

**Global Workshop on
Partnerships For Safe and Sustainable Agriculture
November 20-22, 1995
Washington, DC**

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PREFACE

This report summarizes presentations, discussions, working sessions, and conclusions of an international workshop, titled *Partnerships for Safe and Sustainable Agriculture*, that was held on November 20-22, 1995 in Washington, DC. The workshop was the central event of a collaborative project coordinated by the Sustainable Agriculture program of the World Resources Institute. The workshop featured nine case studies from around the world on programs that are effectively implementing alternatives to chemical-intensive agriculture. Participants consisted of 35 people from different parts of the world, including Asia, Africa, Latin America, and North America, who represent a range of institutions from farmer associations and non-government organizations to international agencies.

The purposes of the workshop were to identify characteristics of collaborative projects that are developing alternatives and reducing risks of pesticides; explain the mechanisms and effects of collaboration, to assess the strengths and weaknesses/constraints of the efforts; and identify key lessons learned as well as implications for actions and policies, to support sustainable and safe agricultural practices.

The event consisted of plenary sessions for presentations of the case studies, break-out working groups to discuss specific key questions and topics, and final plenary sessions for identifying group recommendations and actions. The general purposes were fulfilled during the three-day meeting, and followup plans were also established to continue collaboration with the case study organizations and help expand such efforts.

This "Partnerships" project is supported by the U.S. Agency for International Development, the Kellogg Foundation, the Pew Charitable Trusts, and the Integrated Pest Management program of the Food and Agriculture Organization.

This workshop summary report is not being published as formal proceeding; the complete case studies and more comprehensive conclusions will be published in a book by WRI in mid-1996. (Order information is available from the Publications Office, WRI, 1709 New York Ave, NW, Washington, D.C. 20006; tel 202-638-6300.)

I am grateful to the participants and collaborators in this project; their valuable input and involvement helped to make this workshop a great success. In addition, the excellent facilitation of Michael Lesnick of the Keystone Center was greatly appreciated. The workshop would not have been possible without the assistance of Oretta Tarkhani, Consuelo Holguin, Kristin Schafer, and Sandra Marquardt. I also am grateful for the support and assistance of Thomas Fox, Walt Reid, Robert Blake, William Visser, and Sergio Knaebel.

- L. Ann Thrupp

EXECUTIVE SUMMARY: KEY POINTS AND RECOMMENDATIONS IN THE WORKSHOP

In several regions of the world, people are working together at different levels to overcome or prevent problems from dependency on agrochemicals, and to build alternatives to pesticide-intensive approaches of farming. Some of the key people working on and supporting such collaborative efforts met together in a workshop, summarized in this report, called "Partnerships for Safe and Sustainable Agriculture." This workshop was part of a project that highlights nine case studies from four continents, and promotes the expansion and capacity-building of such innovative initiatives.

The purposes of the Partnerships workshop were:

- Based on case study experiences, to identify the main factors that contribute to successful implementation of sustainable agriculture (such as integrated pest management) practices, highlighting institutional links and participation of farmers;
- To identify key constraints that impede the implementation of sustainable practices and thwart effective institutional linkages (noting commonalities and differences among the cases);
- To determine key strategies, policies, and action plans to overcome constraints and improve the development and multiplication of partnerships/programs for safe and sustainable agriculture.

The groups selected for this project are effectively implementing alternative approaches, such as Integrated Pest Management (IPM), and working in cooperation with various institutions to achieve positive outcomes. They are bridging gaps that are common in conventional relations between research scientists, extension agencies, and farmers. They are also contributing towards goals of sustainable agriculture, which include environmental soundness, social equity, and economical viability. Institutional collaboration and participatory methods were important elements in these efforts.

During this workshop, the participants not only presented key findings from the case studies, but they also discussed in working groups the commonalities and differences of those initiatives. They identified the specific factors and characteristics that enable institutional collaboration and successful implementation, effective training and outreach methods, impediments and weaknesses in these efforts, and the suggestions and needs for change. Most of the suggested actions were aimed to strengthen and multiply institutional partnerships in IPM and other sustainable practices. Many also felt the need for clear definitions of sustainable agriculture and measurement of impacts, and to address the critical questions surrounding the role of pesticide companies and state agencies in this arena. The final discussion led to the recommendation of policy implications, actions for followup, and plans for publication and dissemination of information.

Some key points and recommendations from the workshop are summarized below.

KEY FACTORS CONTRIBUTING TO EFFECTIVE COLLABORATIVE EFFORTS
(identified by workshop participants in group discussion)

- **General principles and approaches**
 - flexibility & adaptability: evolution of programs to broader agenda
 - uphold diversity, allow for complexity; holistic view of agriculture
 - work for visible impacts; openness to learning and change
- **Key aspects of collaborative relationships - partnerships - working with people**
 - working together on same level, but need sensitive coordinator
 - collaboration as equals: mutual respect, share power among actors
 - farmer-driven agenda; NGOs can connect between farmers/scientists
- **Different levels of policy support and involvement**
 - local organization and central policies/government "umbrella" needed
 - create enabling system for local people; receptivity of government
 - favorable economic and political climate needed to "scale up"
- **Critical human dimensions**
 - mutual trust of involved players; dignity with humility; non-arrogance
 - leadership capacity; sincerity among participants
- **Community organization**
 - empowerment of local people; ensure active participation of men & women
 - need ability to attract funds; allows organizations to initiate projects
 - community-based approach facilitates inter-connections
- **Creative tensions**
 - resolving tension requires flexibility
 - addressing tension can help discover what works and what doesn't
- **Capacity-building: ability to escape poverty by building empowerment**
 - need capacity building efforts to benefit farmers
 - empowerment to create self esteem long term focus, and support
- **Knowledge and information**
 - Effective training to share knowledge
 - Assure equal access and flow of information
- **Funding/sustainability over time (financial component)**
- **Ability to measure and describe results**

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EFFECTIVE TRAINING AND DISSEMINATION METHODS

- Cross visits/exchanges (especially south-south partnerships)
- Need to be participatory (men, women, especially farmers)
- Farmer-to-farmer approaches
- Use "lighthouses" (positive examples) as sources of energy
- "Celebrations" (social events) among farmers and families
- Broad outreach ("massification") after starting small-scale
- Long-distance correspondence courses and use mass media
- Technicians' role and attitude need to be changed (need training)
- Storytelling by farmers can be useful
- Need training on group methods

KEY CONSTRAINTS AND GAPS: CHALLENGES TO OVERCOME

Macroeconomic factors (eg, trade liberalization; financial pressures, bad policies)
 Donor/funding issues (inflexible sometimes, longer-term funds needed, don't reach poor)
 Difficulties in "collaboration" (avoid mandated collaboration; seek own terms)
 Influence of agrochemical industry major dilemma (not trustworthy, control knowledge)
 Education and training insufficient
 Difficulty to reach everyone ("scaling up/out")
 Need research for new knowledge and technology

RECOMMENDED GENERAL STRATEGIES AND POLICIES *

-- Based on Case Study Findings and Workshop Discussions --

- **Increase Documentation and Information/Exchange on Effective Partnerships**
- **Build Collaboration and Coordination among Institutions in this Field**
- **Increase Exchange of Groups Doing Innovative Collaborative Work**
- **Confront and Change Policies and Economic Factors to Support Innovation**
- **Address Donor Issues/Policies that Affect Sustainable Agriculture Efforts**
- **Curtail and Control the Influences of the Agrochemical Industry**
- **Build Education and Local Empowerment and Capacities to Sustain Efforts**

* Specific recommended actions in each category are listed in the report conclusions

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PARTNERSHIPS FOR SAFE AND SUSTAINABLE AGRICULTURE:

Joint Efforts To Apply Alternatives to Agrochemicals

Sustainable Agriculture Program
Center for International Development and Environment
World Resources Institute

INTRODUCTION

(Presentation by Ann Thrupp, opening session of workshop)

A. Background

The integration of environmental and social concerns into agricultural development is essential to overcome worldwide problems of hunger and deterioration of health and of the environment. This challenge is illustrated in efforts to manage pests and agrochemicals. Over the past half-century, chemical pesticides have become the main method used by farmers to control pests, especially in commercial crops. Although some pesticides can be effective in the short run, their heavy use causes pollution, provokes pest resistance, and impairs health -- which greatly elevate costs. Pesticides also displace effective non-chemical forms of pest control. These adverse effects undermine productivity and harm people, contributing to unsustainable forms of development.

The conventional approach to agricultural technology transfer (and marketing) contributes to and aggravates these problems. It is generally a top-down process of passing technologies from scientific institutes or businesses to farmers; this seldom meets the needs of poor farmers. There are often gaps between the institutions involved in research, development, extension, and end-users; and implementation of change is often slow. The technologies developed in this approach are poorly adapted to agroecological conditions and have high environmental costs. Sales practices can aggravate these ineffective approaches.

Fortunately, people in many parts of the world are responding to the challenge, working to reduce use of agrochemicals and to develop alternatives to pesticide-intensive approaches to farming, based on agroecological principles. Farmer associations, non-government organizations (NGOs), research institutions, farmworkers, and government agencies are among the groups working on such efforts. Some of these groups have formed collaborative efforts or partnerships, to work jointly on common goals of sustainable agriculture and to develop innovative approaches. *Effective linkages* between actors -- especially between agricultural researchers, extensionists, NGOs, and farmers -- are seen to be useful in these efforts; they help avoid problems of the past approaches and can generate more effective ways to meet needs. At the same time, attention to social dimensions -- such as building participatory methods with local people, ensuring equitable opportunities for the poor, and creating supportive policies -- is particularly important in the transition to sustainable and healthy forms of agriculture.

Although these collaborative efforts are underway, there has been little information available on such projects and how they work, and also very few efforts to strengthen their

effectiveness. Many development institutions and policy-makers are increasingly promoting cooperative alliances, but little is known about the mechanisms, benefits, and needs of such partnerships.

B. WRI's Initiative on "Partnerships for Safe and Sustainable Agriculture"

The Center/WRI's Sustainable Agriculture Program developed a project called "Partnerships for Safe and Sustainable Agriculture" during 1994-95, to assess, document, and strengthen innovative collaborative initiatives that are developing sustainable, equitable, and safe forms of agriculture. This project focuses on joint efforts that are reducing agrochemical inputs and implementing alternatives such as Integrated Pest Management (IPM), to manage pests with no or minimal chemicals. The selected case studies are in the North and South -- including the U.S., Latin America, Africa, and Asia. Most of these cases involve NGOs that are cooperating with other groups on implementation. The project includes both practical research using participatory methods to assess and derive lessons from the existing projects, and capacity-building activities that can multiply and increase the impacts of these initiatives.

The main purposes of the project are to:

- Characterize collaborative initiatives that are developing alternatives to chemical-intensive agriculture (such as IPM) and reducing risks of pesticides (explain their motivations, methods, and mechanisms of inter-institutional collaboration);
- Evaluate the impacts, strengths, and weaknesses of these efforts for overcoming pesticide use problems and implementing alternatives in each case;
- Identify key lessons and implications for actions and policies, and support allied efforts between different groups (such as labor groups, farmers, NGOs, state) for reforms, to improve institutional capacities for sustainable safe agriculture.

C. Selection and Methods of Case Studies

The selection of cases and the substance of the study were decided through consultations with IPM experts. Participatory research was undertaken on each case, coordinated by local actors. These analyses enabled the groups involved to draw lessons about the effectiveness of partnerships in addressing problems and implementing alternatives, and to identify policy implications and areas requiring more work. The project involves a commitment to follow-up the study to strengthen institutional capacities and support efforts to overcome constraints.

The cases chosen for this study have the following characteristics:

- Involve collaboration between at least two (and preferably more) institutions or groups;
- Made considerable progress in implementing changes to reduce pesticide use and/or implement biologically-based IPM or alternative practices among farmers in the area;
- Work at least to some extent with participatory methods with farmers;

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- Have fairly wide influence or scope i.e., affect a considerable population;
- Include attention to workers' health and livelihoods, as well as environmental and production issues. (These features contrast with conventional approaches to agriculture.)

The "Partnerships" case studies were the following:

1) ANGOC/FAO/ICDAI - Philippines

NGOs, the government, and the FAO have worked together to implement IPM in the Philippines as part of sustainable agriculture, and have reached thousands of farmers. The NGO Coalition for Agrarian Reform (ANGOC) coordinates the NGO activities. Participatory Farmer Field Schools have been used to teach agroecological principles and spread changes widely.

2) CARE-FAO, Bangladesh (NOPEST-INTERFISH)

CARE is one of the main NGOs developing IPM and other sustainable rice production practices in Bangladesh. The FAO and the national government IPM program have collaborated with CARE, providing training and technical assistance, using Farmer Field School Approach. Innovations, such as fish-farming, have been integrated in CARE activities as well.

