickness or death.
- **Chronic Toxicity:** effects over the long term at lower total doses.
For example, Cancer, Parkinson's Disease, Sterility, Organ Malfunction and Birth Defects.

How do
people
receive dangerous
doses of
pesticides?



30+ YR-OLD OBSOLETE USAID-FUNDED PESTICIDES (found during 2003-2004 FAO Survey)

- Proper disposal starts at \$3,000 to \$5,000 per ton, depending on which pesticides are found. Highly toxic ones are much higher.
- Costly site cleanup also needed after the barrels are removed



AS PESTICIDE USE INCREASES ACROSS AFRICA, THE CONTINENT RISKS THE PROBLEMS COMMON IN ASIA. . .

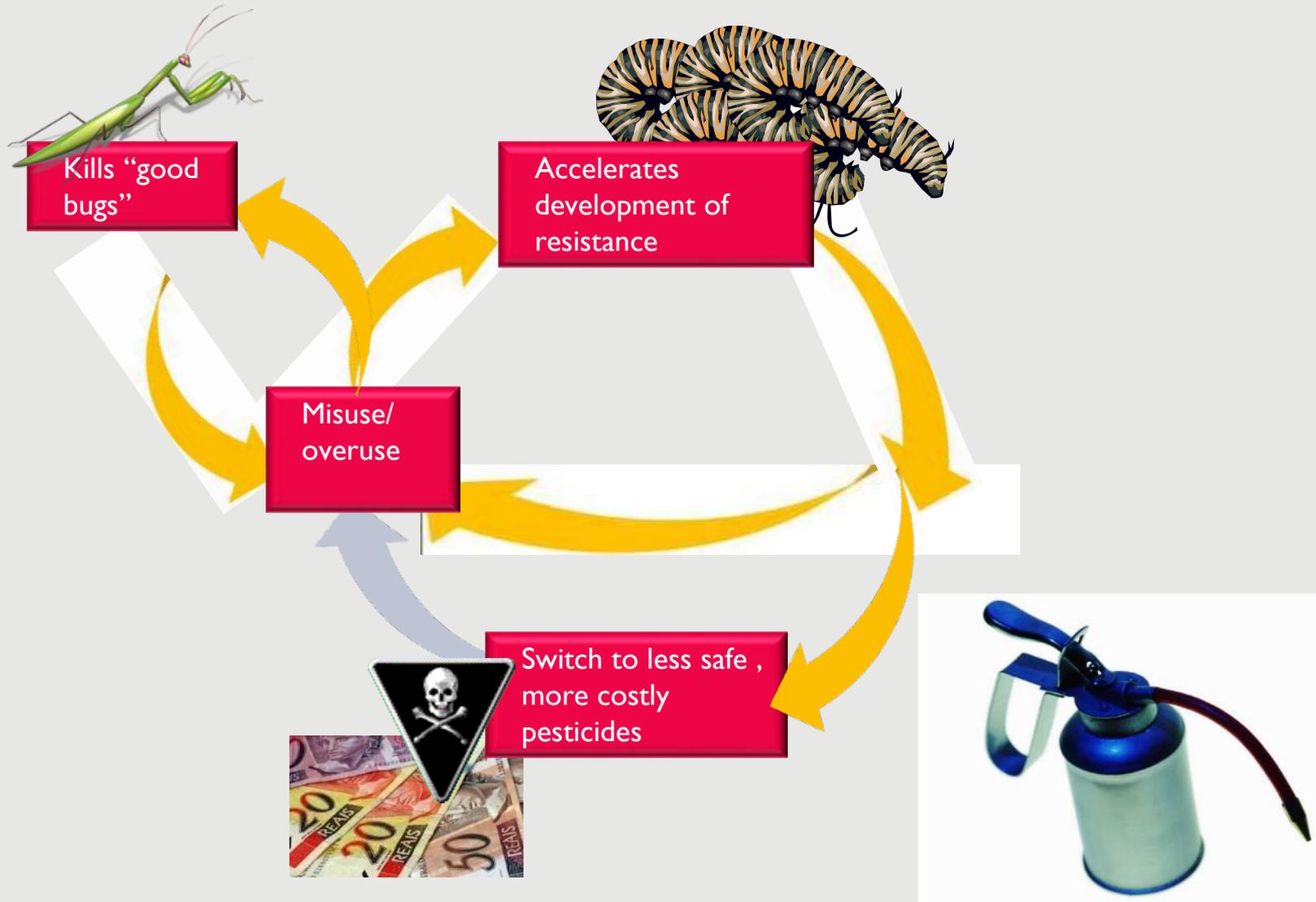


2010 Pesticide Action Network Study:

interviews with 1300 small-holder farmers in China, Cambodia, Sri Lanka, the Philippines, Vietnam, India, Indonesia and Malaysia

