

2006
Annual Report

**Office of International Programs
in Agriculture**

College of Food, Agricultural, and Environmental Sciences



May 2007

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2006 Annual Report

Office of International Programs in Agriculture

Mission

The Mission of the Office of International Programs is to incorporate an international dimension into the student learning, discovery and engagement dimensions of the college so that (a) our graduates understand and appreciate the global environment in which agriculture functions; (b) our research and engagement programs have access to the best ideas and technologies regardless of where they are generated or developed; and (c) the above strengthen U.S. international competitiveness within a sustainable global agricultural and natural resource system.

Introduction

The International Programs in Agriculture (IPA) Office continued to focus on programming that is consistent with its mission during 2006. It continued to provide important support services relating to all three of the major operational dimensions of the College of Food, Agricultural, and Environmental Sciences, namely, learning, discovery, and outreach to students, faculty and staff. The Office has greatly benefited from support given to it during 2006 by the OSU Extension, the Ohio Agricultural Research and Development Center, and the College Office of Academic Affairs. It also benefited greatly from inputs provided by other collaborators on the OSU campus, in particular the Office of International Education, the Office of International Affairs and its affiliated Area Studies Centers, and the Center for International Business Education and Research.

Globalization has continued to impact rural Ohio and its economy. The ultimate mission of our Office is to assist agribusinesses, farmers, rural inhabitants and other stakeholders adjust to changes resulting from globalization and to take advantage of the opportunities afforded by it. With globalization and OSU's progress toward becoming a world land grant university, we not only have stakeholders in Ohio but also in the U.S. and in other nations. The Office seeks to maximize the ability of all stakeholders to adequately address their rapidly changing economic, social, and political environment.

International Program Review

The College of Food, Agricultural and Environmental Sciences (CFAES) engaged in a major international program review during 2006. This review included the participation of a panel of three outside experts who joined the OSU Associate Provost for International Affairs during a series of interviews with OSU faculty, staff, students and stakeholders.

The review highlights the importance of this dimension for the future of the college as it will increasingly need to address the ever increasing globalization of agriculture. The outside panel prepared a report consisting of a series of recommendations for future action. These recommendations covered the full gamut of issues, including those related to priorities and financing. This report will be vetted fully with CFAES faculty and stakeholders during 2007 and a response to the report will be prepared. It will be used by CFAES to determine potential changes in the organization, funding and program priorities in international programs for the future. Copies of the report are available on the IPA website (<http://ipa.osu.edu/>).

Active Projects during 2006

The Office of International Programs in Agriculture had the following sponsored active grants and contracts during the year.

Project Title	Total Funding
On-farm water management for rain fed agriculture on benchmark watershed in five diverse eco-regions of India	\$59,405
Norman E. Borlaug International Fellowship	\$49,452
Regional Integrated Pest Management (IPM) Program in East Africa: Kenya, Tanzania, and Uganda	\$329,313
University Partnership to Build Rural & Micro-Finance Capacity in Mexico	\$499,956
No Cost Extension Ohio State - Eastern Africa Site in Uganda	\$28,309
An Evaluation of New Market Development and Marketing Strategies on Sorghum and Millet Farmers' Income in Tanzania and Zambia	\$130,375
4,016,733.00Strengthening Capacity of East African Faculties of Agriculture to Improve Small Holder Productivity (HEPAD)	\$799,651
Technology Transfer - Southeast Asian and Uganda Sites	\$30,535
EARTH University/OSU Collaborative Program on Environmental Research in Humid Tropics	\$771,000
Punjab Agricultural University and Food Processing: New Linkages with the Private Sector	\$299,632
Agricultural Exports & Rural Income (Egypt, MUCIA AERI)	\$293,514
Faculty Exchange Program Training	\$221,262
Development of M.S. Degree Programs in Soil Sciences, Agro-ecology & Biotechnology in the Dominican Republic	\$418,205
Development of Executive Agribusiness Masters Program through Distance Learning in Puerto Rico	\$111,124
TOTAL	\$4,041,733

LEARNING

Study Abroad

The college continues to sponsor 5 quarter length programs. During 2006 seventy six (76) students, many of whom are agriculture majors, used them to study overseas. **Mandy Pillivant** continued to serve as the coordinator for these programs. These programs have increasingly been augmented with short-term post-academic quarter study abroad opportunities in which thirty-nine (39) students participated during the year. New programs in this model were developed by **David Kraybill** in Uganda, **Andy Ward** and **Ann Christy** in South Africa, and **Pablo Jourdan** in England. Short-term programs continue to be developed.



Mandy continued to operate from an office located with the undergraduate support staff in the Dean's Office. In this capacity, she reports directly to the Associate Dean for Academic Affairs. This arrangement enables direct alignment of study abroad efforts with those of student recruitment.