3) BIOS Program, California, USA

This orchard management program uses farmer-to-farmer demonstrations to promote alternative pest control. CAFF is a NGO that coordinates the project; other key actors include farmers, extension agents, university researchers, private industry, and state and federal decision-makers. Farmers eliminated use of organophosphates in the first year, and reduced other chemical inputs.

4) Practical Farmers of Iowa, Iowa, USA

This group of farmers is cooperating with Iowa State University throughout Iowa on-farm research with innovative practices (including soil management, tillage changes, and agrochemical reduction). Field days, seminars, and farmer-to farmer exchanges are among the activities.

5) International Center of Insect Physiology and Ecology, Kenya

ICIPE coordinates two alternative pest management projects in Kenya involving collaboration at several levels. Five categories of collaborators are involved: ICIPE researchers, national programme officers, front-line extension workers, farmers, and community representatives.

6) Rodale Institute, Senegal

Rodale works with local communities and the national agricultural development agency to implement alternative farming practices, including integrated methods for pest control, diversification of home gardens, and soil management. Women and men actively participate.

7) International Potato Center and NGOs, Peru

CIP has worked with local governments, NGOs (both national and international), and community groups to implement IPM programs in the Andean highlands. The program is improving control of Andean potato weevil, potato tuber moth, and leaf-miner fly in rural communities in Peru.

8) CATIE-INTA, Nicaragua

The CATIE IPM program in Nicaragua has significant collaboration at several levels. Working groups allow interaction between farmers, technicians, and IPM specialists. Collaborative research is coordinated through inter-institutional working groups with farmer participation. The program sponsors a national IPM forum with policy makers to discuss inter-sectoral issues.

9) National Program, Cuba

Facing serious economic pressures, Cuba has undertaken a national-scale transition toward low-input organic production in many crops. The widespread production and implementation of biopesticides is an important part of conversion. Many institutions are working on this change.

D. Principal Research Questions:

Working with groups involved in the case studies, the main questions explored were:

- Do collaborative linkages between partners contribute to successful outcomes? If so, how?
- How do the collaborative mechanisms differ from case to case? What makes collaborative mechanisms effective? Or what factors impede their effectiveness?
- Is the participation of farmers and workers, in partnership with other institutions, one of the main keys to successful programs in this field? If so, how is it promoted/inculcated?
- What policy factors enable implementation of these collaborative projects?
- Are partnerships more effective if the partners have complementary capacities and philosophies to contribute to the joint effort?

E. Products and Anticipated Impact:

The project products include a major publication on the case studies and conclusions, a workshop report, and short articles on individual cases. Follow-up products will include guidelines to address the problems identified, and to strengthen regulatory, institutional, and NGO capacities as well as additional workshops and NGO exchanges. The results will interest a wide audience, including policy decision-makers (North and South), especially in development agencies, farmers and farmworker groups, NGOs, students, the private sector, and interested consumers. The general public will also be interested, given growing general interest in pesticides.

The findings and follow-up activities will help support sustainable, equitable, and safe agriculture. More broadly, this project will provide useful lessons on the main themes of institutional collaboration and its advantages and disadvantages. Such information will be useful to groups that are working on many issues outside of pest control and agriculture.

WORKSHOP ON PARTNERSHIPS FOR SAFE AND SUSTAINABLE AGRICULTURE

November 20-22, 1995

Washington, D.C.

An international workshop was held on November 20-22, 1995, to discuss the results of and identify key lessons from the Partnerships project case studies. This workshop, organized by the World Resources Institute, was a central component of the project, and was designed to facilitate exchange of information and identification of lessons and conclusions. The participants in the workshop consisted of 35 people, including the case study representatives, advisors to the project (experienced people working in this field), representatives from development agencies, and policy makers. Participants were from different institutional, disciplinary, and geographical backgrounds.

The general purposes of this workshop were:

- Based on case study experiences, identify the main factors that contribute to successful implementation of sustainable agriculture (or integrated pest management) practices, highlighting institutional links and participation of farmers;
- Identify key constraints that impede the implementation of sustainable practices and thwart effective institutional linkages (noting commonalities and differences among the cases);
- Determine key strategies, policies, and action plans to overcome constraints and improve the development and multiplication of partnerships/programs for safe and sustainable agriculture.

Overview of schedule: (see Appendix for detailed schedule)

Sunday, November 19 -- Arrival

Informal dinner

Monday, November 20

Morning: Welcome, Introduction, Summary Presentations of Case Studies

Afternoon: Discussion/Identification of common themes, and differences

Early evening: Reception at WRI

Tuesday, November 21

Morning: News on related international initiatives and programs

Split into small groups - Identify key lessons and constraints

Afternoon: Identify ways to overcome constraints and to build/spread opportunities

Wednesday, November 22

Morning: Develop action plan, strategies, followup activities; Closing

DAY 1 - INTRODUCTION AND CASE STUDY PRESENTATIONS:

Following introductory comments by Jonathan Lash, Ann Thrupp, and Michael Lesnick (as summarized on the next pages), brief presentations were given by the case study representatives. The draft case studies had been distributed to all participants three weeks before the workshop, so the group already had background information on the cases. The presentations at the workshop were intended to highlight key points and lessons in each case, focusing on elements of institutional collaboration, participation, constraints, and recommendations. Each presentation was approximately 15 minutes, with 5 minutes for questions and discussion. The cases and presentors were the following:

- 1) CARE-FAO, Bangladesh (NOPEST-INTERFISH) - Kevin Kamp
- 2) ANGOC/FAO/ICDAI, Philippines - Father Francis Lucas
- 3) International Center of Insect Physiology and Ecology, Kenya - Joseph Ssenyonga
- 4) Rodale Institute, Senegal - Amadou Diop
- 5) CATIE-INTA/IPM, Nicaragua - Falguni Guharay
- 6) National Program, Cuba - Miguel Altieri
- 7) International Potato Center and NGOs, Peru - Oscar Ortiz
- 8) BIOS Program, California, USA - Jeff Dlott, Mike Spezia, and Ray Eck
- 9) Practical Farmers of Iowa, Iowa, USA - Rick Exner and Jeff Olson

Pages 6 through 24 have summaries of characteristics of the case studies, based on reviews and analyses by Ann Thrupp and Kristin Schafer. Details of the cases, as written by the groups/authors, will be presented in the final project publication.

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Summary of Welcome and Opening Comments

Jonathan Lash, President of WRI

Welcome to Washington, to the World Resources Institute, and to the Partnerships Workshop. This is a fascinating and remarkably diverse group of people who are working on very important initiatives. The participants include farmers, scientists, researchers, and decisionmakers, from just about every continent -- Africa, Asia, North and South America, and also some representatives from Europe. I bid you all well in the days to come.

1. Introduction to WRI

As many know, WRI is a policy research and capacity-building organization. We work at the intersection of trends of development, natural resource management, and environment. We try to address questions that make a difference to people and to the future, not just questions that are interesting. We also try to address these in a way that makes an impact, and can help bring about change. The particular programs and topics that we cover range from forestry, to economics and institutions, to sustainable agriculture.

The Partnerships project illustrates WRI's dual approach to work on both policy analysis while at the same time working on strengthening the interests and effectiveness of organizations that are working on sustainable development.

2. Unique aspects of the project

The cases in the Partnerships project show where and how constructive activities are being carried out to implement sustainable agricultural practices. The people and institutions involved are successfully overcoming conventional problems -- such as bridging institutional gaps, reaching farmers, and addressing social as well as environmental issues. Of course, challenges and constraints remain, but it is important to increase the visibility, impacts, and sustainability of these positive experiences; this project could help do that.

Cases from both the North and South are included in the project. This provides scope for comparison as well as fruitful exchange. People working in the North can learn from South and vice-versa, about methods, commonalities, and ways to achieve changes.

In addition, the lessons from the study (especially on institutional issues and peoples' participation) are useful for other sectors, not just agriculture, but also for forestry, biodiversity, and environmental management in general.

3. Workshop Purposes and Challenges -

One of the main workshop purposes is identifying recommendations and working on followup actions. A publication will be produced; but beyond that, this workshop provides an opportunity and a challenge to develop concrete plans, to expand the impacts of your efforts.

(continued)

The workshop discussion will raise additional challenges to you. Among those is the need to address how these innovative efforts can be made sustainable over time. For example, what measures can be taken avoid depending on donors, while continuing to widen the effects.

Still another challenge is how the private sector should be addressed in these sustainable agriculture efforts. The role of the pesticide industry is often left out of discussions like this. The most thoughtful companies are beginning to open up to the concept of sustainability and its profound implications for them. There may be opportunities to influence or work with these companies to change their practices. If they respond positively, the impact would be enormous. I recognize this idea is controversial and encourage you to discuss it during this workshop.

Finally, we would like to express thanks to the USAID, Kellogg Foundation, Pew Charitable Trusts, and Food and Agriculture Organization for their for support to this project. Thank you again for coming and best wishes for a successful meeting.

Summary of Opening Comments by Michael Lesnick, Facilitator
(Senior Vice President, Keystone Center)

All of the people in this meeting are working on a critically important area; and the case studies are incredibly exciting. We look forward to the three days we'll spend together. I am the facilitator for the workshop and am pleased to be involved in this meeting. (The Keystone Center is a non-profit, nongovernmental organization that provides facilitation on information-sharing, problem-solving and conflict resolution on issues concerning the environment, natural resources, agriculture, food, and nutrition, both domestically and internationally; we have worked with the World Resources Institute over many years.)

In this workshop, we are pursuing several objectives, as mentioned earlier:

- to reflect on the cases in which many of you have been intimately involved;
- to discuss the main lessons learned, and mutually consider those cases so that others can learn about the experiences, individually and as a group; and
- to reflect on next steps and further activities based on the discussions.

My role as facilitator is to keep us on the agenda, help keep discussion moving, at times helping with summaries and posing questions and address issues on the substantial agenda. The meeting consists of both plenary presentations and small working group sessions to address key issues and questions.

The agenda has considerable time for open discussion. We strongly encourage frank participation and dialogue; we hope all of the people in the room have a chance to speak, share their views and insights; there is a great richness of experience among this diverse group.

BANGLADESH CASE STUDY -- Summary

General Characteristics			
Project Initiation:	1993	Study Collaborator:	CARE
Main Crops:	Rice	Main Pests:	Various
Alternatives: Rice-fish cultivation, dyke cropping, farmer training in rice ecology			
Region:	Northwest districts of Bangladesh		
Partners:	CARE, Food and Agriculture Organization, Government of Bangladesh's Department of Agricultural Extension, Overseas Development Association, European Community, Farmers, Research Institutes, Local NGOs		

Impact

NOPEST Pilot - 76% reduction overall in the number of farmers using any pesticides by the end of the rice season. NOPEST farmers experienced an 11% increase in rice production; non-participant farmers experienced no increase.

INTERFISH Program - Direct participants in the program in 1994 numbered 1,450 females and 4,791 males. There are also substantial numbers of indirect participants. Compared to the same cropping season the previous year, 88% of project participants eliminated pesticide use after participation in the program. INTERFISH participants also experienced yield increases of 8.25% and 6.57%, plus the economic benefit of decreased expenditure on chemical inputs.

Key Themes

(1) Participatory Training -- Concept Discovery

CARE's programs use a Participatory Action Learning method of training. This is adapted from the FAO-IPM program approach; CARE has learned this through training by FAO and the government. This approach involves farmers in field experiments to discover agroecological principles. "Discovery sessions" are held throughout the growing season, providing ongoing training. "If farmers better understand the ecosystems of their farms, then they will have the knowledge that they need to manage their resources... and make [better] decisions..."

CARE recognizes that the program does contain elements of a top-down approach, which they view as unavoidable. "The underlying assumption ... is that CARE staff have knowledge about ecosystems that farmers do not have and that would benefit farmers if they acquired knowledge."

(2) Collaboration -- Mixed Motivation

The various partners involved in CARE's IPM programs have diverse motivations. Farmer participants are most interested in the economic benefits they gain through adopting new practices. CARE is interested in economic and environmental/health gains. FAO is interested in strengthening commitment to IPM by the government, and illustrating the effectiveness of IPM and the participatory approach. "Mutually beneficial partnerships can result even when goals and motivations are diverse." Some

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problems arise when coordination and communication among partners is insufficient.

(3) Scaling Up

In addition to more effectively influencing the policies and practices of DAE, CARE recognizes the need to work more effectively with local NGOs to promote the broader dissemination of participatory training. CARE has plans to hire staff to build linkages with local NGOs.

Challenges

- Lack of coordination with official government policies brings conflicting messages to farmers (overall pesticide use in country has increased over course of project).
- Farmers are receiving conflicting information from CARE's IPM programs and those coordinated by the DAE. (CARE stresses elimination of pesticide use, while DAE promotes reduction). Better coordination with DAE would avoid these mixed signals, and promote the wider dissemination of sound IPM practices.
- Continues to be top-down element in training, possibly due to lack of farmer organizations.
- No existing mechanisms for coordinating with local NGOs.
- There has been little follow-up on training and the trainings have not been sufficient for the NGOs to initiate their own programs.
- Formal agreements between CARE, FAO, and government agency would allow for long term planning and project coordination.

