

Cornell International Institute for Food, Agriculture and Development

The Cornell International Institute for Food, Agriculture and Development (CIIFAD), the university's largest international development effort, was established in 1990 to enable Cornell faculty, students, and staff to work with colleagues in Africa, Asia, and Latin America on problems and opportunities concerning sustainable agricultural and rural development.

CIIFAD initiates and supports innovative, interdisciplinary programs that can contribute to global food security, enhanced quality of life, and institutional capabilities while maintaining the natural resource base on which these benefits depend. Its mission is to advance the knowledge and practice of sustainable agricultural and rural development around the world. A generous private gift to Cornell University in 1990 gave CIIFAD flexible funding and core support for its first 15 years that has enabled it to attract external funding from agencies and foundations to operate a diverse portfolio of programs and activities.

Program Administration

Norman Uphoff (Government/International Agriculture), Director, through June 30, 2005;

Alice Pell (Animal Science), Director, beginning July 1, 2005

Terry Tucker, Associate Director

Virginia Montopoli, Assistant to the Director

Lucy Fisher, Web-Based Communications and Outreach Coordinator

Faculty

Program Committee

Robert Blake (Animal Science, Professor)

Ralph Christy (Applied Economics and Management, Professor)

Ronnie Coffman (Plant Breeding, Professor; Director of International Programs, CALS),
ex-officio

Laurie Drinkwater (Horticulture, Associate Professor)

John Duxbury (Crop and Soil Sciences, Professor)

Billie Jean Isbell (Anthropology, Professor Emeritus; Latin American Studies Program)

David Lewis (City and Regional Planning, Professor)

Rebecca Stoltzfus (Nutritional Sciences, Associate Professor)

Janice Thies (Crop and Soil Sciences, Professor)

Terry Tucker (Associate Director), ex-officio

Norman Uphoff (Government and International Agriculture; Director), ex-officio

Linda Williams (Development Sociology, Associate Professor)

Affiliated Faculty (Faculty Responsible for different interdisciplinary programs)

- Chris Barrett (Applied Economics and Management, Professor), African Food Security and Natural Resource Management; Kenya/Madagascar: Broadening Access through Sustainable Input Systems
- Louise Buck (Natural Resources, Senior Extension Associate), Agroforestry; Eco-Agriculture
- Ralph Christy (Applied Economics and Management, Professor), South Africa: Emerging Markets, Program Committee
- John Duxbury (Crop and Soil Sciences, Professor), South Asia: Sustainability of Rice-Wheat Farming Systems, Afghanistan: Agricultural Rehabilitation
- Erick Fernandes (Crop and Soil Sciences, Associate Professor), Brazil: Environmental Management and Restoration, Management of Organic Inputs in Soils of the Tropics; System of Rice Intensification (on leave)
- Chuck Geisler (Development Sociology, Professor), Community-Based Natural Resource Management
- Billie Jean Isbell (Anthropology, Professor Emeritus; Latin American Studies Program), Andean Region: Cultural Factors in Development and Natural Resource Management
- Margaret Kroma (Education, Assistant Professor), Farmer-Centered Research and Extension, Ghana: Natural Resource Management and Sustainable Agriculture Partnership; Ghana/Mali: West African Water Initiative
- James Lassoie (Natural Resources, Professor), China: Resource Conservation and Sustainable Development
- David Lee (Applied Economics and Management, Professor), Latin/Central America: Watershed Management
- Alice Pell (Animal Science, Professor), African Food Security and Natural Resource Management; Kenya: Biocomplexity Analysis of Coupled Human-Biophysical Systems
- Norman Scott (Biological and Environmental Engineering, Professor), China: Sustainable Development
- Tony Shelton (Entomology/Geneva, Professor), International Integrated Pest Management
- Tammo Steenhuis (Biological and Environmental Engineering, Professor), Ethiopia: Integrated Watershed Management, West African Water Initiative
- Janice Thies (Soil and Crop Sciences, Associate Professor), Program Committee, Soil Health
- Terry Tucker (International Agriculture Program; Education, Lecturer; Associate Director), Farmer-Centered Research and Extension, Philippines: Conservation Farming in Tropical Uplands; Latin/Central America: Watershed Management
- Norman Uphoff (Government and International Agriculture, Professor; Director), Madagascar: Integrated Conservation and Development; System of Rice Intensification