The OSU Office of International Education continued to have overall responsibility for managing study abroad programs across the entire campus. It has been directly involved with the coordination of programs initiated by the College of Food, Agricultural, and Environmental Sciences, including short-term experiences. We remain very grateful to its Director, **John Greisberger**, and to several staff of his office, in particular, **Grace Johnson**, Assistant Director, and **Jeannie Simmons**, Program Coordinator, for their excellent collaboration.

Resident directors for the 2006 study abroad programs were:

- Brazil – **Garee Earnest**, OSU Extension Leadership Center.
- Czech Republic – **Kelly Koren**, Undergraduate Student Recruitment.
- Dominican Republic – **Neil Smeck**, Soil Science.
- Australia, **Normand St-Pierre**, Animal Science.
- China, **Melissa Krygier**, Associate Vice President for Finance.
- England, **Pablo Jourdan**, Horticulture & Crop Sciences.
- South Africa, **Andy Ward** and **Ann Christy**, Food, Agricultural and Biological Engineering.
- Uganda, **David Kraybill**, Agricultural, Environmental, and Developmental Economics.

CFAES students benefited from partial scholarships that were generated from endowments established by former faculty members and staff of the college and from other sources.

Internship Program

The Ohio Agricultural and Horticultural Internship Program (The Ohio Program, TOP) had a very good year with 351 incoming participants for training. Interns were placed from Hawaii to Massachusetts in every field of horticulture, agriculture and turf grass.

New J-1 trainee visa regulations were proposed by the Department of State (DOS) in April 2006. This regulation package was draconian in many ways. The DOS, under pressure from Congress as well as past TOP hosts and trainees, seems inclined to moderate the package but DOS has yet to propose a new package of regulation. Due to the proposed DOS package, office travel and expenses were kept to a minimum in 2006. This was a counter move to preserve resources during a period of regulatory uncertainty.

In January 2006 Assistant Director **Michael Chrisman**, along with TOP's long time partner, The University of Wiesbaden, attended and staffed the OSU booth at the IPM Horticultural Show in Germany.

Mike was an invited guest of The University of Wiesbaden in October for an International Partners Meeting. The meeting was accompanied by presentations to student groups and a booth at the student union for students interested in internships through our college. Later **Mike** attended a meeting at Wiehenstephan Fachhochschule near Munich for recruitment of student/trainees.

Michael O'Keeffe participated in the 2006 Australian Turfgrass Conference in Brisbane. While in Australia **Mike** secured a commitment of \$12,000 from Syngenta Global Turf Care Company for participant scholarships. He and **Michael Chrisman** are shown here presenting the awards to the two Australian recipients of the award.



The Australian Rotarian Golfing Fellowship has also told **Mike** they are committing \$8,000 for two additional trainee scholarships for the coming year.

Michael met with students at seven Colleges in Australia. The internship program has been a stepping stone for international students to take part in training, academic, and short course programs over the past three decades.

Mike O'Keeffe was presented with the 2006 Buckeye Sports Turf Global Excellence Award at the Sports Turf Short Course in Columbus. The Global Excellence Award is given to someone who has "made a significant contribution to turfgrass science on a global scale". **Mike** is pictured with **Dr. John Street** who presented the award. **Mike** has been instrumental in placing turfgrass science students at golf courses and sports venues the world over.



Each year, American students have the opportunity to intern in the British Isles, Australia and Europe. Similarly, students from those regions have the opportunity to come to the USA and train at top-notch golf courses and sports venues. A good example is English turf student **Dan Bingle** who is interning at the Columbus Crew Stadium. Another good example is Ohio State student **Brett Tanner** who will intern at Arsenal Football Club in England.

In addition, **Mike** worked with the OSU Turfgrass Science Program to accommodate international visiting scientists. Most recently, that list includes:

Pam Sherratt, England
Nuno Sepulveda, Portugal
Bobby Kerr, Scotland
Pawel Lewinski and **Aneta Studzinska**, Poland
Ed Nangle, Ireland
Marcela Munoz, Chile

Mike recruited approximately 50 foreign turf trainees to attend the 10th annual Global Turf Short course on Hilton Head South Carolina. He involves faculty from Ohio State and stakeholders from industry (stakeholder support \$6000) as well as international faculty who volunteer their time. OSU staff shown here with the short course attendees are **Mike O'Keeffe**, **Dr. Karl Danneberger**, **Dr. David Shetlar** and **John Beardmore**.



Staff member **Yining Zhang** has brought about a dramatic increase in Chinese internship participants recruited and placed by The Ohio Program in year 2006. The twenty-two participants this year quadrupled the numbers from past years.

Yining is also in charge of Internship Program A which hosted twelve international students for winter, summer, and autumn quarters. He made all class and accommodation arrangements for these special guests on campus.

In October **Yining** traveled to China where he made several recruitment presentations at the Agricultural College of Ningxia University (NU). He also met with school officials concerning future training programs and cooperation. Following presentations at Ningxia, **Yining** was invited to meet with past participants of the program including those at Mengniu Austasia International Dairy Farm which is the largest single dairy unit in all of Asia.