Lessons/Recommendations

- Personal motivation and commitment is more important to making collaboration work than institutional policies. "Diligent attention to maintaining and cultivating partnerships" is required.
- Despite CARE's relatively large scale efforts and DAE's IPM program, pesticide use in Bangladesh has continued to increase. This points to the importance of strong national policies promoting alternatives, in addition to field projects showing effective alternatives. The strong presence of pesticide companies promoting chemical solutions is a hurdle to widespread adoption of alternatives.
- Because farmers are much more likely to adopt IPM practices if they perceive and experience economic benefits, "it is important for projects training farmers in IPM and other practices to demonstrate clearly a positive economic impact on individual farming households."
- CARE believes the cooperative relationships between government agencies and NGOs in other countries might provide a model that would be useful to Bangladesh. Active efforts are needed to link field experience with research. This linkage benefits both extensionists, who are exposed to new findings and practices, and researchers, who "see the impact and responsibility of their work in a different light"
- "The farmers are ultimate beneficiaries of these linkages; they have access to more effective methods"

THE PHILIPPINES CASE STUDY -- Summary

General Characteristics

Project Initiation:	National Program -- 1991; Community Program -- 1981
Main Crops:	National Program -- Rice, corn, vegetables; Community Program -- Rice
Main Pests:	National Program -- Various; Community Program -- Various
Alternative Methods:	National Program -- Farmer field school experiential learning approach, promoting variety of farmer pest management skills Community Program -- Farmer training on pest life-cycle, chemical free agriculture
Region:	National Program -- Major rice, corn, vegetable growing areas Community Program -- Infanta, Quezon (25,900 ha, population 35,766)
Partners:	National Program -- Government agency, inter-governmental organization, state universities, local government units, NGOs, farmers groups Community Program -- NGO, church, citizens groups, private schools, farmers' groups, coops Case Study Collaborator: ANGOC

Impact

- National Program, "KASAKALIKASAN": From 1993 - 1994, 3,861 farmers trained in Field Schools, 60-98% drop in pesticide use by volume, 5-15% yield increase in rice.
- Community Program, "ICDAI": Between 1989 and 1994, loan applications for pesticide use ceased among project participants. Frogs and mudfish have reemerged in rice paddies, verifying decreased pesticide use. Farmers use physical controls and botanical pesticides that elderly used.

Key Themes

(1) Participatory approaches and FFS learning philosophy

Adoption of participatory methods has been important to the success of both the national and community IPM programs. The national program evolved from conventional extension methods to the Farmer Field School (FFS) approach. The shift to a more participatory mode made the program more acceptable to farmers and to others, and has contributed to the program success.

The community program emphasizes farmer problem solving and the development of analytical skills through "participatory education." Farmer experimentation is encouraged, and several farmer-initiated nonchemical pest-control measures have emerged.

The FFS approach, based on the Food and Agriculture Organization (FAO) model for IPM training, does not promote a package of IPM technology, but rather presents a *paradigm for IPM which allows farmers to experiment, modify, and choose appropriate methods.*

The FFS principles that guide the learning process are:

- The field is the primary learning resource
- Experience forms the basis for learning
- Decision making guides the process
- Training lasts the entire growing season of the crop
- Curriculum is detailed and coordinated with local conditions of the field school

(2) Demand-driven project development

ICDAI began experimenting with chemical-free agriculture in 1981 in response to demands from farmers

for low-input, low-cost alternative technologies. Due partly to lack of support from other NGOs and funding agencies for this approach, ICDAI pursued the project "relying mainly on farmers' knowledge." By the mid-1980s, interest in the project grew among other NGOs, peoples' organizations, and the church. By 1989, ICDAI sent their agricultural staff for formal training in alternative technologies. This program emphasizes responding to farmer needs, farmer leadership, and farmer-to-farmer extension.

(3) Social Context - Community organization and receptivity

The ability of the community to effectively participate in ICDAI's IPM program is partly due to a history of community organization, mobilization and empowerment. The Catholic Church has been active in the community for several decades, emphasizing people's rights, local control over natural resources, and government accountability. Local people's organizations, cooperatives, and women groups are actively involved in many community development activities, working towards *empowerment* of local people. This social context made the community more receptive to ICDAI's participatory IPM program.

(4) Institutional Linkages

- ICDAI's linkages with farmers' groups have been the most effective. Other local NGOs are reluctant to cooperate, each "carefully guarding its own turf." Cooperation with different groups has provided technical and financial support. Close collaboration with the church, which is a central institution in the community, has been important to the acceptance of ICDAI's programs, particularly at the local level.
- ICDAI's relationship with governmental institutions has evolved in a positive direction as the community program's credibility was established and as the government programs embraced more participatory approaches and alternative technologies.
- ICDAI's link to the national program has been facilitated by link to ANGO (coalition of NGOs) and the FAO-IPM project. There are some areas of overlap and convergence between the national and community program; yet "*creative tensions*" also exist, that can allow for learning by both. There are different types of linkages: "structural" linkages refer to ongoing, institutional partnerships, and "operational" linkages to project-specific collaboration. Both types are used.

Challenges or Constraints

- ICDAI has difficulty collaborating with local NGOs who are suspicious of the program.
- Linkages between ICDAI and national government program are limited by differences in philosophy - non-chemical approach vs. reduced chemical use.
- Linkages between ICDAI and national government program are limited by bureaucratic inflexibility of government. Government agriculturalists sometimes lack understanding of broader approaches to sustainable agriculture.

Lessons/Recommendations

- A participatory approach facilitates wide acceptance of new technologies, and speeds dissemination.
- Partnership must be born out of *respect for each others' capabilities and common needs*, not based on domination or control of one another; this evolves through continual dialogue.
- Understanding existing power structures in a community is important to promoting IPM. Working with communities who understand these power relations facilitates implementation. This requires sensitivity to potential antagonistic relations among local groups.
- A holistic approach to technology dissemination (encompassing loans, marketing, and community organizing) is more effective than a commodity-based approach.
- Government agriculturalists need to be trained on broader concepts of sustainable agriculture.
- The readiness of the community to absorb a new technology is key to effective dissemination. "The receiving mechanism is as important as the delivery mechanism in technology promotion...Community organizing and development should be an inherent component of any technology promotion program."

KENYA CASE STUDY -- Summary

General Characteristics	
Project Initiation: 1992	Study Collaborator: ICIPE
Main Crops: Cattle	Main Pest: Tsetse fly
Alternatives: NGU Trap	Region: Lambwe Valley, Western Kenya
Partners: International Center for Insect Physiology and Ecology (ICIPE), KISABE (community organization), Ministry of Agriculture and Livestock Development, Ministry of Culture and Social Services, Natural Resources Institute	

Impacts

Hundreds of non-chemical traps for tsetse flies have been set up throughout the Lambwe Valley by local community organizations. 43% of the 8000 households in the area are actively participating. The community participants are balanced geographically and in terms of gender.

Between July 1994 and March 1995, densities of tsetse flies in the project area were reduced by 100% (female) and 96% (male). Trypanosomiasis infection rates in cattle declined dramatically. Farmer-perceived benefits include improvement of livestock productivity, decrease in sleeping sickness, greater use of land and forest resources, and decline in emigration from the project area. The project also resulted in establishment of a new community institution which disseminates new ideas and technologies for other projects.

Key Themes

(1) Capacity building for participation/collaboration

A general philosophy of self-help promoted by the Kenyan government provides political support for community-based development. However this was not sufficient to give Lambwe Valley residents the skills and motivation to carry a project forward. Effective participation of the community in the tsetse project was dependent on organizational and technical capacity- building.

Organization and Management: The project initiation included training for a core group of farmers on community mobilization and establishing a local organization. The resulting organization -- which has a complex structure -- became ICIPE's main partner in the project. "Forming the organization was the first and necessary step for collaborating with other institutions ..."

Scientific training: ICIPE provided interdisciplinary technical training with scientific content to the core group of farmers. "This reinforced the 'self realization' process by engendering "informed decision making" and the ability to evaluate other control methods." The training given to farmers -- passed on to other community members, enabled the community to establish partnerships with researchers.

Local people are involved in impact assessment and evaluation, as well as other stages. This increases farmer knowledge/judgements and provides feedback to researchers.

(2) Demand-driven project development

The tsetse project was developed by ICIPE in response to a request from the community. Farmers asked to be trained in trap management after they observed success of the traps nearby. The

region had a history of unsuccessful government efforts to eradicate tsetse that were capital and chemical intensive and did not involve the community. The community was motivated to find effective controls for tsetse, the source of trypanosomiasis among people and cattle.

(3) Collaboration: Motivations and Reciprocity

The project partners had distinct, but complementary, motivations to participate in the tsetse control project. The community was in search of an effective method of controlling tsetse, and wanted to avoid sprays they saw as futile. Government ministries recognized the potential savings from tsetse control by the community. ICIPE wanted to assess other aspects of the trap, and to demonstrate that the community can manage it on its own. All groups also shared interests in pooling scarce resources.

Mechanisms for linkages include formal contractual relations, with specified definition of roles (eg, NRI, ICIPE) and informal relations. The linkages are dynamic and situational, evolving with needs.

Within institutions as well, collaboration is important: interdisciplinary teams were established in ICIPE, and the community group required collaboration among the villages to carry out the trapping.

(4) Community investment

The project was designed to depend on the community's willingness to fully support project costs. As an outside agent, ICIPE provides technical training, support, coordination with other partners, and monitoring. Participating farmers report that they are "more highly invested in the project because the basis and origin of this project were rooted in their felt needs."

Challenges/Constraints

- Lack of capacities in state institutions (MALDM) for extension and social service, requiring the search for new partnerships.
- Lack of full participation at community level; some community members are seen as "free-riders" who benefit, but don't participate in the effort. Not all the poor people can participate.
- Failure of some participating institutions to share in program costs. (For example, some farmers perceived that some of the government ministries involved in the project were benefiting from reduced costs of tsetse control without contributing sufficiently to the project and people.)
- The phasing out/turnover process is not carefully planned in project preparation.

Lessons/Recommendations

- The sustainability of the project depends on its ability to persuade individuals to participate even when benefits are perceived to be more generalized to the community.
- It is necessary to develop methods that can ensure that all share the benefits and risks.
- A successful community-based process involves: (1) community awareness of problem; (2) community development of solution of seeking outside intervention; (3) general acceptance of the intervention, collaborating with other groups; (4) organization to implement the changes. To ensure sustainability, step four must be understood by the community to have ongoing contribution of materials, funds and labor.
- To avoid misunderstandings on the role of various institutions in the collaborative project, it is important to involve all organizations -- especially community-based groups -- in the project preparation.
- Farmers desire more training for increasing capacities.

SENEGAL CASE STUDY -- Summary

General Characteristics	
Project Initiation:	1993 Study collaborator: Rodale
Main Crops:	Vegetables, millet Main Pests: Various
Alternatives:	Building soil with organic matter, application of neem extract
Region:	Village of Gad Khaye, in Thies region of Senegal
Partners:	Rodale Senegal, farmers' association, ISRA (National Research Institute of Senegal)

Impacts

Adoption of the natural crop protection and soil conservation techniques promoted by the program is high, and includes farmers not directly involved in the program. Reduced use of pesticides reduced production costs and led to a general improvement of village health (fewer cases of illness from pesticide residues/spray). Yield is also reported to have increased (farmers report that "the number of millet spikes which used to yield 10kg now yields 15kg"). Majority of project participants at village level are women.

Key Themes

(1) Participatory, Farmer-Driven Approach

Project participants are involved in the design, monitoring and evaluation of Rodale's IPM project. "The involvement of the farmer as the primary developer and evaluator of on-farm research trials is critical to success and continuity." The project was initiated at least partly in response to needs identified by the village-based women's group.

(2) Mutual Benefits of Collaboration

- Ensures better identification of priority research topics for researchers
- Increases researchers' awareness of field realities and priorities of rural communities
- Makes research findings more accessible to development workers and to farmers.

(3) Scaling Up/Replication

More than 100 associations have visited the project site to exchange information, and six neighboring villages have been trained in similar techniques.

Challenges or Constraints

- More than one source of technical information are available; and farmers receive conflicting advice from different groups.
- If roles of collaborating partners are unclear, there may be competition for leadership.

Lessons/Recommendations

- An open and healthy dialog among participating institutions is needed for successful partnerships. "Three key words..for effective collaboration between various partners: synergy, adaptability and openness."
- "Collaborative efforts should ensure that farmers' capacity to monitor and evaluate their activities is improved."
- "Women who are more aware of the negative effects of chemicals on the health of their children are more willing to use alternative pest control measures."
- The IPM program and training has led to greater technical understanding among the women of the village. "Previously, it was the men who held the technical agricultural knowledge; however, it is constantly the women who are the decision-makers in household agricultural production."