Visitors (2004-2005)

John Doran, Director of the International Center for Sustainable Soil Fertility and Biointensive Agriculture, and Professor Emeritus of Agronomy and Horticulture, University of Nebraska-Lincoln

Zosima de la Rosa, Director, Farm and Resource Management Institute, Leyte State University, Philippines

Angela Ferraran, Professor of Soil Science, Leyte State University (formerly Visayas State College of Agriculture), Philippines

Henry Goltiano, Chief Training Officer for the Agricultural Training Institute, Department of Agriculture, Region VIII, Leyte, Philippines (Fulbright fellowship)

Donald Kass, Microbiologist with Food and Drug Administration, New York, formerly agricultural researcher at CATIE, Costa Rica

Jules Pretty, Director of the Center for Environment and Society, and Head of the Department of Biological Sciences, University of Essex, UK
(A. D. White Professor-at-Large)

Jessica Salas, President of the Philippine Watershed Management Coalition, Iloilo, Philippines (Ford Foundation fellowship)

Raquel Sorojijos, Head of the Department of Soil Science, Leyte State University (formerly Visayas State College of Agriculture), Philippines

Ousmane Sy, Research Intern, Dijon Agricultural University, France, from Senegal

Roberto Verzola, Coordinator of SRI-Pilipinas Network, and consultant for Philippine Rural Reconstruction Movement, Philippines

HIGHLIGHTS FOR 2004-2005: for more details, consult 2003-2004 Annual Report available at <http://ciifad.cornell.edu>

AFRICAN REGION

FOOD SECURITY AND NATURAL RESOURCE MANAGEMENT -- EAST AFRICA: Field research activities funded under a multi-year grant from the National Science Foundation's Biocomplexity Program got underway at two sites in Embu and Vihiga Districts in Western Kenya. The PI for this multidisciplinary research project, Alice Pell (Animal Science), spent a sabbatical year in Kenya, based at The World Agroforestry Center (ICRAF), a partner in this research undertaking.

Village-level surveys were done under supervision of Chris Barrett (Applied Economics and Management) and Larry Blume (Economics), while student research on the soil system dynamics was overseen by Johannes Lehmann (Crop and Soil Sciences) and Susan Riha (Earth and Atmospheric Sciences). Max Pfeffer (Development Sociology) brought sociological perspectives to the integrated analysis of 'poverty traps' where the biophysical vulnerability of local ecosystems interacts with socioeconomic vulnerabilities.

Under a parallel program for multidisciplinary graduate training, funded by the Rockefeller Foundation, 8 students from Kenya, Malawi, Mozambique and Zimbabwe

concluded their PhD degree programs in summer 2005 after four years of study at Cornell, field research in East Africa, and thesis write-up and defense. Two more students from East Africa began PhD programs at Cornell in January 2005 with Rockefeller support.

Research has been conducted since 2001 on 'poverty traps' in Kenya and Madagascar with support from the Collaborative Research Support Program (CRSP) of the U.S. Agency for International Development (USAID). Cornell participation in the CRSP entitled Broadening Access through Sustainable Input Systems (BASIS), was completed in November 2004. The findings from the BASIS research, for which Chris Barrett (Applied Economics and Management) served as PI, were presented to a major policy conference in Washington, DC at that time. The conference was attended by more than 50 African policy-makers and scientists as well as US government leaders.

INTEGRATED WATERSHED MANAGEMENT – ETHIOPIA: Activity continued in the Yeku and Lenche Dima watersheds of Amhara Regional State under a USAID-funded project, with three graduate students in Biological and Environmental Engineering, supervised by Tammo Steenhuis (BEE), completing research on the hydrology and local management of these watershed systems. CIIFAD brought in Dr. Olivier Husson, a researcher for the French development agency CIRAD currently based in Madagascar in July 2004 to suggest ways that introducing selected plant species could simultaneously improve soil quality and increase water infiltration and retention in the watersheds.