Students attending Yining's presentation



Ku Yang (left) General Manager Mengniu Austasia is running Asia's largest dairy farm in China



In February 2006 **Grzegorz Lecki** traveled with **Ms. Kinga Slominska** to visit hosts on the East Coast. **Kinga** represents the University of Agriculture in Lublin, one of the prime sources of trainees from Poland.

Grzegorz was responsible for updating the intern program's website this past year (top.osu.edu) giving it a more modern look, many interactive features, and a "back-end" feature which allows all office employees to update most of the content, post pictures to the gallery, and access online submissions. He also designed a full online application which is connected to the office database and allows for easy transfer of submitted applications to the database.

John Beardmore visited EARTH University in Costa Rica in August to orient eight interns prior to their participation in The Ohio Program. While at EARTH he also met with many of the academic staff and gave presentations to students about opportunities with TOP.

In September **John** visited interns in Ohio, New Mexico, Kansas, Colorado and Nebraska. These visits took him to twenty host agribusinesses where he visited with sixty interns on placement.

John continues to serve on the Staff Advisory Council (SAC) as representative for International Programs in Agriculture. He was appointed Communications Director of SAC in November. Persons interested in knowing more about the activities of SAC can go to the website at <http://sac.ag.ohio-state.edu/>.

Migrant Labor International Extension Study

OSU Extension educators are increasingly concerned with the large number of Hispanic laborers working in “green, animal and rural construction industries.” They have not been trained to work with this migrant labor force or to prepare employers to work more effectively with them. In response to this perceived need, the IPA Office worked with OSU Extension to initiate a study program in Mexico during April 2006. The program, coordinated by the Colegio de Post-Graduados (CPG) in Montecillo, Mexico, included field trips to rural villages and farms, classroom lectures, and ample opportunity for interaction among participants and families. Upon return, participants organized themselves into a Task Force on Hispanic Labor. Members include **Candace Pollock, Francisco Expinoza, Joanne Kick-Raack, Don Breece, Claudio Pasian, Jim Skeeles and Dave Hansen**. They have created a website and have labored to provide additional educational opportunities to other Extension Educators. In preparation for the tour, IPA invited **Dr. Fernando Manzo**, extension educator at CPG, to come to Ohio to work with the participants. Subsequently, **Dr. Manzo** returned to Columbus in December to participate in the OSUE Annual Conference. The taskforce is planning to increase its support of others working with this important segment of the Ohio rural work force.

OSU Executive Delegation Travel to India

In March 2006 the College of Food, Agricultural and Environmental Sciences (CFAES) played a major role in the organization of a visit to India by a high level delegation from OSU. The delegation included President **Karen Holbrook**, Provost **Barbara Snyder**, Associate Provost **Jerry Ladman**, Board of Trustee Members **Dan Slane** and **Wally O'Dell**, CFAES Dean **Bobby Moser**, Soil Scientist **Rattan Lal**, and IPA Director, **David Hansen**. While in New Delhi, the delegation met with the U.S. Ambassador to India, the President of India, the Minister of Science and Technology, and the Minister of Agriculture.

In addition, the delegation visited Punjab Agricultural University (PAU) to review collaborative programs between CFAES and PAU. During the visit **President Holbrook** received an Honorary Degree. The team also visited the M.S. Swaminathan Research Foundation to discuss continued research collaboration. In Bangalore the delegation visited the G.E. research park and

the Indian Institute of Science. In Mumbai the team met with representatives of the Sir Dorabji Tata Trust Fund and Indian counterparts interested in establishing a private university in India in direct partnership with Ohio State University. In October **President Holbrook** visited with **M.S. Swaminathan** in Des Moines, Iowa during the World Food Prize celebration.

Peace Corps

The IPA Office has housed the Peace Corps representative on the OSU campus since the position was established in 1974. Peace Corps volunteers serve for 27 months in a government paid program that offers technical assistance to over 65 different countries in a variety of fields including agriculture, natural resources, animal production, business development, community outreach, health and education. Over the years, it has provided opportunities for hundreds of students to undertake field experiences upon graduation from The Ohio State University.

The current Peace Corps representative, **Ela Kakde**, was a Peace Corps volunteer in Ecuador prior to assuming this position. She is pursuing an M.S. degree in City and Regional Planning. The Office advertises Peace Corps opportunities and works closely with the Office of International Education and the Peace Corps regional recruiting Office in Chicago to identify potential candidates and to interview and select them for programs overseas. During 2006, seventy (70) candidates were nominated for Peace Corps programs through the Office.

Food Scientist Team Visit to China

As part of a science exchange program through the U.S. Department of Agriculture, a group of CFAES food scientists were invited to visit several premiere university programs in food science in China. **Ahmed Yousef, Sudhir Sastry, Stephen Schwartz**, and **Hua Wang** participated in the tour. They visited four universities, including Kunming Agricultural University and the China Agricultural University. They presented seminars and interacted with potential partners at these institutions. They anticipate continued interaction with these institutions, including the development of collaborative research programs and the exchange of graduate students.

