# Training Pesticide Chemists in West Africa

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International Stewardship Issues
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# Why Training?

- Global competitiveness in agricultural trade is imperative for economic stability in West Africa
- Capacity-building at its best includes not only equipment and supplies, but also training of qualified scientists

# Without Training...

- Without adequate training, state-of-theart instrumentation remains unused and covered with dust cloths
- It's the modern
   equivalent of tractors
   rusting in fields



## Projects in West Africa

**Activities with Pesticide Residue Chemists** 

Mali Project 1	West Africa Project <sup>2</sup>	
1999-2003	2004-2009	
Capacity Building	Quality Assurance	
Mentoring the Mali Lab	Regionalizing to Other Labs	
Projects funded by USAID/ IPM CRSP <sup>3</sup>		

- 1 Mali Project: Strengthening the Environmental Toxicology and Quality Laboratory of the Central Veterinary Laboratory, Bamako, Mali
- 2 West Africa Project: IPM CRSP West Africa Consortium of IPM Excellence
- 3 **USAID/ IPM CRSP**: United States Agency for International Development, IPM CRSP: Integrated Pest Management Collaborative Research Support Program

# Mali Project

## **Activity**

 Annual exchange of U.S. and Malian scientists



#### **Outcome**

 Keeps the project grounded in reality



# Mali Project

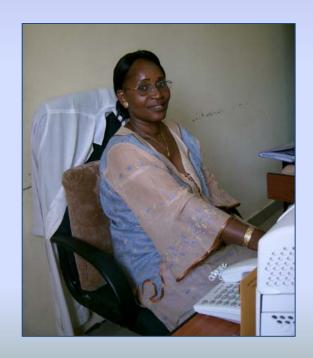
## **Activity**

 Advanced degree (M.S.) for one scientist



#### **Outcome**

 Allows for professional advancement in Mali



# Mali Project

### **Activity**

 Soil samples collected in cotton-growing region in Mali for masters thesis



#### **Outcome**

 Degree research relevant to Malian environmental study needs



# Mali Project (1999-2003)

#### **Activities**

- Annual exchange of U.S. and Malian scientists
- Advanced degree (Masters) for one scientist
- Soil samples collected in cotton-growing region in Mali for masters thesis
- Delivery of additional equipment and supplies

#### **Outcomes**

- Keeps the project grounded in reality
- Allows for professional advancement in Mali
- Degree research relevant to Malian environmental study needs
- Capacity-building in terms of laboratory operations

# West Africa Project (2004-2009)

- Regional project involving collaborators from 4 U. S. universities and nearly 20 West African agricultural institutions
- Project activities: white fly management system, viral diseases in tomato, agroecosystem diversity, pests of potato in storage, quality assurance (pesticide safety education, pesticide residue analysis)

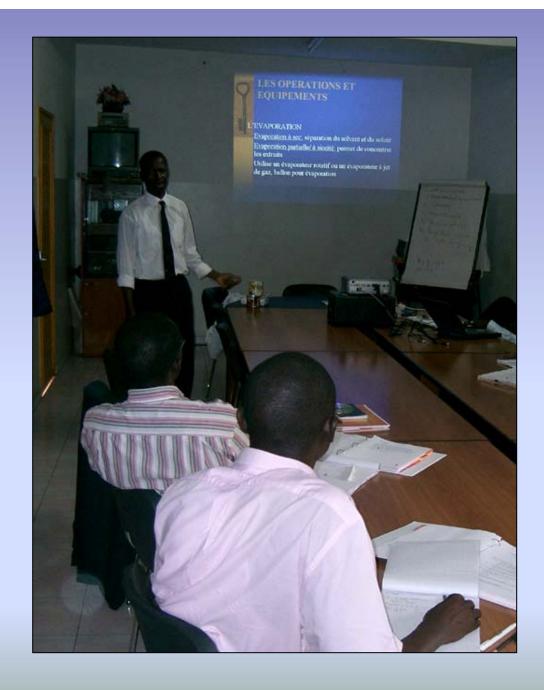
# **Quality Assurance Activities**

- Train-the-trainer model to provide hands-on pesticide safety education to trainers
- Hands-on training for residue chemists who test for pesticides in fruits, vegetables, and other food commodities

## Chemist's Workshop September 2006 Dakar, Senegal

Quality Assurance for Pesticide Residue Chemists

Fruitful exchange of information on quality assurance topics such as reporting limits, pesticide/crop priorities for method validation and inter-laboratory testing; and laboratory capacity and stage of certification/accreditation to ISO standards



# West Africa Pesticide Programs (WAPP)

West Affite 1951 WWW-Waypp.biochem.vt.ed Whetherists and Pesticide Safety Educators