Complementing the watershed field activity is a collaborative program with Bahar Dar University in Amhara Regional State for institutional strengthening supported by a grant from USAID through the Association Liaison Office.

NATURAL RESOURCE MANAGEMENT AND SUSTAINABLE AGRICULTURE PARTNERSHIP -- GHANA: In December 2004, CIIFAD associate, Dr. Ivy Drafor, an agricultural economist at the University of Cape Coast in Ghana, conducted a workshop in Watro, Central Ghana, to develop household and farm record-keeping formats, procedures and skills at village level. This grew out of discussions during her previous time spent at Cornell in connection with her PhD training at the University of Ghana.

This initiative is intended to make financial management within families more transparent and to inform decision-making about resource use, giving women more knowledge and voice in this. World Vision/Ghana, a CIIFAD partner, is expanding this effort to other parts of the country. This activity was supported from a Hilton Foundation grant to CIIFAD. Margaret Kroma (Education) is the faculty responsible for this work.

WEST AFRICA WATER INITIATIVE (WAWI) -- MALI: WAWI was started up by USAID, the Hilton Foundation and World Vision to extend and extrapolate what has been done and learned about rural water supply development in Ghana to Mali and Niger. CIIFAD was invited to join WAWI because its work in Ghana was seen as a good precedent for the kind of multi-institutional collaboration, from village to capital, that can make development efforts more effective, participatory and sustainable.

In 2004-2005, graduate students Brett Gleitsmann (Biological and Environmental Engineering) and Hadji Diakité (International Development) did thesis research in Koro and Segou districts of Mali. They generated information that will inform WAWI's development of rural water supplies for greater hydrological effectiveness and more socioeconomic benefit, particularly for women.

CIIFAD conducted a national WAWI workshop in Bamako in May 2005 with Kroma (Education), Steenhuis (Biological and Environmental Engineering), and Uphoff (Government and International Agriculture; CIIFAD director) participating from Cornell with 50 Malians from the government, university and NGO sectors.

INTEGRATED CONSERVATION AND DEVELOPMENT -- MADAGASCAR:

In December 2004, CIIFAD completed its tenth year of involvement in efforts to create opportunities and incentives for saving Madagascar's threatened tropical biodiversity under a series of contracts with USAID. The purpose has been to give rural households some good agricultural alternatives to continuing slash-and-burn cultivation that is reducing remaining forest ecosystems and their valued biodiversity, and to introduce local governance systems that can regulate and conserve natural resources.

CIIFAD staff have been responsible for an integrated program in the eastern province of Tomasina based from the Center for Dissemination of Intensified Agriculture (CDIA) at Beforona, which put CIIFAD concepts of farmer-centered research and extension and of community-based natural resource management into practice. The network of *Koloharena* farmer organizations in the province (the name means "to protect our resources") now includes 10,500 household members, linked to a national federation with over 20,000 household members. These groups have selected 245 farmer-leaders to receive regular technical and organizational training at the Center to facilitate agricultural experimentation and demonstration that can improve upon traditional farming systems.

Koloharens in the province now operate 15 service, supply and marketing cooperatives that give their members access to cheaper and reliable production inputs and improve marketing opportunities. In 2004, one of the cooperatives produced and exported 100 tons of organically-grown litchis (a tropical fruit) to Europe under the *Natoria* (Nature) and *Koloharena* labels. In 2004-05, production of other environmentally-friendly products also expanded, including essential oils, ginger, vegetables, and SRI rice.

Concurrently, CIIFAD staff worked with communities and the government agency having authority over forests, land and water to get during the year responsibility for managing and protecting 7,000 hectares of forest and wetland areas in Tomasina region

transferred to these communities. CIIFAD has been working since 1996 on developing simple but formal procedures and documents to accomplish this. Evidence has been accumulating that such community management can be more effective, under certain conditions and with appropriate incentives and delegation of authority, than bureaucratic, regulatory management.

MAKING MARKETS MATTER: SOUTH AFRICA: The Emerging Markets Program at Cornell, headed by Ralph Christy (Applied Economics and Management), which CIIFAD helped to get started, conducted its third annual training workshop on “Making Markets Matter” at partner institution Stellenbosch University in South Africa in September 2004.