DISCOVERY THROUGH RESEARCH

During 2006, the IPA Office continued to support, and in some cases lead, programs which facilitate active participation by its research scientists in global agricultural research networks. These programs represent important contributions to the overall research output of scientists in the college. Most of them provide financial support for the research and access to global networks in which to carry it out. Most are funded by U.S. Government agencies, especially USAID and USDA.

Integrated Pest Management Collaborative Research Support Program (IPM CRSP)

CFAES continues to participate in this USAID funded project through two grants that were awarded last year. **Mark Erbaugh**, IPA/HCRD is the PI for the Regional IPM Program for East Africa: Kenya, Tanzania and Uganda. OSU co-PIs working on this regional program include **Joe Kovach**, **Sally Miller**, **Doug Doohan**, and **Matt Kleinhenz**. This project is in collaboration with Makerere University and the National Agricultural Research Organization, Uganda; the Kenyan Agricultural Research Institute (KARI), Kenya; Sokoine University of Agriculture and the Tanzanian Coffee Research Institute, Tanzania; AVRDC/Arusha; and Virginia Tech University.



Sally Miller, PI and IPDN director, held two stakeholder meetings in Antigua, Guatemala and Contonou, Benin in 2006 to introduce the IPM CRSP International Plant Diagnostic Network (IPDN). The next stakeholder meeting will be in Nairobi, Kenya. She is also involved in the East Africa Site, a South Asia Site, and a research Site in Eastern Europe. OSU is the lead institution. Cooperating institutions are the University of Wisconsin-Madison, the University of California-Davis,

the University of Florida, IITA, Kenya Agricultural Research Institute (KARI) and Agroexpertos (Guatemala).

Aquaculture CRSP

Konrad Dabrowski, Natural Resources/Fisheries, continued his participation in the Aquaculture CRSP. This has included collaboration with counterparts in Peru and Mexico on projects involving fish genetics. He has also hosted several visitors from these sites in his laboratories on the OSU campus. In addition, scientists from Manaus, Brazil visited him and his lab to discuss collaboration under this program.

Iceland Collaborative Research on Carbon Sequestration

Rattan Lal, Soil Science, and **David Hansen**, IPA Office, visited Iceland during spring 2006 at the invitation of **Olafur Grímsson**, Iceland President. They were accompanied by **Jerry Ladman**, OSU Associate Provost for International Affairs. While in Iceland, **Rattan Lal** presented several key seminars on climate change and carbon sequestration. They were hosted by **Andres Arnalds** of the Iceland Soil Conservation Service. During their trip they visited several sites that have experienced considerable erosion over the past 20 years. Soil erosion in Iceland is a result of overgrazing, deforestation and high winds. They discussed a joint workshop on climate change and global food security to be held in Iceland in 2007 and had preliminary discussions about graduate and undergraduate student exchanges and collaborative research.



Subsequent to this visit, **Olafur Arnalds**, Dean of the Iceland Agricultural University, visited the OSU campus to present a seminar on Iceland and to discuss the potential for a study abroad program for natural resource students. A study tour to Iceland is being planned for spring 2007.

University President **Karen Holbrook** has invited Mr. **Olafur Grímsson**, President of Iceland, to visit Ohio State University. We are in the process of identifying dates for this visit. Collaborative research on carbon sequestration between Icelandic universities and government institutions and OSU is scheduled to begin under a new OSU sponsored targeted investment in excellence on climate change, water and carbon.

International Sorghum & Millet Collaborative Research Support Program (INTSORMIL CRSP)

The CFAES marketing economics research project in Tanzania and Zambia continues with support from the INTSORMIL/CRSP. This project, "*An Evaluation of New Market Development and Marketing Strategies on Sorghum and Millet Farmers' Income in Tanzania and Zambia*," aims at evaluating the effects of new market development and marketing strategies for sorghum and millet farmers in the two participating countries. CFAES co-PI's **Donald Larson**, AEDE, and **Mark Erbaugh**, IPA/HCRD, work with collaborating social scientists at Sokoine University of Agriculture in Tanzania and the University of Zambia in Lusaka, Zambia. Over the past year farm level surveys and analyses were conducted in both countries. The project was awarded a new grant in September to cover additional analyses through June of 2007. Tanzanian graduate student, **Jeremia Makindara**, completed his course work at OSU and is

now back in Tanzania implementing his research program that focuses on value added supply chain analysis of sorghum for the clear-beer market.

Higher Education Partnerships for African Development (HEPAD)

The project, *“Higher Education Partnerships for African Development (HEPAD): Long-term Training for Regional Agricultural Development in East Africa: Kenya, Tanzania, and Uganda,”* is funded by USAID through the Higher Education for Development (HED) organization. Ohio State University, as lead institution, is partnered with Michigan State University. **Mark Erbaugh**, IPA, is the partnership director. OSU technical advisors to the project include **David Kraybill** and **Donald Larson**, AEDE.