Home   About Us	Ouality Assurance   FAO   Photos   Contribute   Contact Us   Today is: Tuesday, October 16, 2007	
<u>Partners</u>	NEWS	
Workshops	Workshops sponsored by Virginia Tech West Africa IPM CRSP in 2007:	
West Africa Links	Regional Pesticide Safety Educators Workshop (May/June 2007) - Bamako, Mali	
Acronyms		
CHEMISTS	QuEChERS Workshop for Chemists (August 2007) - Bamako, Mali	
Analytical Methods	A special thanks The United States Department of Agriculture (USDA) - Foreign Agricultural Service (FAS) sponsored the travel of a USDA - Agricultural Research Service (ARS) Lead Scientist and three chemists from West Africa (Burkina Faso, Niger, Nigeria) to the QuEChERS workshop, and the Food and Agricultural Organization (FAO)	
Quality Assurance	sponsored the travel of three chemists from Senegal to the same workshop. The regional scope of the QuECHERS workshop was possible due to the support of the USDA-FAS and the FAO.	
Tools & Utilities	workshop was possible due to the support of the OSDA-FAS and the FAO.	
Related Links	Read more about workshops	
EDUCATORS	Welcome	
Training Materials	Greetings to the pesticide residue chemists and pesticide safety educators in West Africa who are visiting this web	
Quality Assurance	site for the first time. And welcome to those who are long-time collaborators.	
Tools & Utilities		
Related Links	Mission Statement	

Our mission is to facilitate networking of pesticide residue chemists and of pesticide safety educators who support agricultural activities in the West Africa region. Useful and relevant information is provided to assist your research activities. Please contact us if there is additional information that you would like to find available on this web site.

## Chemist's Workshop August 2007 Bamako, Mali

# QuEChERS Workshop for Chemists

Hands-on training using the QuEChERs method which is currently in world-wide use monitoring pesticide residues in fruits and vegetables. Chemists from different countries and institutions worked together as teams to promote networking.





## QuEChERS Workshop, Bamako, Mali

Chemists representing 9 laboratories in 5 West African countries (Mali, Niger, Nigeria, Burkina Faso, Senegal) attended – 24 chemists in all.

## Chemist's Workshop August 2007 Bamako, Mali

# QuEChERS Workshop for Chemists

Dr. Steven J. Lehotay, Lead Scientist at the USDA-Agricultural Research Service (ARS) in Wyndmoor, PA, provided lectures on the QuEChERS method and a demonstration/training session.



## **USDA-FAS** and FAO Sponsorship

#### **Sponsorship**

- The USDA Foreign
   Agricultural Service (FAS)
   sponsored Dr. Lehotay's
   travel to the workshop in
   addition to one chemist
   each from Niger, Nigeria,
   and Burkina Faso.
- The Food and Agriculture Organization (FAO) sponsored three chemists from Senegal.

### **Regional Scope**

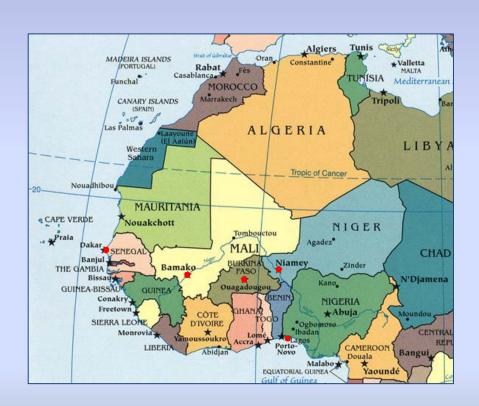
- USAID/IPM CRSP funds
   were leveraged to obtain an
   additional \$12k in funding
   to support professional
   training for chemists.
- The regional scope of this workshop was due to the sponsorship of chemists by the USDA-FAS and the FAO.

## Pesticide Chemists in West Africa

#### **Institutions**

- Environmental Toxicology and Quality Control Lab, Bamako, Mali
- Locustox Foundation, Dakar, Senegal
- LANSPEX, Niamey, Niger
- LACATOX, Ougadougou, Burkina Faso
- NAFCAC, Lagos, Nigeria

#### **Location in West Africa**



Chemists from these institutions participated in the Bamako 2007 workshop

## Lessons Learned

- Hands-on professional training workshops promote technology transfer and networking
- Web sites are a useful tool to share information among researchers in the West Africa region
- Brainstorming sessions are useful to solve professional challenges common to scientists within the region

# Stewardship

What does it mean in terms of training international scientists?

- Empower scientists
- Inform directors and administrators
- Connect-the-dots
- Spread the word

# Thank you for your attention