This was attended by 36 participants from 20 countries, with diverse backgrounds and experiences from businesses, commodity associations, non-governmental organizations, and donor agencies and government departments involved in the delivery of management, marketing and business training services. This program has been supported by USAID and is now starting to attract private sector support.

ASIAN REGION

CONSERVATION FARMING IN TROPICAL UPLANDS – PHILIPPINES: A range of activities supporting community-based watershed management initiatives was undertaken with Leyte State University (LSU, formerly the Visayas State College of Agriculture) with which Cornell has had collaborative relations for over 20 years. The program of activities was supported by a grant from USAID through the Association Liaison Office (ALO) in Washington, DC. Joint working groups undertook studies, action research and training on:

- Strengthening local environmental governance,
- Strengthening partners’ capacities to support community-based natural resource management,
- Increasing public understanding of the National Integrated Protected Area Law and the roles and responsibilities of Protected Area Management Boards,
- Developing innovative curricula and experiential learning approaches for the next generation of community-development practitioners, and
- Sustaining agricultural productivity in vulnerable watersheds.

A 16-day field-based course on community-based approaches to natural resource management was held in the Philippines May-June 2004 for students from both Cornell and LSU with a multidisciplinary faculty team from both institutions leading the visits to communities in Leyte, Bohol and Luzon regions.

Support was also mobilized from the U.S. Department of Agriculture (USDA) for some of this work, including cross-visits for members of Protected Area Management Boards and local government officials to discuss successes and challenges in local environmental governance; developing extension education materials on land and water management in

sensitive landscapes for natural resource management practitioners and local decision-makers, and video documentation of instructive cases of community-based natural resource management in the Visayas.

SUSTAINABLE RICE-WHEAT CROPPING SYSTEMS – SOUTH ASIA:

Collaborative work with national research institutions, non-governmental organizations and farmers in Bangladesh and Nepal focused on developing and assessing means to restore the growth of productivity gains of rice-wheat rotational cropping systems that have relied on Green Revolution technologies but that are now stagnating. There is also an emphasis on ensuring that agricultural practices and choices contribute to improved nutrition and health, not just production of more food. These activities have been supported by USAID's Soil Management CRSP since 1996.

The most significant innovation being assessed and disseminated is techniques to grow 'healthy seedlings,' free from fungal, nematode or other infestation/infection. 'Solarizing' nursery soils -- by covering them with clear plastic for several days' time, heating the soil to 50°C, which kills pests and pathogens – is giving yield increases with rice of 0 to 67%, averaging 17%. The mean increase for vegetables protected with this technology is 36%, with a range of 8 to 250%.

Other innovations that were evaluated and disseminated in 2004-2005 included:

- Combining healthy seedlings with SRI (see below), increasing rice yields by 51%;
- Enriching rice and wheats with micronutrients to determine whether this could achieve higher yields and also more nutrient-rich grains;
- Introducing raised-beds technology for improving yields and reducing water use; initial trials showed a 13% increase in yield with less water required;
- Evaluating the adoption of surface-seeded wheat to determine incentives and constraints.

Combining practices has proved already very beneficial for some cooperating farmers in Bangladesh. Growing and selling 'healthy seedlings' is doubling the price that farmers can charge, and yields are higher. One farmer documented a 5-fold gain in net income with these methods.

SUSTAINABLE DEVELOPMENT – CHINA: Starting in 1997, CIIFAD began working with Chinese universities and then other U.S. universities to promote more communication and cooperation around shared concerns for sustainable development. Norm Scott (Biological and Environmental Engineering) has led this effort and now chairs a bi-national consortium, the U.S. China Cooperation for Agricultural Sustainability (UCCA). It held its fourth annual meeting in 2004-2005, with over 20 Chinese universities participating and 11 other U.S. universities joining with Cornell within the UCCA framework.