NICARAGUA CASE STUDY -- Summary

General Characteristics	
Project Initiation:	1989 Study Collaborator: SIMAS/CATIE
Main Crops:	Tomato, banana, coffee, other Main Pests: White fly, coffee weeds, others
Alternatives:	Microbial biocontrol products, neem oil, parasitic wasps, covercrops Better pest management decisions based on ecological/biological knowledge
Region:	National
Partners:	Tropical Agricultural Research and Higher Education Center (CATIE), Nicaraguan Institute for Agricultural Technology, Universities, Ministry of Agriculture and Ranching, producers' groups

Impacts

Institutional level: the project has strengthened the capacity of participating institutions to improve IPM techniques and implementation. Commodity-specific workgroups have "optimized the human and economic resources of member institutions."

Producer level: the project has involved producers in the development and transfer of IPM technology. An estimated total of 2000 producers are involved in the work groups. This participation has led to high rates of technology adoption. The socio-economic impact of participating producers -- particularly 1,300 tomato growers -- has been positive, although specific quantification has not yet been carried out. An increase in use of non-chemical controls has also reduced grower and farmworker exposure to pesticides.

Key Themes

(1) Weak government extension ==> new linkages

Government reorganization in Nicaragua since 1990 has included significant cutbacks of personnel in the agricultural sector. This restructuring and the lack of human resources in the government led the CATIE/INTA IPM project to develop links with about 30 other institutions, such as NGOs, schools, technical institutions, local and national projects, and regional networks.

(2) Mixed economic/policy incentives - policy context

Increased input costs: Reduced subsidies for pesticides and scarce credit have provided "strong incentives for producers to look for new agricultural practices that are less costly and more profitable." This has increased producer interest in the IPM project."

Increased trade incentives: Economic liberalization policies, the opening of the domestic market, and high international coffee prices have contributed to an upward trend in pesticide use. This has generated concerns among those promoting alternatives.

(3) Interdisciplinary, collaborative teams

The project includes research, technology development, and technology transfer -- working in a collaborative mode. Workgroups focusing on IPM in specific commodities (or focusing on a specific pest) have been formed under the project. The workgroups bring together NGOs, state and research institutions, representatives from various projects, and producers. The workgroups help in planning, and "make it possible to coordinate and improve institutional actions depending on interests and capabilities."

The workgroup mechanism was established as a more effective way to develop IPM strategies. (Formal training, short courses and conferences were the original approach). Three factors were identified as components of this new mechanism's success: inter-institutional collaboration, inter-disciplinary work, and the direct participation of producers.

(4) Producer participation/responsibilities

Producers directly participate in problem diagnosis, project design, selection of options, and evaluation. The participatory approach was added to the project after several years of operation. This approach has proven more effective; adoption rates are higher and the traditional knowledge of producers has been "rescued" to help build ecological approaches to pest management.

Experimentation by producers is emphasized, and any risks for experimental technologies used in on-farm trials are assumed by the producer (no subsidies are provided).

Challenges/Constraints

- Technicians lack experience working directly with producers and often don't have training in communication skills; this is an obstacle which has yet to be completely overcome.
- Some partner institutions and scientists lack experience with participatory methods.
- Government instability makes effective linkages with state institutions difficult; and government budget reductions drain technical expertise available for IPM projects.
- The project still has relatively few activities on technology transfer/implementation; and lack of documentation on economic viability of IPM, that's needed to convince farmers to adopt IPM.
- The project has not given sufficient attention given to gender issues.

Lessons/Recommendations

- "The classical model of technology transfer was the principal method used by a majority of the institutions linked to the project. The acceptance and implementation of a different methodological approach was a significant obstacle that the project had to overcome."
- Economic incentives play an important role in convincing small and medium producers to try IPM.
- An interdisciplinary approach is central to effective IPM implementation.
- "Highly qualified and experienced personnel, labor stability for the staff, and the availability of significant financial resources for the entire project period" have been critical to the project's success.
- Need for more training of technicians -- as well as experts -- in participatory methods.

CUBA CASE STUDY -- Summary

General Characteristics	
Project Initiation:	1991 Study collaborator: IFDP/Rosset
Main Crops:	Sugar cane, sweet potato, plantain, others
Main Pests:	Sugar cane borer, sweet potato weevil, black plantain weevil, others
Alternative Methods:	Microbial biocontrol products, natural enemies, resistant varieties, crop rotation, cover cropping, integration of grazing animals
Region:	National
Partners:	Ministry of Agriculture, Ministry of Sugar, Ministry of Science, Technology and the Environment, extension service, Centers for the Production of Entomophages and Entomopathogens, state farms, farmer coops, NGOs, Ass'n of Small Farmers

Impacts

Cuba is in the midst of the largest transition to alternative farming practices ever undertaken by an entire nation. Cuba has recently developed remarkably high production and use of biological products and biocontrol organisms; for example 1300 MT of *Bacillus thuringiensis* (BT) and 2800 MT of *Trichoderma* were produced in 1994. Throughout the country, producers have adopted these nonchemical alternatives and soil restoration methods. These changes, combined with policy reforms, allow Cuba to increase food production, despite shortages of conventional inputs and serious economic difficulties.

Key Themes

(1) Policy and institutional support

The national transition to nonchemical alternatives in Cuba since 1991 has been largely the product of government policies put in place to respond to the lack of inputs and the imminent food security crisis.

Government policies supports a strong scientific infrastructure and the use of nonchemical alternatives. In sweet potato production, for example, the Ministry of Agriculture prohibits using pesticides in fields where biological controls are being used to control the sweet potato weevil.

Many government institutions are working on the transition. As an example of collaboration, the Cuban National Academy of Sciences created a working group (Biological Front) that brings together 36 institutions, for creating research policies and sharing findings. An NGO, (Cuban Organic Farming Association (ACAO)) is playing a key role in pushing for the institutionalization of sustainable agriculture.

(2) Building widespread capacity

Input substitution and soil restoration are the main thrusts of this transition. The government supports the widespread development of facilities for producing biocontrols, such as insect diseases, crop disease

antagonists, trichogramma, and predatory ants, at the local level.

Biocontrol agents are produced in 222 artesanal facilities maintained by local technicians. The centers produce biocontrol agents suited to crops in each region; farmers have easy access to the inputs.

"Linking people with the land" is a theme stressed in this transition. This is an effort to reconnect people to the resources -- an approach that's needed in organic production, and that has been lost during decades focused on monocultural large-scale sugar production.

(3) Human resources

Scientific/technical expertise: Cuba's investment in training of scientists and researchers over the years left it well prepared scientifically to approach the challenge of increasing production with low-input methods. Younger scientists who were influenced by the ecology movement are an important resource.

Farmer knowledge: Small farmers have been the most successful in making the conversion to a productive, low-input agricultural sector. Their practices are based on a combination of "the old techniques -- like intercropping and manuring -- that their parents and grandparents had used before the advent of modern chemicals" and modern biological control methods. Some researchers and government officials increasingly recognize the value of traditional farming techniques, and the Ministry of Agriculture supports farmer-to-farmer exchanges of traditional knowledge through workshops.

(4) Centralized planning, decentralized management

Efficient implementation of the government policies was made possible by the "organized nature of Cuban society" which allowed the government to mobilize the needed expertise and resources for the program. At the same time, decentralized management is critical to the success of these efforts. As the program evolved, state farms were not able to respond as effectively to the low-input agriculture mandate as small farmers. This is partly due to scale, as well as limitations of central management. So, the government eliminated state farms and created smaller-scale management units, better for low-input farming.

Challenges/Constraints

- Strong linkage between research and extension can lead to quick spread of both successes and errors.
- Widespread view of peasants as "backward" made farmer-led research difficult.
- Large monocultural production systems still present some difficulties, impeding this transition.

Lessons/Recommendations

- "What may be most remarkable about the recent changes in Cuban agriculture is the rediscovery of the traditional values and knowledge of farmers."
- "Expertise in biotechnology has been combined with traditional peasant knowledge and the alternative agriculture focus of many agricultural scientists to produce innovative responses to the crisis situation."
- "The challenge for the future in Cuba is to achieve the best of decentralized management while retaining the best of central planning."

PERU CASE STUDY -- Summary

General Features

Project Initiation:	1992	Main Crop: Potatoes	Study Collaborator: CIP
Main Pests:	Potato Tuber Moth (PTM), Andean Potato Weevil (APW), Leaf Miner Fly (LMF)		
Alternatives:	APW, PTM - Farmer observation of life cycle, various non-chemical controls LMF - Sticky traps		
Region:	Several regions of Peru, including highland and coastal areas		
Partners:	International Potato Center, CARE-Peru, Centro de Investigación y Desarrollo, Tallpuy, Arariwa (NGOs), Farmers' organizations		

Impacts

- Andean Potato Weevil: Implementation of the IPM program for three farming seasons led to a drop in APW damaged crop from 31% to 10% in one community and from 50% to 15% in another. Estimated net benefits were \$154 per hectare.
- Leaf Miner Fly: Adoption of IPM among commercial potato farmers in a coastal valley has grown from 3.5ha in 1992 to 48ha in 1994, and a projected 330ha for 1996. Potato yields have increased and production costs decreased with the use of yellow sticky traps to capture LMF. Benefits per hectare are estimated at \$162 (\$70 in increased yield and \$92 in savings).
- General returns: In El Tambo Valley (CIED-CIP), the estimated rate of return on investment of the project is 45%, considering all costs of R&D, technical assistance, and adoption.

Key Themes

(1) Policies Supporting Collaboration/Sustainable Approaches

Government policies have directly and indirectly influenced the formation of new partnerships and approaches in Peru. Government extension services have been reduced. Therefore, research institutions were forced to find new channels of validating and disseminating their research results -- which led them to seek out partnerships with extension-oriented NGOs. Government policies also encouraged environmentally sustainable research and development in agriculture.

Changes in NGO policies and approaches also contributed to the formation of partnerships. Due partly to the violent atmosphere created by the guerrilla movement in rural communities of Peru during the 1980s, many NGOs shifted from a political approach to a more pragmatic agenda in rural areas. International donors also influenced the NGO agenda by emphasizing environmental approaches.

(2) Institutional Strategy for R&D

CIP's strategy in IPM consists of: a) pest problem assessment, which includes farmers' perspectives and technical aspects; b) development of management components (coming from both scientific work and traditional farmer knowledge); 3) integration of key components to ensure compatibility; d) implementation in pilot areas and farmers participation in evaluating IPM components; and e) large-scale implementation with participation of NGOs, universities, farmers organizations, and other groups. At the final stage, inter-institutional linkages and design of suitable media are key factors to success.

(3) Mixed/Complementary Motives for Linkages

From CIP's perspective, the development of sound technology (research results) and the users' perceptions of it are key factors motivating institutional linkages. At the same time, NGOs needed new information and alternatives to cope with problems, and therefore sought collaborative linkages. CIP

recognizes that its research needs feedback, and benefits from adaptive research carried out with NGOs.

Collaborating partners have diverse institutional objectives, with complementary areas. (CIP's objectives, eg, include research and training. The extension objectives of NGOs include farmer understanding of pest management concepts, increasing production, and food security.) Cooperation is stronger as objectives evolved from a past focus on productivity to sustainability and human resources.

(4) Linkage Mechanisms - Formal vs. Informal

Institutional relationships often require more flexibility than "institutional rigidities" allow. "The formal structure of institutions has not changed significantly to cope with inter-institutional needs, but new temporary and informal linkage mechanisms were created to facilitate the planning and evaluation of cooperative activities.... Personal contacts between extensionists and scientists have been "the driving force of inter-institutional relationships." While informal linkages have been key to negotiating partnerships, formalizing relationships can help enhance collaborative work.

(5) Linkage Impacts/Benefits

Researchers - Partnership with extension institutions brings new valuable input to the development and evaluation of new IPM technologies. Researchers learn how to communicate scientific concepts more effectively, and "how to consider socioeconomic and cultural factors..that could impede IPM adoption."

NGOs/extensionists - Collaboration with researchers increases NGOs' knowledge of sustainable pest control technologies. The partnership improves NGO capacity to communicate and negotiate with external donors, partly because NGOs become more technically capable, and because donors see the partnerships as positive. NGOs also learned to adapt researchers' advice.

Farmers - The "most important benefits at the farmer level is sustainability of IPM implementation through enhancement of farmer knowledge about insect life cycles and alternative(s)..". The participation with researchers has helped this learning. Farmers can choose the most suitable practices for their conditions... after a process of analyzing and understanding of insect behavior. In some cases, knowledge enhancement is more important than economic benefits.

Challenges/Constraints

- Institutional rigidities sometimes thwart flexibility required for effective partnerships; achieving implementation has to rely on personal relationships.
- Different perceptions of/philosophies regarding IPM among various partners have to be clarified and negotiated at project outset.
- Promotion of chemical use by private companies brings conflicting messages to farmers and is incompatible with the IPM approach. Insecticide companies and other institutions with chemical-intensive approaches are "competitors" to the IPM program.