The purpose of the project is to strengthen the capacity of East African Faculties of Agriculture (FOAs) to improve smallholder agricultural productivity. The three partner universities in East Africa are: Makerere University, Uganda; Sokoine University of Agriculture, Tanzania; and Egerton University, Kenya. During the past year six students from the these institutions completed their year of course work at OSU and returned home to complete their thesis research. Three of the students were granted Fellowships by the OSU Graduate School and three were provided with departmental fellowships. The students and their advisors are:

Robert Gesimba, Kenya, advised by **Dan Struve**, HCS.

Gicuru Ithinji, Kenya, advised by **Dave Kraybill**, AEDE.

Jeremia Makindara, Tanzania, advised by **Don Larson**, AEDE.

Hossea Mtui, Tanzania, advised by **Mark Bennett & Matt Kleinhenz**, HCS.

Peter Mulamba, Uganda, advised by **Larry Brown**, FABE.

Sadhat Walusimbi, Uganda, advised by **Joe Ottobre**, AnSci.



Institutional Linkages Activity of the Egyptian Agricultural Exports & Rural Income (AERI)

The project, *“Institutional Linkages Activity of the Egyptian Agricultural Exports and Rural Income,”* is being implemented by the Midwest Universities Consortium for International Activities (MUCIA) with the University of Illinois as the lead institution. **Burt Swanson** and **Kirby Barrick** are co-PIs for it. OSU/CFAES is a

partner institution and subcontractor along with Purdue University, the University of Minnesota, and the University of Florida. This project is working with three partnering Egyptian Universities (Cairo University, Assuit University and Minia University) to improve the skills of graduates, create public-private-international linkages, and strengthen biotechnology research in order transform and link Egyptian agriculture to the global economy. At OSU, the subcontract is managed by **Mark Erbaugh**, IPA. CFAES faculty who have participated during the past year are **David Hahn**, AEDE, and **Jamie Cano**, HCRD. Faculty from the College of Veterinary Medicine continued to provide input to this project. The IPA Office and the College of Veterinary Medicine's Department of Veterinary Preventive Medicine (VPM) collaborated in providing one month of training to nine members of the veterinary medical faculty from Assiut University. This training focused on teaching methodologies for professional students in clinical/applied veterinary medicine and programming of veterinary outreach. Additionally, several Vet faculty members traveled to Egypt to provide workshops and develop course curriculum. These faculty were **Kent Hoblet**, **Cliff Monahan**, **Tom Wittum** and **Fernando Silveira**.

India Natural Resources Management Project

A project with the M.S. Swaminathan Research Foundation dealing with the conservation and management of soil and water resources in India was concluded in 2006. Dr. **Rattan Lal**, School of Environment and Natural Resources, was the principal investigator for this project. Funded by the Sir Dorabji Tata Trust Fund in India, it was a collaborative project that involved research at three sites in India – Tamil Nadu State; Madya Pradesh, and Punjab. University research scientists from local universities were engaged in conducting the actual field work. This research focused on the application of minimum and no tillage practices, carbon sequestration in soils, and water quality.

During the year, **Rattan Lal** and **David Hansen** continued discussion with the M.S. Swaminathan Research Foundation about the preparation of a follow up proposal. This proposal was subsequently revised during the year and submitted to the Sir Dorabji Tata Trust Fund for review. The proposal is essentially a continuation of the original research but will include two additional sites (one in the foothills of the Himalayas and one in the Tsunami affected eastern coast region).

Indian Agricultural Knowledge Initiative

India and the United States initiated an ambitious Agricultural Knowledge Initiative (AKI) for India during 2006. **Dr. Bobby Moser**, Vice President for Agricultural Administration, continues to serve on the board which oversees this initiative. In that capacity he participated in several meetings in New Delhi and Washington, D.C. NASULGC was tapped to manage a competitive grants program focusing on two of the four areas of emphasis by the initiative, namely,

(a) capacity building in higher agricultural education and research; (b) food processing and food quality; (c) natural resource conservation and management; and (d) biotechnology. The two areas identified for competition were capacity building and natural resource (water) management. CFAES was awarded two of these grants, including one submitted by a team from Human and Community Resource Development, led by **Susie Whittington**, and another submitted by **Rattan Lal**, SENR, in collaboration with **David Hansen**, in the area of water management. In addition, **Larry Brown**, FABE, also participated in another successful consortium proposal on water management and twinning degree programs headed by Iowa State University.

American University of Beirut

Funded through a special USDA project and in collaboration with the University of Toledo, OSU scientists continued collaborating with counterparts at the American University of Beirut (AUB) on a project designed to identify potential medicinal properties of flora indigenous to Lebanon. During this year two Ph.D. graduate students from AUB completed their degree programs. On the OARDC campus, Dr. **Floyd Schanbacher**, Biochemist/Animal Sciences, hosted one of the students. On the OSU campus, Dr. **Daniel Struve**, Horticulture and Crop Sciences, served as the advisor for other student. This project involved reciprocal visits by scientists from AUB to OSU and from OSU to AUB as well as considerable interaction among scientists at these institutions and those at the University of Toledo. **Daniel Struve** continued to work with **Hala Zahreddine**, AUB, on follow up research and development activities.