James Lassoie and Ruth Sherman (Natural Resources) spent a sabbatical in Yunnan Province in southwestern China during this period. This was part of a three-year collaboration with The Nature Conservancy (TNC), a major international NGO, and provincial and local institutions implementing the Yunnan Great Rivers Project. This

aims to conserve unique ecosystems found within a relatively small area, with elevations ranging from 2,000 to over 6,700 meters, where three of Asia's greatest rivers arise, the Yangtze, Mekong, and Salween. A number of young Chinese professionals from Yunnan have been studying new approaches to natural resource management at Cornell under the collaborative relationship started with CIIFAD and Ford Foundation support. Lassoie and Sherman have been helping to develop cost-effective means of monitoring and assessing ecological changes at the landscape level.

LATIN AMERICAN REGION

WATERSHED MANAGEMENT -- ECUADOR AND HONDURAS: CIIFAD's Latin American program has made watershed management one of its focuses because of the importance of this for sustainable agriculture and natural resource conservation, and because of the challenge it presents for interdisciplinary cooperation and interinstitutional collaboration.

In 2004, Juan Carlos Vega (Applied Economics and Management) completed his MS thesis, the fourth in a series of Cornell student research projects in the El Angel watershed in the Carchi region of Ecuador. These have been undertaken with the NGO Grupo Randi Randi and the Carchi Consortium, a social learning platform serving diverse interest groups in the watershed. Vega constructed a mathematical model based on field data that permits evaluation of the entire upper part of the watershed in terms of resource management and policy issues pertaining to water allocation and use.

Cornell faculty and students have been working with colleagues at the Pan-American School of Agriculture at Zamorano in Honduras on watershed management problems since Hurricane Mitch devastated large areas of hillside agriculture in 1998. In 2004, Tammo Steenhuis (Biological and Environmental Engineering) and Luis Caballero, the watershed resource specialist leading Zamorano's work in this area, undertook planning activities for new watershed research in anticipation of Zamorano's leadership role in some new national water initiatives. It has been seen and shown that changed agricultural practices, particularly using cover crops, can 'hurricane-proof' or at least reduce storm damage in many areas with steep slopes, which are widespread in Central America.

SUSTAINING ENVIRONMENTAL SERVICES – COSTA RICA: Costa Rica has long been a leader among developing countries in designing and experimenting with innovative programs for environmental protection. Since 1997, Costa Rica has introduced payments for environmental services (*Pagos de Servicios Ambientales*), making payments to farmers and forest owners, compensating them for their role in biodiversity conservation, water resource protection, greenhouse gas mitigation, and scenery preservation. More than 4,400 farmers have participate in the program, which Simon Zbinden (Applied Economics and Management) examined under the guidance of his advisor, David Lee (AEM) in 2004. This study identified difficulties arising from attempts to achieve multiple objectives concurrently within a program that was protecting

280,000 hectares by 2001. The results of the research were published in *World Development* in 2005.

VICOS PROJECT REVISITED AND RECONSIDERED – PERU: Cornell’s Department of Anthropology embarked on a very innovative program of applied anthropology in the 1950s by leasing a large hacienda in Vicos, Peru so that its labor force, at the time functioning almost as serfs, could embark on a path of directed change. The experiment did not turn out as well as Cornell faculty or the Vicos community expected, and the relationship was terminated in the 1960s.

Recently, representatives of the Vicos community have expressed a desire to collaborate with Cornell and other researchers to do a retrospective evaluation of that experience, to assess what was done and what was learned from it. Billie Jean Isbell (Anthropology) and Barbara Lynch (City and Regional Planning) with Mary Jo Dudley (formerly with the Latin American Studies Program) have worked with the Mountain Institute in Peru on this initiative, hosting a leading researcher at the Institute, Florencia Zapata, at Cornell in 2003-2004.

Zapata is working on a project together with Cornell faculty and students entitled “Living Memory: Reflections of Collective Memories in Vicos, Peru.” This effort is collecting and archiving local knowledge about the Vicos experience. Interviews are also being conducted with ‘outsiders,’ researchers, officials and others, to bring internal and external perspectives together. Dudley has assisted Zapata in setting up and videotaping interviews with persons involved in the original Vicos project. Interdisciplinary activities in the Andean region supported by CIIFAD have focused particularly on social and cultural dimensions of economic and social change to understand better their implications for sustainable development.