Lessons/Recommendations

- "IPM, in contrast to other technologies such as fertilizers, improved seeds and pesticides, is based on a teaching-learning process. Therefore, where a technology is knowledge-based, inter-institutional cooperation is essential and should be permanent."
- Farmer participation needs to be in all stages of the project (starting from the design phase)
- "The human factor is a key determinant for the establishment of inter-institutional cooperation."
- Inter-institutional cooperation can lead to further linkages, particularly at the local level.. "for example with political authorities, farmers' organizations, other NGOs and educational institutions."
- CIP sees a need to formalize institutional relationships to enhance collaborative work. Formal/semi-formal agreements would allow integration of workplans for long-term, and improve information flow.
- Sustainability of IPM depends partly on farmers' abilities to communicate information to other farmers and ability of institutions to coordinate.

CALIFORNIA CASE STUDY -- Summary

General Characteristics	
Project Initiation:	1993 Study Collaborator: CAFF-BIOS/Dlott
Main Crops:	Almonds, Walnuts
Main Pests:	Navel Orangeworm, Peach twig borer, Southern Fire Ant
Alternatives:	Building soil and attracting beneficial insects with cover crop mix, substituting Bt applications for broad-spectrum insecticides, and encouraging monitoring of pests and beneficials
Region:	Northern California - 3 counties
Partners:	Community Alliance with Family Farmers Foundation, Univ. of California Sustainable Agriculture Research and Education Program, EPA, Merced County Cooperative Extension, private consultants, US Dept. of Agriculture, farmers

Impacts

Among Merced County project participants (about 30 producers), cover crop use increased from 12-92% over the course of the project, releases of beneficial arthropods rose from 60-80%, and use of Bt rose from 41-65%. Chemical inputs also decreased among participants: organophosphate insecticide use fell from 35%-0, preemergence herbicide use from 24-6% and there was a 46% drop in applications of synthetic nitrogen fertilizer. Mean yields and worm damage levels were unaffected.

Key Themes

(1) Linking scientific knowledge and farmer experience

The BIOS project was designed around the success of several almond farmers with well established, biologically integrated systems. These farmers had reduced the use of agricultural chemicals while keeping insect damage low and remaining economically competitive for several years. The model farms were used to demonstrate alternative techniques for the program, and the farmers served as mentors to project participants.

To build on these effective approaches, BIOS management teams representing a range of scientific and practical expertise were established. The management teams combined practical and technical contributions in the development and monitoring of farm management plans for participants. "The significant involvement of farmers..in the design and implementation of project activities has contributed to BIOS becoming known as an innovative extension approach."

(2) Coordination and Strategies

The consortium assembled in support of the BIOS program includes farmers, private agricultural

consultants (pest control advisors), University of California personnel, private businesses, USDA and other governmental agencies. These actors play various roles in the management teams, providers of technical backup support, and facilitators of financial incentives.

The participation of these diverse groups has required a catalytic agent -- CAFF -- to bring the actors together and play a coordinating role. As CAFF phases out of the program, it is unclear what institution will be most appropriate/able to take on this coordinating role.

The project involves a systematic recruiting process to select farmer participants, on farm research, a variety of educational/outreach activities such as field days, workshops, problem-solving meetings, monitoring activities, and seminars. Information is disseminated through a bi-weekly newsletter and through other written sources of information. Farmer-to-farmer exchange is promoted in all these activities.

(3) Unique Political Support/Collaboration.

BIOS has collaborated with and gained support of government agencies. The USDA provides technical assistance and cost-sharing; economic incentives are provided by the Natural Resources Conservation service for farmers who reduce agrochemical use in specified amounts.

(4) Evaluation -- Scaling up

Ongoing evaluation of the project through small group sessions and participant feedback has helped BIOS identify problems and steps that can be taken to address them. This, along with "a commitment to flexibility allow the project to assess and adapt to participants' needs."

This flexibility and rapid response time has been particularly important as the BIOS program expands to work with different crops and different farming/social practices. While the basic approach remains the same, the new projects demand new information and management inputs.

Challenges/Constraints

- Intensive coordination of project needed; not clear if feasible on larger scale.
- Plans for phasing out initiating organization unclear, so the sustainability is questioned.

Lessons/Recommendations

- "The synthesis of information generated by both scientific research and actual farming experience continues to be a cornerstone in the foundation of BIOS."
- "The existence of local biologically integrated systems was fundamental to creating BIOS."
- "The process used to develop customized farm management plans was instrumental in building the capacity of the management team and in establishing long-term relationships among participants....Interviews and farm tours allowed for an exchange of knowledge among participants and team members leading to an increased understanding of the production system."

IOWA CASE STUDY -- Summary

General Characteristics			
Project Initiation:	1985	Study Collaborator:	Practical Farmers of Iowa
Main Crops:	Corn, soybeans	Main Pests:	Weeds
Alternatives:	Ridge tillage systems, intercropping, other crop/pest management methods		
Region:	Iowa, statewide		
Partners:	Practical Farmers of Iowa, Iowa State University		

Impacts

The Practical Farmers of Iowa (PFI) influences hundreds of farmers throughout the state of Iowa. Corn and soybean trials from 1987-1994 indicated no reduction in yields when ridge tillage systems were used in place of herbicides for weed control. (Yield data is based on 21 corn trials and 30 soybean trials over 8 seasons). In a study of Iowa farmers conducted with support of the Northwest Area Foundation, chemical input costs for corn were also lower among PFI farmers when compared to conventional growers: total costs per acre were \$61 for PFI farmers, \$93 for conventional. Pesticide costs specifically were \$9.74/acre for PFI farmers, \$27.04/acre for conventional growers. The relative net return of the PFI farmers is higher than other groups.

Key Themes*(1) Demand-driven project development*

PFI was established by farmers in response to the perceived need for more research on sustainable agriculture methods. PFI was designed to enable farmers to "speak with one voice" about research issues in agriculture, and specifically to pressure university researchers to pursue a more interdisciplinary and environmentally-sound agricultural research agenda. PFI's on-farm research program is controlled by participating farmers, who develop proposals and invite ISU scientists to participate.

(2) Formal/Informal Linkages

The formal collaboration between PFI and ISU was established in 1987 with the development of a joint proposal to the State of Iowa. This formal arrangement provided the structure for what became an effective network of informal collaborative relationships, which have been key to the program's success. "The informal collaborations are the foundation for the relationship between PFI and ISU."

(3) Mutual Benefits of Collaboration

Farmers: The collaborative program provides farmers with research results on low-input farming systems which would not otherwise be available. Farmers have benefited economically from the adoption of these practices, many of which require lower chemical costs and equivalent net profit. The partnership has also allowed collaborating farmers to better understand scientific principles and the research process and make on-farm research decisions with the advice of agricultural scientists.

Scientists: A better understanding between researchers and farmers has evolved from the partnership, "allowing both groups to better understand the abilities and constraints under which the others operate." On-farm research results are more readily disseminated and feedback to scientists more quickly assimilated. Contact with farmers helps the scientists develop a more need-based research agenda.

In addition, both organizations gain credibility from the partnership. "PFI benefits from the scientific legitimacy of Iowa State, and Iowa State gains credibility for doing farmer-driven, applied research."

(4) Capacity building through participation

The process of developing and conducting on-farm research trials and presenting results to other farmers and the interested public has led participating farmers to develop new leadership skills. PFI collaborating farmers are often requested to speak at meetings on sustainable agriculture at the state, regional and national levels, and many have been asked to serve on committees and panels related to the topic.

Challenges/Constraints

- The university's broader agricultural research is still primarily focuses on conventional practices and large-scale farming. Many researchers do not view on-farm research as "valid or necessary."
- Although PFI farmers have made changes, many of Iowa's farmers have not changed their attitudes.
- Research results from PFI are not always presented in a simple way. The general public lacks understanding of the data/impacts.
- Broadening the appeal of PFI to a wider spectrum of farmers and non-farmers.

Lessons/Suggestions

- Farmer control of on-farm research efforts has been critical to the success of the partnership, and has resulted in increased confidence and leadership skills among participating farmers.
- "The university offers the legitimacy of science and the farmers offer practical, field-level problems for research." This combination has led to effective problem solving.
- Farmers join PFI to reduce chemical inputs -- "some solely for economic reasons, but many for reasons of environmental stewardship." Research results, however, have focused primarily on yield and cost impacts, and should include more information on environmental impacts.
- Strengthen the University's sustainable agriculture agenda by recruiting new scientists in this field, and by setting aside budget specifically for this purpose.
- To influence more people, present research results more clearly to be useful to a wide audience, and collaborate on marketing ventures.
- Expand the impact of PFI by strengthening outreach and broadening the appeal of the organization;
- Magnify interest in PFI's work by educating consumers about sustainable agricultural practices.
- Extensive discussions among project members to determine how to *implement* these ideas.

OTHER INTERNATIONAL ORGANIZATIONS AND NETWORKS

Summaries by Workshop Participants on Related Sustainable Agriculture Activities

- **IPM Working Group**

The objectives of the IPMWG are to: promote interest in IPM; provide a forum for exchange of information on IPM; strengthen capability of countries and agencies to implement IPM; and to assist the integration of resources across institutional boundaries. It helps expand communication and information exchange on IPM. The coordinators are mostly in Europe; but the main activities focus on Asia, Latin America, and Africa. It has organized workshops among different groups, with interest in expanding implementation of IPM around the world. IPMWG meetings mainly involve researchers and research institutes, but also have included government agencies and NGOs. The IPMWG is developing an information system for groups working on IPM, and an electronic network for sharing this information.

- **Global IPM Facility (World Bank, UNDP, and FAO)**

This Facility, sponsored by the World Bank, FAO and UNDP, is attempting to promote widespread use of IPM. The purposes include: to assess promising IPM pilot projects in farmers' fields; to seed leading pilot projects; to encourage policies that support IPM; to encourage scaling-up pilot projects. In the first year, the Facility has funds of \$500,000 from FAO and \$500,000 from World Bank, for pilot projects. It has an advisory committee consisting of representatives from interest groups, including industry. The facility coordinators do not have criteria for selecting projects; the selection is done in an ad hoc way. National institutions and NGOs should write to the Facility coordinator in Rome for more information.

- **National Biological Control Institute (NBCI)**

NBCI's mission is to "promote, facilitate, and provide leaderships for biological control." It is a small unit of the USDA. It supports meetings, research, documentation, publications, training, information and education, postdoctoral fellowships, and technology transfer. It provides services and technical assistance, as well as information internationally. NBCI has very limited funding and human resources.

- **Sustainable Agriculture Networking and Extension (SANE - UNDP)**

SANE was created to promote capacity-building and human resource development in sustainable agriculture worldwide. It has regional coordinators in Latin America, Asia, and Africa. It works on agroecological training, participatory research, field demonstrations, policy advocacy, and information networking among NGOs and other organizations. It builds on the "lighthouse" concept -- i.e., trying to illuminate and multiply successful examples of local-level agroecological initiatives. It helps build capacities of educators, NGOs, and farming communities. It supports exchanges among different groups, as well as producing educational curriculum materials.

- **Pesticide Action Network - Africa - ENDA/PAN**

PAN is establishing an African regional office, coordinated by ENDA in Senegal. It will focus on information exchange, and will also support training, lobbying, outreach on IPM and on pesticide issues, and some policy research/activities. (It coordinates with PAN North America and groups such as WRI.)

- **Committee for Agricultural Sustainability**

This is a coalition of organizations (mostly NGOs) dedicated to promoting equitable, environmentally sound, and sustainable agriculture in the developing world. It mobilizes a constituency in support of food security through sustainable agriculture. It works to change policies, programs and priorities of international organizations, governments, and research organizations. It advocates a "farmer first" approach and lobbies to improve the work of international agriculture centers and development agencies.