EARTH University Collaborative Research Project, Costa Rica

CFAES continued its active collaborative research project with EARTH University in Costa Rica. Funded by the Department of Energy, the project focuses on the conservation and management of natural resources and alternative energy sources in the tropics. On the OSU side, six active projects were in place during the year. They included participation by faculty and graduate students along with counterparts at EARTH University:

- **Jay Martin**, *Bio-Digesters as an Alternative Fuel Source for Home Cooking.*
- **William Mitsch**, *Management of Wetlands in the Tropics.*
- **Roger Williams/Michael Ellis**, *IPM Applications to Plantation Crops in the Tropics.*
- **Rattan Lal**, *The Potential for Carbon Sequestration in Costa Rica.*
- **Kendra McSweeney**, *Carbon Sequestration and Income Generation for Small Farmers in Costa Rica.*
- **David Hansen**, *Adoption of Eco-technologies Disseminated by EARTH University in the Parismina Watershed.*

A workshop was held in March to discuss research activities conducted during the previous year and research objectives for the following year. This workshop was attended by all members of the OSU and EARTH University research teams. It was decided at the workshop to publish a special edition of the journal, Ecological Engineering, which will contain research results from the project. **Bert Kohlman**, EARTH University entomologist, was appointed to be the principal editor for this publication. Over the year manuscripts have been prepared for this edition. Additional manuscripts will be prepared during 2007.

The major projects involve extensive interaction with counterparts at EARTH University and several of them incorporate students from EARTH University into the field work. In addition to the principal investigators, other OSU personnel were involved in the research. They included the following individuals: (a) **Caron Gala**, research scientist working on carbon sequestration, who conducted field work at EARTH University during summer 2006; (b) **Amanda Nahlik** and **Blanca Bernal**, graduate students, who conducted field work on wetlands at EARTH university; (c) **David Lansing**, graduate student, who wrote and presented results of previous field research on rural livelihoods and also conducted preliminary research on carbon sequestration by small farmers in Costa Rica; (d) **Stephanie Lansing**, graduate student, who wrote and published research on bio-digesters used by farmers in areas around EARTH University; and (e) **Melanie Miller** and **Matt Mariola**, graduate students, who conducted field research on the adoption of eco-technologies being advocated by EARTH University in the Parismina watershed.

Involvement of Central State University in the project increased. **Sri Sritharan**, Director of the International Water Management Center at Central State, visited EARTH University again in the company of FAES administrators. Subsequently, **Bryan Smith**, student at Central State, undertook an internship with OSU graduate students working on wetlands management at EARTH University. Arrangements were made for him to return to Costa Rica to continue participation in this project.

In November, **José Zaglul**, in the company of **Victor Sanchez**, EARTH Consultant, visited The Ohio State University campus. He visited with OSU researchers and graduate students involved in the research project and also met with Dean **Bobby Moser** to discuss future collaboration.

Mexican Rural Financial Markets Program with CIDE

The rural and micro-finance project was initiated during 2005. It continued during the year. This project is central to the HED-managed TIES program with Mexico. **Claudio Gonzalez**, AEDE, is the principal investigator for this project and **David Hansen** is co-principal investigator on the OSU side. The principal co-investigator at CIDE is **Gustavo del Angel**. Six graduate students from Mexico

received graduate training at OSU under this project during 2006. **Adrián Carillo Acuña** and **Gabriela Soto Ruíz** arrived in January and continued through September at which time they returned to Mexico to complete their M.S. theses. They will receive their M.S. degrees from CIDE. **Malena Svarch**, **Ariadna Martínez-González** and **Marisol García de la Cruz** initiated M.S. degree programs in September.

During 2006 CIDE and OSU also undertook two workshops designed to develop appropriate policy tools to address shortcomings in the micro and rural credit markets. These workshops were attended by a large number of academics, NGO representatives, researchers and government policy makers. Results of the workshops have been circulated through mass media in Mexico and have been used to improve applied programs dealing with micro and rural financial markets such as AFIRMA, a USAID funded attempt to improve efficiencies of program operation among major NGO's working in this sector.

The project has developed a website that represents the nucleus for a virtual network on rural financial markets. This website continues to evolve and will become a major activity to promote innovations in rural credit markers in the future.

CIDE has developed a structure for a competitive grants program that will enable practitioners of micro and rural finance to improve their operations. This program will be initiated during 2007.