UNIVERSITY COLLABORATION – MEXICO: In 2004-05, Cornell faculty began collaborative activities with the Universidad Autonoma de Yucatan (UADY) under a three-year Training, Internships, Exchanges and Scholarships (TIES) grant from the Association Liaison Office (ALO), funded by USAID. Robert Blake (Animal Science) is director of the project from the Cornell side, and he spent this year at UADY to give full-time to developing this initiative. Faculty at the two institutions have taught several short courses jointly on nutritional evaluation of forages, use of a computational model to manage the nutrition of sheep and cattle, and bioeconomic analysis of technology alternatives. The courses were attended by representatives of the regional cattle producers association and government as well as other faculty and students at UADY and the University of Veracruz. Starting in 2005, one section of the long-standing Cornell course Agriculture in Tropical Countries (Int Agr 402/602) will be taught jointly with field study conducted in Mexico.

THEMATIC ACTIVITIES

SUSTAINABLE AGRICULTURE AND NATURAL RESOURCE

MANAGEMENT (SANREM): In 2004, CIIFAD faculty and staff coordinated a bid to USAID to take over responsibility as the management entity (ME) for the Sustainable Agriculture and Natural Resource Management (CRSP). Cornell was jointed in this bid by colleagues at Michigan State University, Ohio State University, and Texas A&M as well as the NGO ProNatura. Disappointingly, from CIIFAD's perspective, the USAID selection team awarded the ME to Virginia Tech. However, it still remained possible for CIIFAD to get support for interdisciplinary work on SANREM subjects under the CRSP.

In January 2005, 5 different groups of Cornell faculty submitted proposals for SANREM planning grants (up to \$50,000 each). These were considered along with 68 proposals from other institutions. Four Cornell applications were among the 18 selected for funding:

- ***Healthy Landscapes: Developing a Framework and Indicators for Sustainability and Management.*** Harold van Es (Crop and Soil Sciences) is PI, with Rebecca Schneider (Natural Resources) and George Abawi (Plant Pathology) as co-PIs. This would focus on soil system management problems in Eastern Europe, particularly the Ukraine where good collaborative university links are available. This proposal emerged from discussions of CIIFAD's Soil Health group.
- ***Hybrid Institutions: Understanding and Strengthening Local Organization Capacities for Concurrently Promoting Sustainable Agriculture and Biodiversity Conservation.*** Norman Uphoff (Government and International Agriculture) is PI, and Louise Buck and Tom Gavin (Natural Resources), Jacqueline Ashby (CIAT), Ann Stroud (ICRAF-African Highland Initiative), and Sara Scherr (EcoAgriculture Partners) as co-PIs. This proposal was 'inspired' by the positive experience of CIIFAD's work in Madagascar with the Koloharena farmer organizations; CIAT and ICRAF have similar experience in the Andes and East Africa to draw on.
- ***Integrated Watershed Management to Support Community-Based Responses to Increased Water Scarcity.*** David Lee (Applied Economics and Management) is PI, with Terry Tucker, Louise Buck, Tammo Steenhuis and Norman Uphoff as co-PIs. This work focus on situations in Ecuador and Kenya where CIIFAD has considerable experience. This comparative analysis was approved for multi-year funding by the previous SANREM CRSP.
- ***Improving the Interface between Agriculture and Environment/Wildlife Species.*** Alex Travis (Veterinary Medicine) is the PI, with Alice Pell (Animal Science) as a co-PI. This research, proposed in conjunction with the Wildlife Conservation Society, would focus on how agricultural and pastoral communities in Zambia can optimize their agricultural livelihoods in harmony with wildlife populations. Finding answers to this question is made more urgent by the existence of certain diseases that can affect both domesticated livestock and antelopes, wildebeests and other wild animals, making joint management strategies important.

It is unlikely that all of these can be successful since only 6 of the 18 final proposals will be given multi-year funding of up to \$1.2 million. But with four strong proposals, CIIFAD is optimistic that at least one, or maybe two, could be selected.