DAY 1- PLENARY DISCUSSION

THEMES FOR FURTHER DISCUSSION (raised during case study presentations)

- Perspective of "effectiveness" and sustainability
 - Whose viewpoint counts? (farmers, NGOs, vs research, etc.)
- Research mandates
 - Are institutions' mandates flexible? "Basic" vs. "applied"/extension
- Role of government (state agencies): What is optimal?
 - strong vs. weak support
 - decentralized and centralized management (need mix)
- Community Organization: Is it essential for successful programs?
- How to avoid external dependency and build internal capacity?
- Sustainability of projects - depends on:
 - resource availability
 - influence of industry/commodity associations (politics of funding)
 - lack of consistency for pesticide reduction

WHAT IS SUSTAINABLE AGRICULTURE? (essential elements identified by participants)

- Food security
- Ecological integrity
- Empowerment (social support)
- Economic viability (must be able to measure and returns)
- Reducing dependency on agrochemicals
- Broad participation of different key actors
- Ongoing collaboration between affected groups
- National technical capacity-building to sustain progress

- Additional definition issues:
 - The group agreed that the definition of "IPM" should stress the use of biologically-based methods, and no or minimal use of chemicals (as last resort).
 - Systems (integrated) agroecology is essential to sustainable production.
 - Linkages or collaboration need to be defined clearly

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BRAINSTORMING SESSION - PLENARY:

KEY FACTORS CONTRIBUTING TO EFFECTIVENESS OF INITIATIVES (identified by participants in group discussion)

- General features or approaches
 - evolution of programs from narrow to broad/adapting
 - flexibility is central; need organizational adaptations
 - evolving notions of sustainability
 - program diversity and complexity
 - activities must lead to results
 - openness to learning and change
- Key aspects of collaborative relationships - partnerships - working with people
 - working together on same level
 - going outside of traditional boundaries to work together
 - evolve partnerships allow it to change with objectives
 - collaboration as equals
 - NGOs can connect between farmers/scientists
 - NGOs become important source of training (eg: NGOs train universities)
- Different levels of support and involvement
 - local organization and central policies/government "umbrella" needed
 - create enabling system for local people
 - receptivity of government is necessary
 - economic and political climate needs to be favorable
- Critical human dimensions
 - trust of involved players
 - dignity coming with humility; non-arrogance
 - leadership capacity
 - sincerity among participants
- Community organization
 - involvement - empowerment
 - create conditions so information can be received
 - need ability to attract funds; allows organizations to initiate projects
 - community-based approach facilitates inter-connections
- Creative tensions
 - resolving tension requires flexibility
 - tension generates need to figure out what works and what doesn't
 - often results from lack of communication regarding agendas

continued...

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- Capacity-building: ability to escape poverty by providing self-worth, empowerment
 - need capacity building efforts to benefit farmers
 - empowerment to create self esteem/long term focus and support
- Knowledge and information
 - support/use local ecological knowledge
 - information access and diffusion - products, alternatives
 - use of common language
- Funding/sustainability over time (financial component)
 - to sustain a system, start from the soil
 - difficulties to get funding for innovative programs
 - institutionalization of programs and plans (dilemmas)
 - sustaining the program, farmers at the grassroots once cuts and funding is gone
- Ability to measure and describe results
 - assess levels of inputs and funding
 - need to analyze farmer to farmer progress
 - need on the ability to see programs and working models

MEASURING RESULTS

- Parameters for measurement of impacts
 - Comparable yields in quantity/quality
 - Pesticide use reduction
 - Measure economic returns, to assess pay off- short term/long term
 - Health impacts (lacking)
 - Environmental impact information (water, air, soils, etc) - also lacking
 - Social influences and impacts
- Systematic monitoring needed for --
 - documentation of impacts
 - educational function
 - continuous evaluation of work plan
- Difficulty in defining measurement - what to measure?
 - Need to constantly re-evaluate/re-assess
 - Lack of measures of health/environmental effects
 - Need to account for social aspects like equity and empowerment

BRAINSTORM PLENARY SESSION (cont.)
KEY CONSTRAINTS AND GAPS: CHALLENGES TO OVERCOME
 (identified by the participants in group discussion)

- **Macroeconomic factors**
 - Trade liberalization policies (perpetuates export bias, standardized chemicals)
 - GATT, NAFTA and other trade agreements/goals as obstacles
 - Export production focus: underpaid labor, heavy chemical inputs
 - Financial and economic pressures (international and national)
 - Political environment as obstacle (pushes conventional agriculture models)
 - Short term, curative-focussed on eradication

- **Donor/funding issues**
 - Sometimes want participation of organizations who are not cooperative
 - If gender issues are not included, funding is not given
 - Donors must focus on south/south work and not just north/south
 - Need help to maintain sustainability of programs
 - Partnering costs money, so it is particularly problematic for the poor
 - Uncertainty of continued funding; need ability to continue if funding ends

- **Issues regarding "collaboration"**
 - It should be an organizing principle; collaborate to attain mutual goals
 - "Collaboration" wanted by funders
 - Do institutions leave behind local people? (Often lack of representation of locals)
 - Had to learn to negotiate; must keep up with complexity

- **Role of agrochemical industry - major dilemma**
 - Who controls knowledge? Larger businesses control technology and information
 - Use of "Safer" products? How do we know they are "safe"?
 - Lack of trust; need to have mutual goals and trust to work together
 - Pressure from funders to include pesticide corps in collaboration
 - Chemical companies provide inputs, but groups can do that too, cheaper and they support the community instead

- **Education and training**
 - Capacity building-need for local organizations to build own capacity
 - Conventional modes of thought/operation

- **How to reach everyone - ("scaling up/out")**
 - Scope to reach thousands or millions
 - Need human vision for more than the short term

- **Need for research for new knowledge and technology**
 - Who does research? Formal institutions or farmer organizations? Both?
 - IPM lacks scientific basis/framework - need agroecology

DAY 2 - BREAKOUT SESSIONS - WORKING GROUPS

The participants were divided into three groups to discuss key questions and issues. Each group consisted of 10-12 people. The facilitators suggested members of the groups, seeking a mixture of institutional, disciplinary, and geographical backgrounds, and gender balance.

QUESTIONS FOR WORKING GROUPS - MORNING SESSION *

1. What are successful/unsuccessful methods of training/learning and dissemination in these cases?
2. What methods** are used to develop farmer participation at all stages of research and implementation? (or methods for farmers to build scientists' participation)
3. What characteristics of collaboration/partnerships are positive? How are these collaborative relationships formed? (Consider all actors, eg, farmers, NGOs, state...)
4. What are successful (or unsuccessful) ways to do research in these cases?
i.e, What is the role of research (and researchers)?

* Discussions were based mainly on case study experiences

** "Methods" is broadly defined; includes approaches, philosophies, activities, methodologies.

WORKING GROUP DISCUSSIONS

GROUP A

QUESTION: What methods of training and learning are effective?

- Success/failure depends on role or relationship of technician - avoid top-down;
- Need new relation: respond to needs for local people; identify farmers' knowledge
- "Celebration" approach- social events to praise positive efforts; community-building
- Start with groups; need time to form groups
- Need cross-disciplinary training (training in single disciplines is unlike farmer)
- Farmers need way to represent their needs to trainers; not passive recipients
- Use field days; meal involved sponsor/set time of celebration
- Evocative/provocative approach - don't ask general questions;
- Use social interaction. Can use church to gather people; also cross-visits with farmers
- Annual competition collecting insects with prizes
- Field days: combine principles with a few techniques; "lighthouse" =local leaders share information (sometimes with meals); can include children as well. Not large
- Education - can help scale-up; Correspondence courses - eg, 1,200 people in year 2.

Effective Media/Materials used in projects

- Training kits can be used in long-distance education and locally
- Radio school concept can work
- In Africa, need wider outreach to reach a critical mass; lots of illiteracy and poverty
- Little attention to farmer-training -- need basic tools that are understandable
- Demonstration farms
- In using community-based approach; how do trainers become farmers and vice-versa
- Can use mass communication media; include farmers in design
- Left out the experiences of self-initiated efforts by farmers
- How to give life of its own when donor support ends (need grants for outreach)

QUESTION: What are effective methods of dissemination?

- More training for all involved
- In some cases public is your audience for political
- How help those entrenched and still have impact
- Note privatization of extension
- Education for children and involve them in field days
- Urban consumers link with farmers (food supply is the issue)
- Need to train and educate consumers
- Cross-visits in the country; link to action at the community
- Need links to other projects (e.g., curriculum to rural schools) on agroecology
- Mentorships can be helpful (but costly if international)
- In Philippines: priority is farmer or social organization, but often needs strengthening

QUESTION: What characteristics of collaboration are positive? (Comments on philosophy)

- Agroecological approach builds on farmers knowledge; so respects farmer knowledge
- If research is intended for them, farmers are more likely to participate
- Farmers don't participate unless they know why researchers are there
- Train farmers on why have a pest problem, or why not pest problems
- Need to convey principles of IPM, it's not input substitution
- Collaboration will continue, based on individual relationships - look for synergies (between groups)
- Trust is key factor for collaboration
- Commonality of objectives, opportunities;
- South/south common vision: - capability to solve, is North willing to support
- Based on personal involvement; not institutions
- Challenge: how to build on this for lasting progress
- Start doing things at small level
- Economic interest is part of success

GROUP B**QUESTION: What characteristics of collaboration are positive?**

- Importance of coordination (coordinator role)
 - Responsive; sensitive; respect; vision, leader; not too assertive, non-domineering
- Enabling conditions for collaboration
 - A) Market incentives - (eg, organic markets; certification)
 - Lower production costs
 - B) Mutual Synergies between groups involved
 - C) Support of policies - government related programs/laws or policies for alternatives
 - National level policy/commitment and decentralized support
 - Taxes duty-free for NGOs programs
 - National support gives legitimacy
 - Institutional approach to collaborate & reach farmers
 - Credit programs - more accessible to those farmers with technical capacity who are involved in projects; equitable
 - Financial policy change
 - Education/curriculum in gov't supported schools and colleges
 - Effective pesticide laws (eg, Indonesia)
 - Tax incentives or subsidies for IPM
- Constraints
 - Lack of pesticide laws; pesticide incentives
 - Lack of coordinator
 - Government policy-makers don't know about collaboration efforts
 - Lack of education on alternatives

QUESTION: What are positive elements in collaboration?

- Broader/holistic view of sustainable agriculture
- Build confidence and mutual trust
- Capacity building
- Increased credibility of local actors
- Equal power relations - equal playing field
- "compost-making" - mixing - scientists and farmers
- Collaboration helps to define strengths and roles clearly
- Avoiding uncreative redundancy
- Governments more responsive to farmer needs; increase in farmer-driven agenda
- Local credit and support can come through collaboration
- Growing recognition of local knowledge and experience mutual learning

QUESTION: How are the collaborative relations formed/sustained?

- Incentives to collaborate - why? And how?
 - Survival and mutual interests
 - "Crisis" & overcoming limitations: Catalytic aspect motivates people to work together
 - Market demand or regulations for "clean" products
 - Legitimacy/credibility of farmers' alternatives supported by the gov't
 - Pesticide laws can spark interest in IPM
 - Mutual interest in different and holistic concept of biologically-based sust. agric.
 - Need to understand public interests vs. private goods - people's interest in public health (e.g., in Kenya) make them get interested/involved; but "free-rider" dilemma

- How to sustain collaboration
 - Vision by coordinator
 - Research institutions need to be involved at all levels
 - Need flexibility in collaboration to help ensure people/groups are welcome to join
 - Collaboration requires close communication
 - Activities not just "tasks"; not just money-sharing, but also share ideas and skills
 - Building community - social organization (e.g., cooperatives)
 - Widen forum of groups to work on broad issues- working groups
 - Build on existing knowledge and experience and perspectives
 - Essential role of coordinator (e.g., non-profit organization leader)

QUESTION: What methods of training/learning are effective?

- Must be participatory
- Skills and capacities for working in groups; team-building
- Increase motivation skills and negotiation skills
- Mutual learning - two-way process for information exchange
- Direct field demonstrations; experience-based learning
- Farmer involvement and decision-making in all stages and activities
- Train trusted people who can train (multiplier effect)
- Farmer-to-farmer training multiplication effect helps build self-sustaining environment
- Empowerment through training (reflection on training process)
- Content: holistic approach
- Observation and monitoring serves purpose of farmers
- Combination of methods (workshops, field days, etc.)
- Written materials (newsletters, bulletins, etc)
 - must be very simple and in local languages
 - when to use written materials must be determined (timing)
 - media programs - radio - newspapers for announcements
- Training of scientists and extensionists ("unlearning" "relearning"); break down walls

- Need to assess effectiveness of training (evaluation)
- Storytelling-farmer to farmer (both north and south) past reflections
- Community involvement local interests (e.g., health, survival)
- Scaling "out"; scaling "south" not just scaling up

GROUP C

QUESTION: What is research? What are effective ways to do research?

- Use research to make existing systems more efficient
- Centers that have knowledge need to provide research to groups who don't
- Need to include sociological knowledge as well as technical

● What needs researching?

- Social aspects of IPM and pesticide use - longer term impacts
- Economic aspects - impacts and opportunities; policy/regulation
- Effectiveness of different educational approaches
- Systems ecology

● How to do research? What works?