- 2/3^{rds} of crop pesticide AIs highly hazardous, but use of proper PPE rare, even in middle-income countries
- **Bangladesh:** pesticide poisoning a leading cause of death in official statistics, and the 2nd-highest cause of death among 15-49 age group
- **Cambodia:** At least 88% of farmers surveyed had experienced symptoms of acute pesticide poisoning.
- **Indonesia:** widespread use of pesticides as mosquito repellants
- Etc.

DANGERS OF MIS-USE: COMMONLY OBSERVED “VICIOUS CIRCLES”



2 “ANCHORS” TO USAID’S MANAGEMENT OF PESTICIDE RISKS. . .

1

Agency-level policy commitment to Integrated Pest Management

2

The “Pesticide Procedures” (22 CFR 216.3(b))--special and additional requirements applying to “assistance to pesticide procurement, or use, or both”

Both have significant challenges to their effectiveness

INTEGRATED PEST MANAGEMENT (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.*

**CGIAR policy statement on IPM*



PERSUAPS:

PESTICIDE EVALUATION REPORTS & SAFER USE ACTION PLANS

The **PERSUAP** is the document by which **USAID** satisfies **216.3(b)** requirements at the **IEE level** – establishes which pesticides can be used, the allowed uses, and restrictions and requirements

PERSUAP = PER + SUAP

PER is the 12 factor analysis

SUAP is the synthesis of compliance requirements (safer use & IPM conditions) that result from the PER.

Regulatory interpretations embedded in AFR “sector PERSUAPs”

- Approve AIs, not products
- Place limitations on AIs to exclude formulations or uses most likely to be RUP in the hypothetical case that the product was US-registered
- Understands EPA approved uses in very general terms & approves AI uses on this basis
- In some cases, approve known or likely RUPs for “trained commercial applicators/operations”

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



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.**



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?

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

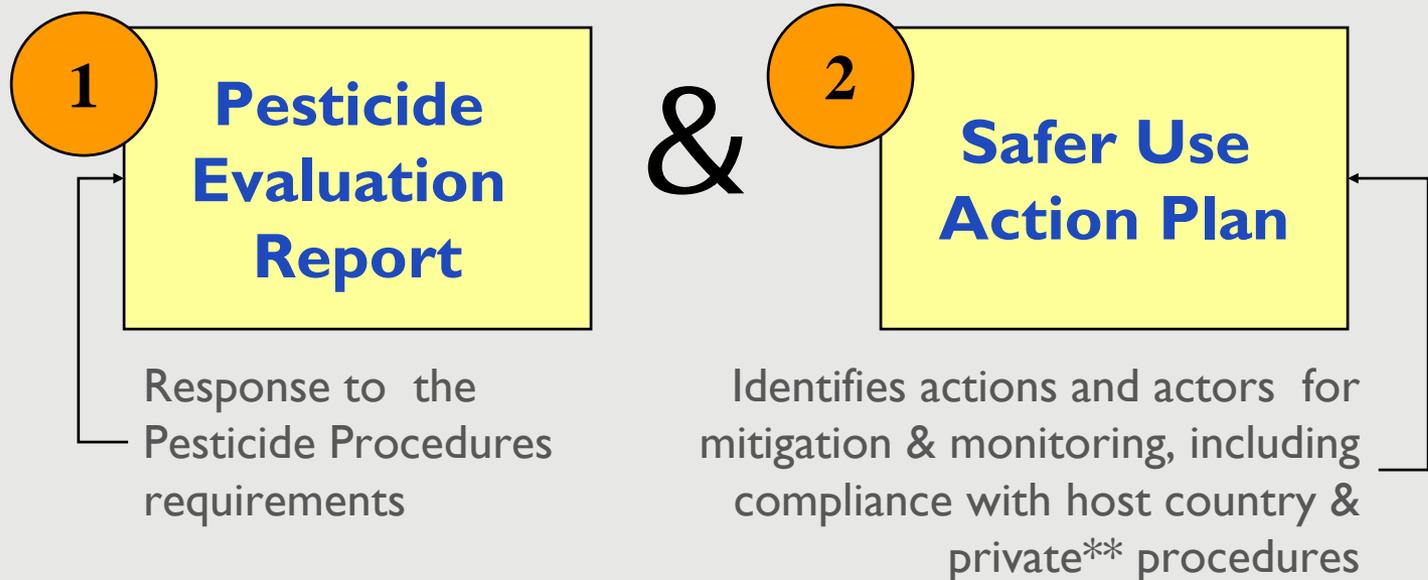
Understanding of the socio-economic conditions

PESTICIDE EVALUATION REPORT & SAFER USE ACTION PLAN (PERSUAP)

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:



HOW DOES THE PERSUAP RESPOND TO REG 216 REQUIREMENTS?