ECOAGRICULTURE: In September 2003, CIIFAD was invited by the previous management entity of the SANREM CRSP to prepare an analytical paper, reviewing the scientific evidence either supporting or contradicting the claims regarding ecoagriculture as presented by McNeely and Scherr in *Ecoagriculture* (Island Press, 2002). This strategy argues that certain kinds of land management (including farming) practices can enhance sustainable agricultural productivity, environmental conservation (and particularly wild biodiversity), and rural livelihoods all at the same time. These are often thought to be in conflict, requiring that tradeoffs be made, sacrificing goal one for another.

A team of Louise Buck and Thomas Gavin (Natural Resources), David Lee (Applied Economics and Management), and Norman Uphoff (Government and International Agriculture), supported by several research assistants and having input from over 20 Cornell faculty associated with CIIFAD, produced a monograph *Ecoagriculture: A Review and Assessment of its Scientific Foundations* which was presented to an international conference on Ecoagriculture held in Nairobi, Kenya in September 2004.

Subsequently, given student interest on campus and the desirability of expanding upon the monograph into complete a book on this subject, Buck and Gavin led a seminar (Nat Res 694/Int Agr 694) in spring semester 2005, with 9 graduate students from four fields. Students undertook team research on selected issues that needed more investigation. The issues and opportunities raised by this concept are being further addressed in the second SANREM CRSP proposal listed above.

MANAGEMENT OF ORGANIC INPUTS IN SOILS OF THE TROPICS (MOIST):

The initiative that the MOIST group took, starting in 1995, to utilize electronic means to link up researchers and practitioners through the internet, with Lucy Fischer as outreach coordinator, has continued to grow, covering now also agroforestry, mulch and cover crop, soil health, and SRI as well as use of organic inputs to soil systems.

MOIST has received USDA funding, on behalf of the Tropical Soil Cover and Organic Resource Exchange (TropSCORE) Consortium, to maintain a Soil Health Portal that has connections to many other sources of related information on the internet. In 2004, the Agricultural Network Information Center Alliance (AgNIC) gave a grant for digitizing agricultural extension materials for these subject areas that are in non-English languages and not readily available in hard copy.

The web-based portal on soil health is maintained in English and Spanish languages, and it is associated with cross-linked global electronic discussion groups operating in English (mulch-L), Spanish (coveragri-L, co-managed with a Central American NGO partner), and French (evecs-L). In 2004-05, a major thrust has been to develop with electronic support a worldwide ‘community of practice’ interested in and involved with SRI. For access to TropSCORE Worldwide Soil Health Information Portal and associated data bases, learning modules and search engines, see <http://www.soilhealth.org/>

SOIL HEALTH: In October 2004, CIIFAD hosted an international workshop on soil health to explore opportunities for transnational alliances. There were participants from

academic institutions and NGOs in Honduras, Kenya, Nicaragua, Philippines, South Africa, Ukraine and the U.S. The meeting was co-sponsored with Cornell Cooperative Extension's Program Work Team on Soil Health.

Also during 2004-2005, an international team of editors, headed by CIIFAD director Norman Uphoff as managing editor and including Erick Fernandes and Janice Thies (both Crop and Soil Science), put together a book, to be published in 2005 by CRC Press, on *Biological Approaches to Sustainable Soil Systems*, with 50 chapters contributed by 102 specialists from 28 countries around the world. About one-fifth of the writing was done by Cornell faculty.

THE SYSTEM OF RICE INTENSIFICATION (SRI): This methodology for increasing rice production by 50-100% or more with a reduction in inputs (seeds, water, fertilizer, agrochemicals, and in some cases, even labor) is gaining acceptance worldwide. CIIFAD began working on the evaluation of SRI with the Malagasy NGO Association Tefy Saina in 1994, and began trying to expand its evaluation and use in 1997, with first results outside Madagascar reported in 1999. In 2004-2005, the number of countries where 'the SRI effect' had been demonstrated rose from 18 to 22, the most recent being Senegal, Mozambique, Pakistan and Vietnam. SRI has been validated and is being supported in the three largest rice-producing countries, China, India and Indonesia, even though it remains controversial among some scientists.

CIIFAD organized and convened a special workshop on SRI at the World Rice Research Conference in Tsukuba, Japan in November 2004, with reports from Bangladesh, China, Indonesia, India, and the Philippines. The directors of the national rice research programs in Cuba and Indonesia agreed to present their countries' very favorable experience with SRI (the Cuban director was not able to attend because of visa delays).