- Collaboration between NGO - center
- In the field - interdisciplinary
- Integrating the interest groups
- Equal investments in different disciplines
- Farmer-centered - and work with NGOs for information dissemination
- Increase capacity of NGOs to do research
- Make research socially relevant
- Combine scientists plus farmers in conferences, fields, etc.
- Field visits must be regular
- All researchers must have time with farmers in fields, for a minimum time

● QUESTION: What are effective training methods? (Also see summary on next page)

- Should be based on experience
- Empowering
- Importance of community funds for training and communication among farmers

SUMMARY - MAIN POINTS OF MORNING WORKING GROUPS

SUMMARY OF GROUP A

Effective Training and Dissemination Methods

- Cross visits/exchanges
 - Based on principles; stress mutual learning
 - Use provocative approaches to elicit knowledge and learning
- Farmer-to-farmer approaches
 - Use "lighthouses" (positive examples) as sources of energy
 - Farmers often better in teaching methods (need to assess capacities)
 - "Celebrations" (social events) among farmers and families help training
- Broad outreach ("massification"):
 - Start small-scale to prove results; then move to broader approach
 - Long-distance correspondence courses and use mass media;
 - Institutionalization can help, but too complicated if too big
- Technicians role
 - Attitude is critical: Respect farmer's knowledge, culture
 - Need more training in cultural sensitivity and communication
- South-south partnerships (with links to individuals/groups in North)
 - Make globalization part of the agenda for sustainable agriculture
 - Revive food security to confront prevailing economic conditions

Key positive elements for collaboration

- Broader/holistic view of sustainable agriculture
- Confidence, mutual trust
- Equal power relations among actors
- Clearly defined roles; avoid redundancy
- Government and donors respond more favorably when groups work together

SUMMARY OF GROUP B

- Positive characteristics for collaboration
 - enabling environment
 - market incentives
 - policy environment supportive
 - laws, incentives, credit,
 - policies commitment at central and decentral levels
- Motivation for collaboration
 - mutual interests
 - sense of urgency of "crisis" can catalyze action/collaboration
 - shared vision and holistic understanding

SUMMARY OF WORKING GROUPS (continued)

- How to sustain the collaboration
 - must have good coordination (sensitive, respect, leadership)
 - "mixing" of scientists and farmers (like "compost pile")
 - sharing of power - communication
 - continued interaction
 - local social organization
- Effective training/dissemination
 - must be participatory
 - two-way flow and learning both ways (respect, mutual sharing)
 - farmer-to-farmer methods
 - storytelling as useful method for farmers
 - training of scientists and extensionists ("unlearning" "relearning") is important

SUMMARY OF GROUP C

- What needs researching?
 - all aspects (social, educational, economic, political, ecological) of IPM
 - assess long term impacts (qualitative and quantitative aspects)
- How to do research? What works?
 - field-based - farmer oriented
 - interdisciplinary
 - integrate the interest groups - farmer-researcher collaboration
 - equal control over resources
 - increase capacity of ngos to do research
 - all researchers must have minimum time in fields; field visits must be regular
 - continuum of goals and methods; allow flexibility
- Effective training programs
 - experiential based, ecology based
 - empowering
 - need sustained support/funds to assure effectiveness of training
- Effective extension
 - field-based experience
 - increase coordination; systems training
 - develop trust and commitment - value orientation
 - Educate vs. indoctrinate

WORKSHOP - DAY 2 - WORKING GROUPS - AFTERNOON SESSION

QUESTIONS FOR AFTERNOON WORKING GROUPS

1. What are effective ways to overcome/address the main constraints?
2. How should successful collaborative initiatives be expanded?
3. How can these efforts be sustained over time?

GROUP A

QUESTION: How to address constraints?

- Macroeconomic issues
 - use global vehicles like forums to get outreach/visibility
 - show these alternative efforts as "state of the art"; cutting edge
 - need better regulations and policies in many countries
- Donor/funding issues
 - difficulty meeting specific agendas of donors (creates pressures)
 - funding for longer-term projects is essential, but not the norm; advocate change
 - who gets the money? - Donor confidence is important
 - working groups are opportunity to access donors
 - need to document and demonstrate impacts of projects to raise more funds
 - need coordination between donors
 - be cautious of "mandated" collaboration
 - local groups need to negotiate with agrochemical industry
 - create small businesses in sustainable agriculture that are competitive
 - IPM Facility might be source of funding
- Education and training methods
 - for farmers, extensionists, scientists - unlearn/relearn
 - more environmental education needed to promote IPM and compete

QUESTION: How to strengthen and expand initiatives?

- reports on effective projects - record of successes
- ongoing projects need to recognize they are a success
- cross-visits and exchanges
- "partnerships" is not enough; show impact; deepen linkages
- need indicators of success

QUESTION: How to make these initiatives more sustainable?

- must have ongoing local activity and capacity-building
- donor dependence undermines sustainability
- confidence/empowerment of people; feel they are needed

- need better group skills; group needs to realize making progress
- in Latin America, must address food security questions
- must meet needs of farmers in order to be sustainable

GROUP B

QUESTION: How to address constraints?

- Note additional constraints (added to previous day)
 - lack flow of information
 - displacement/corruption of indigenous knowledge
 - NGOs manipulated in the past
 - difficulty in managing increasing complexity
 - working with large inflexible institutions/bureaucracies
 - markets limited for organic products
- Ways to address constraints:
 - improve communication and information flow
 - bottom-up diffusion of information
 - improve communication skills (need funds for this)
 - create materials for local level (people create own)
 - open communication about power and social relations
- Agrochemical industry:
 - consumer groups activism
 - legal actions (eg, law suits) on toxic products
 - policy statement on preventing pesticide companies in decision-making forum
 - training of people on hazards of pesticides
 - documentation/dissemination of successful alternatives
- Political/economic conditions
 - decoupling credit from agrochemical use (rid of subsidies)
 - lobbying to change laws; eg, if pesticides banned in north, ban in south
 - include health/environmental costs in accounting
 - analyze effects (address) GATT/NAFTA and privatization: stop secrecy
 - increase awareness and commitment of decision-makers in laws
 - gain support of local government representatives on sustainable agriculture

QUESTION: How to strengthen and expand successes?

- Increase documentation/systematization and visibility of farmer-based innovations - and innovations of international organizations; show how/why they work
- Bring in creative partners to spread effects (eg, producer associations)
- Join initiatives together at all levels
- Increase demonstration/data on viability of organic methods; increase donor attention
- Increase market opportunities for organic markets

- Increase women's involvement in pest management
- Self-replicating groups need to be formed
- Promote south-south exchange, with north solidarity; exchanges among northern groups
- Educational strategies (training materials, short courses; work with rural schools)
- Campaign against junk food: increase awareness of nutrition
- Gain support of progressive benefactors

GROUP C

QUESTION: How to address constraints?

- Donor funding/issues
 - funding cuts makes new initiatives hard to undertake
 - lack of vision by donors/funders; but donors can be partners
 - donors need understanding of what's possible or reasonable
 - bureaucracy inhibits collaboration
 - reduce administrative costs
 - build flexibility of funding (different organizations use money differently)
 - organizations must develop capacity to manage finances
 - donor education, on qualitative values of projects
- Other constraints
 - who gets credit for successful implementation
 - turf protection (personal interests)
 - lack of assessment of need for collaboration
 - lack of partnering process; know when to change
 - mismatch of scale (big with small groups)
- To overcome these constraints
 - training in "attitude adjustment"
 - improve information exchange
 - find proper "dating service" - join best people/interests
 - systematic search for what works
 - clearly define responsibilities
 - ongoing evaluation of collaborating process and improvements

QUESTION: How to strengthen and expand to make more sustainable?

- importance of documentation and sharing experiences of positive efforts
- recognize that collaboration evolves
- training for collaboration (when to be involved, when not)
- promote successful collaboration
- be honest: know self vs. promising the moon (know own strengths/weaknesses)
- network/build on personal relationships
- face-to-face equivalents
- don't always have to continue forever

SUMMARY - MAIN POINTS OF AFTERNOON WORKING GROUPS

GROUP A SUMMARY

Addressing constraints

- macroeconomic/policy == > need environmental policies
- donor/funding == > increase donor confidence to result in longer-term funding
- private sector == > need viable alternatives; insist on education

Strengthening/expanding efforts

- cross visits
- documentation of successes/impacts
- indicators

How to make more sustainable

- internal/local capacities essential (linchpin)
- meet farmers' needs re. pest management
- empowerment/capacity-building

GROUP B SUMMARY

Addressing constraints

- communication == > bottom-up diffusion of information
more skills on communication methods
- pesticide industry == > statement to avoid involvement
- policy issues == > address GATT/NAFTA (open up process)
support local government initiatives

Strengthening/expanding

- increase documentation and visibility of innovations
(especially farmer/community-based activities)
- promote south-south exchanges and north-north exchanges
- educational strategies, especially link with rural schools

GROUP C SUMMARY

Addressing constraints

- donor issues == > donor education (eg, non-numeric aspects)
allow flexibility (different use of funds)
- improve information exchange
- find proper "dating service" - join best people/interests
- ongoing evaluation of collaborating process & improvements

Strengthening/expanding for sustainability

- increase documentation and sharing positive experiences
- training for collaboration (when to be involved, when not)

DRAFT SYNTHESIS OF KEY STRATEGIES/POINTS
END OF AFTERNOON SESSION - DAY 2 - 11/21

The following are areas of action to overcome constraints and to expand/strengthen efforts. They are cross-cutting priorities (mentioned by at least one group in discussion sessions); (See summary of final day for further details and actions)

- Documentation (and increase visibility) of positive efforts
 - more systematic assessment of impacts
 - share results w/others (policy makers, donors, etc)
 - improve information exchange
- Improve and increase institutional collaboration
 - ensure better coordination for IPM implementation
 - involvement and direction of farmer organizations is vital
- Increase exchanges or "cross-visits" for training (and sharing methods)
South-south, north-north, south-north, etc.
- Overcome donor constraints:
 - need more flexibility of funds
 - longer-term funding
- Address issues concerning agrochemical companies
 - policy statement to stop involvement in decisions on sustainable agriculture
 - increase visibility and impacts of alternatives to counter chemical sales
 - education of industries and consumers
- Address key policy issues (policy-makers)
 - strengthen environmental policies
 - increase government awareness and commitment to alternatives
 - address GATT/NAFTA and trade liberalization impacts
- Increase local empowerment/capacities to sustain efforts
 - work with and build social organization for sustainable agriculture
 - strengthen farmer-driven agenda (meet needs)

WORKSHOP - DAY 3- CONCLUDING POINTS

RECOMMENDED STRATEGIES, POLICIES, AND ACTIONS

(building on ideas from previous day's discussion)

- **Increase Documentation and Information/Exchange on Effective Partnerships**

- More systematic assessment of impacts
- Outreach to increase visibility/information to wide audience
- Critical to address who does the study - (Participatory; should involve farmers)
- Further cases - document why they work, not just describe
- Compare cases (eg, poor projects vs. good projects); analyze cases over time
- Make documents/information accessible to those directly involved/affected
- Improve exchange of information on these issues

- **Build Collaboration and Coordination among Institutions in this Field**

- Improve communication among groups to share ideas and approaches
- Need funding specifically for collaboration and coordination
- Ensure some entity has role for coordinating joint efforts
- Work with new creative partners (eg, consumers, ag associations)
- Need means for ensuring trust, honesty
- Scale-"out" vs. scale-"up" (ie, not more bureaucracy)

- **Increase Exchange of Groups Doing Innovative Collaborative Work**

- South-South (regional & global), South-North, North-North
- Increase cross-cultural training/interaction, particularly in the field
- Increase value to the human interaction (people, not paper)

- **Confront and Change Policies and Economic Factors to Support Innovation**

- Strengthen environmental policies, laws, and enforcement
- Increase government commitment/awareness to alternatives
- Present Partnerships findings in policy arenas (meetings)
- Ensure policy support for effective extension systems
- Study/understand the distinct experience of Cuba
- Develop sustainable market opportunities (e.g., microenterprise)

(Continued...)

RECOMMENDED STRATEGIES, POLICIES, AND ACTIONS (continued)

● **Address Donor Issues/Policies that Affect Sustainable Agriculture Efforts**

- Recognize that project implementation is a learning process
- Urge groups to become less donor dependent (local support)
- Reduce dependency on donors
- Equity of funding is needed among continents
- Must ensure donors gain interest in agriculture (not urban)

● **Curtail and Control the Influences of the Agrochemical Industry**

- Increase the visibility and development of alternatives
- Understand potential of private sector; increase micro-businesses for IPM
- Create independence from multinational corporations which still keep farmers dependent on technology (MNCs are now into biotechnology and biologicals)
- Suggestion to present a statement to oppose pesticide companies' involvement in IPM and in sustainable agriculture initiatives that are publically funded.*

● **Build Education and Local Empowerment and Capacities to Sustain Efforts**

- Work with and strengthen social organization
- Strengthen farmer-driven agenda (meet needs)
- Make use of local capacities and expertise
- Develop educational programs for children on sustainable agriculture/agroecology
- Develop curricula and courses for students on sustainable agriculture
- Build additional training opportunities

* A suggested draft statement for discussion was the following: "Pesticide use has proven to be incompatible with the optimal development of sustainable agriculture. Agrochemical company representatives should not be given a policy decision-making role in publicly-funded integrated pest management and sustainable agriculture programs or initiatives because of the conflict of interest that it creates."