OSU received a visiting scholar from CIDE under the program during 2006. Prof. **Rodolfo Cermeño** spent nine months working with faculty associated with the rural finance program at OSU. During that time he offered a course on research methodology and worked directly with graduate students on the development of their theses and dissertations. OSU also received a visit from Prof. **Luis Alfredo Castillo Polanco**, from Quintana Roo, Mexico. Prof. **Castillo** will initiate a sabbatical at OSU as a visiting scholar affiliated with the OSU rural finance program in 2007. It is expected that he will also contribute to the graduate program in that department and develop joint manuscripts with colleagues in the department.

David Hansen and **Claudio Gonzalez** attended the annual HED Synergy Conference in Washington, D.C. during the summer. They were joined by **Gustavo del Angel**, CIDE, and jointly reported out on results of their program.

OUTREACH AND ENGAGEMENT

Punjab Agricultural University Project

This project, which is funded by HED, continued through the year. Early in the year, Prof. **Valente Alvarez**, Director of the OSU Food Industry Center, traveled to India with **David Hansen**. They participated in a workshop on campus dealing with development of the Food Industry Center at PAU. This workshop and lecture were attended by members of the PAU Food Science and Food Engineering faculty as well as representatives of the food processing industries in Punjab State. The activities were presided over by Dr. **K.S. Aulakh**, Vice Chancellor, and Dr. **G.S. Chahal**, Dean of Agriculture. Results of the workshop were publicized through the local media.



As an immediate follow up to the meeting, members of an Advisory Committee to the Food Industry Center were identified. The PAU website has a page dealing directly with the Food Industry Center and the names of the Committee members are found on the page. The web site also contains the mission and vision of the Center as well as a discussion of priority areas.

Plans have been designed for a new Food Industry Center Building and equipment required for microbiology and food chemistry labs have been tendered. The building and equipment will be financed by PAU through a grant received from the Government of India. These labs are important outreach components of the center. Two individuals from related departments have been identified and transferred to the Center to handle activities of the labs. Dr. **B.S. Ghuman**, former head of the Department of Food Processing, was named head of the Department of Food Science and Technology and interim head of the Food Industry Center.

PAU agreed to reprogram funding for the project in order to allow two scientists from OSU to spend extended time at PAU working on development of the Center. **Grady Chism** spent three weeks in September working with members of the Department of Food Science in the Center. **Poul Hansen** accompanied him to PAU and remained on staff as a visiting scientist for the duration of 2006. He made major inputs into the programming of activities of the Center as well as the design of its program and relationships with local industries. He has also consulted on the future relationship of the Center to the newly created GADVASU University in Ludhiana.

Punjab Agricultural University Visiting Scholars

PAU sent two faculty members as visiting scholars to OSU for three months during summer, 2006. Dr. **Joydeep Mukherjee**, Precision Agriculture, and Dr. **Prahlad Singh**,



Preventative Veterinary Medicine, worked closely with OSU counterparts Dr. **Larry Brown**, Food, Agriculture & Biological Engineering, and Dr. **Fernando Silveira**, OSU Veterinary Preventative Medicine. They developed joint research proposals dealing with their respective



areas of expertise, interacted with stakeholders working on similar issues, and otherwise participated in core activities of their respective departments. They also traveled to other locations to establish research relationships with scientists working on similar topics.

International Seed Biology Project

The Horticulture & Crop Science Seed Biology Program continued to promote collaborative research and outreach activities with a number of international partner institutions and scientists. Using several major grants and awards, they continued to focus on expanding relationships with key partner institutions, including the University of Sao Paulo in Brazil, the Catholic University in Santiago, Chile, and to a lesser degree, the Chinese Agricultural University. A weeklong workshop was held at OSU with participants from OSU, the University of Sao Paulo and the Catholic University of Santiago to develop a joint M.S. degree program in seed technology. Major participants in this activity from OSU included **Miller McDonald**, **Andy Evans** and **Mark Bennett**, Horticulture & Crop Sciences, and **David Tay**, Ornamental Plant Germ Plasm Center Director. Professor **Julio Marcos Filho**, University of Sao Paulo, continued to provide leadership from that institution and was accompanied to the workshop by Profs. **Silvio Cicero** and **Ana Novembre**. **Samuel Contreras** provided leadership from the Catholic University of Santiago, Chile, and was accompanied at the workshop by Prof. **Rebeca Unghiatti**. Important technical inputs have been provided by **Kenneth Kulka** and **John Victor**, Communication Technology at OSU, and by **Tara Van Toi**, USDA Visiting Scientist. **Garry Gibbons** provided important consultant inputs to the strategic planning exercise at the workshop.

Turkish University Visiting Scholars

As an outcome of a visit made by a U.S. delegation to Ataturk University in 2002, CFAES continued to host Turkish scholars. This program was initially funded by the Turkish Government and matched faculty members from Ataturk University with hosts at Ohio State University. Dr. **Murat Arslan**, School of Natural Resources,

continued to work with **Konrad Dabrowski** during the year in the area of fisheries and aquaculture.