In May 2005, the Government of India issued a press release saying that it was now advising Indian farmers to use the System of Rice Intensification (SRI) wherever feasible to raise production (and save water).

GLOBALIZATION: In 2002 and 2003, CIIFAD sponsored, together with several other campus programs, two conferences on globalization trends and their impacts on rural people and rural communities. The first set of proceedings, edited by Ralph Christy (Applied Economics and Management) was published in 2004 by World Scientific Publishing, Singapore, under the title *Achieving Sustainable Communities in a Global Economy*. The second volume, being edited by David Lee (Applied Economics and Management), is expected out next year.

HIV/AIDS PREVENTION: The AIDS pandemic is too massive for CIIFAD to have any substantial impact on its spread, but it is also too great a negative force making sustainable agricultural and rural development less attainable for CIIFAD to ignore. In 2002, the Program Committee made an allocation to support innovative efforts by student researchers to develop new methods for coping with the threat of AIDS. Lindy Williams

(Development Sociology) agreed to be the faculty member responsible for support of these pilot efforts.

Virgil Mensah-Dartey (Policy Analysis and Management), who had done some exchange graduate study at the Harvard School of Public Health on HIV/AIDS education, was given support for field work in Ghana during 2002-2003, and he finished his thesis in 2004 on the use of participatory action research methods to mobilize university student ideas and efforts to achieve behavioral change in that country. Mensah-Dartey's thesis documents how a participatory approach, in contrast to more didactic methods, elicited significant, creative efforts by students at the University of Science and Technology in Kumasi.

These students took their messages to secondary schools, to reach young people at an age where attitudes and choices about sexual behavior are particularly formative. The plan was to get secondary students in turn to undertake education and attitudinal change at the upper primary school level, which is a developmental stage where attitude formation is most critical, before adolescent pressures become very strong. This strategy of 'near-peer' counseling showed promise, but needs further refinement and validation.

Mohammed Sy-Ar (International Development), who had done some voluntary AIDS education work in Madagascar before coming to Cornell for an MPS degree program undertook to evaluate the application of participatory action research (PAR) concepts in a UNICEF-sponsored youth-oriented AIDS education program in Haiti. He also completed his MPS project paper in 2004. He found that the application of participatory concepts had not been introduced in a sufficiently participatory way, creating some cognitive dissonance. Further, the support and supervision for the program were not adequate, so the program was not having the intended impacts. Sy-Ar's study once again confirmed the importance of evaluating impacts and not just assuming them, because good intentions are seldom sufficient. CIIFAD was pleased to cooperate with the Cornell Participatory Action Research Network (CPARN) in this evaluative effort.

SUSTAINABLE DEVELOPMENT: In response to Pres. Jeffrey Lehman's call for Cornell faculty, students and staff to become more engaged with problems and opportunities of 'sustainability in the age of development,' CIIFAD organized a five-week faculty forum in January-March 2005. Faculty with long-standing concerns about sustainability spoke from a variety of disciplinary perspectives: applied economics and management, animal science, biological and environmental engineering, crop and soil sciences, development sociology, ecology, economics, government, horticulture, nutritional sciences, and regional planning.

The forums were attended by an average of 50 faculty and students each time, with opportunity for questions, comments and discussion. The sessions were videotaped and put onto the web (<http://ciifad.cornell.edu/sustcolloq/>), with written summaries as well.

April 20, 2005, Prof. Jules Pretty, A. D. White Professor-at-Large from the University of Essex, UK, sponsored by CIIFAD, gave his all-campus lecture on "Clarifying Ends and

Means of Sustainability: Some European Perspectives.” During spring semester, CIIFAD convened several lunch meetings of the faculty involved in the forums at the start of the semester, plus members of the CIIFAD Program Committee, to discuss specific recommendations to put before Provost Bidy Martin and the task force that she has appointed. Given its experience with cross-disciplinary collaboration on many aspects of sustainability, CIIFAD looks forward to playing an active role in expanding Cornell University’s engagement with this very important subject.

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