The participants had mixed views on this proposal; a majority, but not all people, supported the statement. Since there was not consensus, the statement was not presented to decision-makers in Development Agencies. (This advocacy strategy/proposal was later picked up and presented to the IPM Facility by the Pesticide Action Network.)

Final Publication on Partnerships Cases: Timetable for Publication (Thrupp)

- Format of final report:
 - full cases maintained and edited
 - include workshop summary & recommendations
- Other products:
 - Workshop report - overview of agenda, discussions, and cases
 - Directory - a survey/directory of cases around world for IPM partnerships
- Audience: Mainly decision-makers (at all levels) and practitioners of sustainable ag.
- Timing:
 - Workshop report finished in 2 weeks (short, concise overview, unpublished)
 - WRI and others will send comments to authors of case studies
 - Complete revisions of draft by December 30 - turn into WRI
 - Send diskettes, and pictures
 - WRI staff will insert changes/editing
 - Resend edited case studies and conclusions/recommendations to authors;
 - Authors/reviewers send any final comments
 - Finalize text for publication (by mid-Spring, 1996)

Followup Plans and Suggestions from Participants

- Existing commitments (WRI and partners)
 - AID/Africa support to PAN's initiatives (workshops and outreach)
 - BIOS - commitment to further outreach on guidelines (support from Pew)
 - IFAD potential support for training/exchange
- Additional ideas and suggestions
 - Monitor progress and influence of the case studies (eg, 12 months from now)
 - Translation of case studies (eg, Senegal in French)
 - Present/support these cases in the IPM working Group forums
 - Look for more South == > North sharing of experience/information (valuable)
 - Do several regional studies (eg, within Latin America), especially field projects
 - Support regional workshops for increasing information-sharing
 - Hold future meetings near the fields with one-day tour of projects
 - Pull principles of Sustainable Agriculture stemming from the case studies
 - Develop more opportunities for exchange and information-sharing
- Advocacy and followup on Policy issues
 - Enter forums and meetings/opportunities to present results and reports
 - Advocacy by networks such as PAN to oppose involvement of agrochemical company involvement (See statement noted in report)
 - Encourage policymakers to support policies for scaling up IPM and related efforts

Postscript
AMUSING ANECDOTES AND EXPRESSIONS DURING THE WORKSHOP

"Compost mixer" - put farmers and scientists into the compost-pile mixer -- and mix together -- work together, talk together, come up with new/good ideas!

"Dating service" - put the right people together through collaboration

Ensure that the collaboration is not just a "marriage of convenience"

"Where there's sugar, there's ants" (incentive structures/funding)

"People with the gold have the rule." (comparative advantages -- sometimes based on funds)

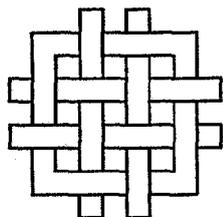
"He/she who knows, gets the rose." (knowledge counts)

"When specialist scientists do more and more research on less and less, pretty soon you know all about nothing!"

Two definitions of "collaboration" emerging from the workshop:

Collaboration is getting the right kind of partners through a "dating service" in a "compost pile" and get them "cross-fertilized."

"*Collaboration* usually starts with *creative tension*. Although some *free-riders* might be involved in the collaboration, there is always room for *piggy-backers*. Even if it means *reinventing AID*, the benefits of partnering can be monitored with *fuzzy indicators*. At times you might get into a *collective delusion* with *nozzleheads*, or even subversive institutionalization, but it looks like it is the only way to "scale out," without having to indulge in *creative redundancy*." (Falguni Garhuray)

APPENDIX 1:

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***** AGENDA *******Workshop on****PARTNERSHIPS FOR SAFE AND SUSTAINABLE AGRICULTURE**

November 20-22, 1995

AIA, 1735 New York Ave, NW, Washington, D.C.

Monday, November 20

8:00 - 8:30 am Continental Breakfast and registration

8:30 Welcome and Introduction

- Jonathan Lash, President of WRI
- Ann Thrupp, Partnerships project coordinator - Purposes of Workshop
- Mike Lesnick, Facilitator - agenda/approach
- Introduction of Participants

9:30 Summary Presentations of Case Studies (15 minutes each)

- Bangladesh
- Philippines
- Kenya

10:30 Coffee Break

10:50 Continue Presentations of Case Studies

- Senegal
- Nicaragua
- Peru
- Cuba

12:30 pm Lunch

1:30 Complete case study presentations

- U.S. - California
- U.S. - Iowa

2:15 Plenary discussion - Brainstorming session

- Identify factors contributing to success of initiatives
 (focused on implementation and key aspects of institutional collaboration)

4:00 pm Coffee Break

4:20 Continue Plenary discussion

- Identify constraints that have hindered implementation and institutional collaboration
- Summary of Day 1 and review of next day agenda (Thrupp/Lesnick)

6:00 Reception, WRI, 7th Floor, 1709 New York Ave, NW, Washington, D.C.

Tuesday, November 21

8:00 am Continental breakfast

8:30 Short Summaries of Relevant Global Initiatives

- IPM Facility
- IPM Working Group
- IPM Initiative of CGIAR
- Other Sustainable Agriculture Networks/Events

10:00 Break into Small Working Group sessions - Focus on Cases

- What have been successful/unsuccessful methods of training, extension/dissemination?
- What approaches have been used to build farmer participation? Which are effective?
- What modes of institutional arrangements have been used, and which have been successful/unsuccessful? What are elements of successful collaboration?

11:00 Coffee Break

11:20 Continue Small Working Group Discussion (same questions)

1:00 pm Lunch

2:15 Continue Small Group Discussion

- What are the main constraints to collaborative implementation of such programs?
- What can/could be done to overcome these constraints?
- What can be done to strengthen/expand successful collaborative efforts in this field?

4:15 Coffee Break

4:30 Plenary Session

- Report of Small Working Group Discussions
- Discussion of Priority Principles, Key Components/Opportunities to pursue successful collaboration/implementation for Sustainable Agriculture

5:30 Brief summary and Closing for Day 2 (Ann Thrupp/Mike Lesnick)

55

Wednesday, November 22

8:00 am Continental Breakfast

8:30 Overview of Recommendations and Priorities from Previous Day

9:00 Next Steps and Plans for Publication, Outreach

9:45 Begin Discussing Priorities and Action Plans

10:15 Coffee Break

10:35 Finalize Action plans, continuing information exchange, reaching farmers
Other future potential activities

12:30 Summary, Adjourn

Additional Information

This project is coordinated by the Sustainable Agriculture program of the Center for International Development and Environment of WRI. The duration is 1994-1996 and beyond. Funding for 1994-95 is from U.S. Agency for International Development, the Kellogg Foundation, The Food and Agriculture Organization's Regional IPM Program in Asia, and Pew Charitable Trusts. Additional funding is being sought for followup/Phase 2 activities.

The project coordinator is Lori Ann Thrupp, Director of Sustainable Agriculture in WRI's Center for International Development and Environment. The project's external Advisory Committee of Experts includes: Peter Kenmore, FAO, Peter Rosset, IFPI, Nyle Brady, UNDP, Monica Moore, PAN, David Kaimowitz, IICA, Grace Goodell, Johns Hopkins University, Polly Hoppin, WWF, Abou Thiam, ENDA, Prabhu Pingali, IRRI, Tony Bebbington, IIED, and Richard Wiles, EWG.

APPENDIX 2: GLOBAL WORKSHOP ON PARTNERSHIPS FOR SAFE AND SUSTAINABLE AGRICULTURE

November 20-22, 1995, Washington, DC

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APPENDIX 3: EVALUATION OF WORKSHOP BY PARTICIPANTS
(Summary of responses to questionnaire by 23 people)

1. What parts or aspects of the workshop were particularly interesting or useful to you? What aspects went particularly well?

- a. Case studies - 19 people noted this aspect; examples of comments are:
- Case studies of participants were excellent, It is the most substantive set of papers I have ever seen in a workshop... intensive and very thoughtful ground work. I believe this stands out ... for being grassroots, practical - muddy boots - still relevant widely
 - The quality and seriousness [of cases and participation]
 - Case studies had interesting ways of representing collaboration graphically; excellent choice
- b. Working group discussions - 15 people noted this aspect; examples of comments are:
- Sharing of what successes others have been doing
 - Brainstorming sessions were good
- d. Participants and Group Dynamics/Interactions - 11 people noted this; examples are:
- Bringing varying range of participants, scientists, farmers, coordinators around a theme was very encouraging. To get to know others and make successful contacts/future collaboration.
 - The value of coming face to face with other practitioners, funders, and organizers/promoters of IPM/Sustainable agriculture cannot be overstated. It provided more linkages.
 - Exchange of experiences/group sessions; personal interaction
 - Diversity of participants - you lacked only a chemical company representative
- c. Particularly good themes - 5 people noted the following:
- Discussions regarding collaboration and community building went particularly well
 - Various ways of tackling similar problems have been identified. People have been frank, even when sharp differences of opinions emerged
 - The way the same principles of collaboration show up in completely different venues.
 - Perspectives from Africa and Latin America
 - Brainstorming about followup and dissemination
- e. Organization, logistics, time - 5 noted examples:
- Well organized logistically
 - Getting materials early and being able to go through them
 - A very cost-effective use of time
 - Good facilitator (3 noted this)

2. Were there any aspects that were weak or did not go well? What suggestions do you have to improve those aspects?

- a. Analysis of Case studies and themes - 12 people noted aspects such as:
- Sometimes lost depth/focus on institutional collaboration and partnering (5 people)
 - Needed more systematic analysis of cases to identify the indicators of success. (3)
 - Needed framework of analysis/study of the cases during the workshop; comparisons (2)

- Lack of analysis of technical effectiveness of case studies; assumed to be ecologically sound.
- Needed more on practical actions are we going to undertake for sustainable agriculture.

b. Dynamics/ Timing factors - 6 people; comments include:

- Group Dynamics for facilitation were less developed in small groups; Need creativity. (2)
- Some initial presenters did not gear their talks to the time available. Too much information
- I have not been exposed before to the workings of government folks. They were guarded.
- Not enough local practitioners (nationals, farmers).

c. Tension regarding Pesticide companies - 5 people noted this

- The resolution attempt (re agrochemical companies) seemed to be in a different mode of the rest of the workshop. Some people were unsure about the use/function of a resolution.
- Too much tension over issue concerning pesticide companies; people got too ruffled. Need to examine seriously the role of controversy in partnerships

d. Reports on other International Programs - 3 people

- Most reports from international groups were boring, because tended to focus on structures, policies, bureaucracy, rather than how grassroots NGO's and others can get help.
- Presentation of global initiatives -- missed opportunity to explore synergisms.

e. Need clearer definition of Sustainable Agriculture and IPM; lacked agreement - 3 people

3. Do you feel the workshop's objectives were fulfilled?

Vote: 18 said YES - some qualified and others just stated the following:

- Depends on what comes out of the publication and future horizontal collaboration.
- Yes, but needed to have concrete proposal for further action as a group.
- Yes - a bit troubled by the donor dependence syndrome, coupled with policy avoidance.
- Weak on institutional issues (2 people)
- No, I think it emphasized linking, with little attention on why case studies were successful.

4. Please give an assessment of the following:

	Very Good	Good	Average	Below Average	Not relevant
Organizational support:					
Prior to conf:	18	4			
During Conf:	18	5			
Case Study Presentation:	4	16	3		
Small Working Groups:	10	9	3		1
Facilitation:	9	11	3		
Reps. of Groups/Partic:	6	12	4		1
Social Events:	8	11	2		1

Suggestions on how to improve any of above aspects:

- Don't avoid contentious issues
- Dancing should be built into each meeting

5. What activities do you plan to work on as a follow-up to this workshop?

- More exchanges with other groups (South-south, farmer-to-farmer, etc.) (7 people)
- More Exchange and dissemination of information. (6 people)
- Followup Workshops and programs locally or regionally (6 people)
- Apply/share ideas from workshop in project locally (5 people)
- Work more with people met at workshop (3 people)
- IPM facility proposal, for additional studies
- More monitoring and evaluations on effectiveness
- Prepare long distance Sustainable Agriculture radio program.
- Help in publicizing case studies through newsletters and journal.

6. Please add anything that would be helpful to WRI (examples noted)

- Link to other workshops, forums, conferences, for outreach & learning (3 people)
- Information dissemination is critical at local level, partly for advocacy
- This is a good group; need to keep in touch with each other and with WRI work
- There is a major need to address the collaboration of sustainable agriculture with urban issues.
- Identify principles of Sustainable Agriculture compared to conventional agriculture, i.e. input dependency: self reliance.
- Need to present information on how local groups can utilize the shared information and organize for sustainable agriculture in their area and why.
- Education of future generations through various activities curriculum and training for children
- More training seminars between NGOs and farmers
- More attention needed to national IPM programs
- Pay attention to our collective learning and memory; it shapes future action
- Explore more opportunities to work with groups in context of "regenerative agriculture."
- Avoid using plastic materials; connect our actions to our ideals