PER

- Pesticides used are only those registered by US Environmental Protection Agency
- Pesticides that are restricted to use by certified professionals are not used without additional environmental assessment
- Pesticides used are appropriate for program needs, uses and users

SUAP

- No harm is caused to project beneficiaries and the general population in the short and long term
- No harm is caused to the environment where USAID is implementing its programs



Farmers making organic pesticide
USAID Indonesia

HOW DO USAID PROGRAMS USE PESTICIDES?

USAID PROGRAMS USE PESTICIDES DIRECTLY AND INDIRECTLY

DIRECT USE – pesticides procured and purchased with USAID funds

- Direct procurement and purchase of pesticides for any use by USAID/implementing partners

INDIRECT USE – pesticides received support/endorsement of USAID programs

- Demonstrating use of pesticides
- Demonstrating activities that require use of pesticides (e.g. demonstrating fertilizers and using pesticides on demonstration plots)
- Training activities that address use of pesticides
- Enabling/funding/supporting/recommending/discussing purchase and use of pesticides
- Providing grants/vouchers/loans and otherwise supporting purchase of pesticides
- Storing, transporting supporting of storing and transporting of pesticides
- Supporting sales, marketing and promotion of pesticides
- Supporting agricultural input value chains that market, sell, store and transport pesticides

The Safer Use Action Plan (SUAP)

MITIGATION: EXPOSURE MINIMIZATION OPPORTUNITIES

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

Consider transport,
packaging & storage
practices

- Waiting periods – to use products
- Clean/bathing
- Storage & disposal practices



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



**All options
require training &
monitoring!**

PESTICIDES USE – SAFER USE ACTION PLAN

Implement all safer use conditions listed in the Face-sheet and the SUAP

SUAP provides a tracker to help track conditions of safe implementation

Direct vs indirect implementation will limit some but not all conditions of the SUAP.

Monitor pesticides use levels by the IPs, monitor pesticide use safety by the IP.

Monitoring will be limited to direct implementation and can be limited where support is indirect unless it is part of the implementation action.



PESTICIDES USE – SAFER USE ACTION PLAN

Ensure reports are written and submitted

IPs should report about safety of their pesticide related activities, both direct and indirect, in their routine reporting (quarterly, semi-annually, annually).

IPs with USAID support must develop and provide safer pesticide use training

SUAP does not provide training materials, but it provides the curriculum and all the required training topics are listed and briefly addressed.



SUAP TOOLS

- List of approved pesticides (input from PER)
- IPM plan (input from PER)
- Tracker for tracking approved and safe implementation, and monitoring and reporting
- Training curriculum outline and safer use guidance materials



Locust swarms can include tens of millions of insects. USAID

BASIC RULES TO FOLLOW IN SUAP IMPLEMENTATION

- Select/allow use only of AIs approved by BEO via PERSUAP
- Do not use RUP products unless approved by BEO
- Select/allow products with proper labeling and ensure availability of Safety Data Sheets for all products
- Ensure availability, and proper use and maintenance of PPE
- Ensure that users always follow label and SDS guidelines
- Implement IPM measures, revise IPM plan as needed

BASIC RULES TO FOLLOW IN SUAP IMPLEMENTATION

- Ensure safe handling, transportation, storage, disposal
- Ensure cognizance of pesticide human health and environmental hazards and proper hazard communications
- Ensure awareness on effects of pesticide residues in food
- Ensure users are aware/know how to mitigate both human health and environmental hazards and minimize pesticide residues in food
- Ensure monitoring of pesticide use supported by USAID
- **Use SUAP tools**

REVIEW OF MANDATORY ELEMENTS OF SAFER USE TRAINING

- Basics of IPM
- Understanding pesticide label including hazard communication standard
- Equipment use and personal protective equipment (PPE)
- Pesticide mixing and applications including general precautions, methods of application, techniques for drift control, and community pesticide use and notification
- Pesticide handling, transport, loading and storing.
- Providing first aid to pesticide poisoning victims
- Pesticide Container Disposal
- Monitoring pesticide use and effectiveness