Dr. **Murat Kacira**, Harran University, visited OSU during the year, spending most of his time with his former mentors at OARDC, Wooster, where he presented a seminar and interacted with them on joint research activities. Dr. **Kacira** will be taking a position at the University of Arizona in 2007. Dr. **Fikrettin Sahin**, formerly of Ataturk University, was designated the outstanding international alumni of CFAES for 2006. He was nominated by Dr. **Sally Miller**, Plant Pathology, and Dr. **Casey Hoy**, Entomology.

Visiting Scholars from Pakistan

OSU received two visiting scholars from Pakistan under a program with the Higher Education Commission in Islamabad. **Muhammad Abid** will be working with Dr. **Rattan Lal**, Soil Science, and **Farkhanda Manzoor** will be working with Dr. **Susan Jones**, Entomology. They will spend the year at OSU working on existing areas of research and developing new areas and joint proposals with OSU collaborators. They also expect to attend professional meetings and conferences while at OSU.

Visiting Borlaug Scholars

CFAES hosted four Borlaug Scholars in 2006. Dr. **Chris T. Fominyam-Njoh**, of the Cameroon Limbe Botanic Garden, was hosted by Dr. **David Tay**, Director of the Ornamental Plant Germplasm Center. He worked closely with Dr. **Tay** on exchanges of indigenous species.

This year four Borlaug scholars were selected to visit the college as part of the Joint U.S. Indo Agricultural Knowledge Initiative. Prof. **Rose Prabin Kingsly Ambrose**, hosted by Dr. **Bala Balasubramaniam**, Food Science and Technology, worked on high pressure sterilization methods. **Ramakrishna Murthy** was hosted by **Valerie Rake**, **Joanne Dehoney** and **Susan Metros**, OSUE Learning Center. His program focused on new opportunities to use distance education to support and promote science and technology development. **Anupama Singh**, Pantnagar Agricultural University, worked with Drs. **Sudhir Sastry** and **Gonul Kaletunc**, Food, Agricultural and Biological Engineering, on the latest techniques of food processing and packaging. The fourth scholar in the program, Dr. **G.S. Kocher**, Punjab Agricultural University, who was to be hosted by Dr. **Fred Michel**, OARDC/Wooster for study in the area of biofuel production had to re-schedule for spring 2007. **Kingsly, Singh** and **Murthy** attended the World Food Prize Conference in Des Moines, Iowa, accompanied by **David Hansen** and **Mark Erbaugh**. It is anticipated that mentors of these scholars will visit them at their respective home base institutions during 2007.

Korean Rural Development Administration

The IPA Office collaborated with OSU Extension Services to provide a one week short course from June 25-July 1 on “*Community Development in Ohio: Methods and Practice*,” to sixteen extension officers from the Korean Rural Development Administration. The program consisted of an overview of OSU Extension; a review of community development strategies, programs, budgeting and incorporation of sources of public information; 4-H and rural community economic development programs; leadership programs and urban extension; and human resource development. OSUE staff presenters included **Brian McClain, Barb Ludwig, Kathy Cox, Laura Corcoran, Bev Kelbaugh, Susan Colbert, Greg Davis, Garee Earnest, Chet Bowling, Joe Lucente, Howard Siegrist, Dave Civittolo, Joe Konen, Ken Martin, Tom Worley, Julie Fox, Lucinda Miller, and Jerry Driggs. Bob Furbee and Rob Luikart** from Communications and Technology made presentations as well.

The course also included field trips which included visits to county OSUE offices, interacting with county extension educators, visiting the Piketon Rural Development Center, interacting with directors of related major OSU Extension programs, and visiting farms with which OSUE agents work. The activity was coordinated by Dr. **Mark Erbaugh**.



Collaborative Program with Hebrew University

Collaboration between the Faculty of Agricultural, Food and Environmental Quality, Hebrew University, and CFAES continued during 2006 as part of a broader program of bi-national trade and technology development between Ohio and Israel. This initiative includes participation by the Ohio Department of Agriculture, the Ohio Agricultural Research and Development Center and CFAES. It is funded in part through a grant from the U.S. Department of Agriculture and has been on-going for several years. Several OSU scientists have been engaged in collaborative research over the year, including Dr. **Yael Vodovotz**, Food Science and Technology, and Dr. **Fernando Silveira**, Veterinary Preventative medicine. During the year, Dr. **Steven Slack**, Director of OARDC, visited Israel under this program.

Hunan Agricultural University Collaboration

Dr. **Guo-liang Wang**, Plant Pathology, is leading an initiative to develop close collaboration between CFAES and the Hunan Agricultural University. There have been many contacts between the universities in the past. Dr. **Wang** will lead the development of a Joint Memorandum of Agreement between our institutions in 2007, giving particular emphasis to the development of collaborative research and exchange activities involving researchers, graduate and undergraduate students.

Chinese Academy of Agricultural Sciences Collaboration

OSU continued its collaboration with the Chinese Academy of Agricultural Sciences during the year. As part of this interaction, CFAES hosted **Pan Dong Fang**, CAAS program coordinator, during spring 2006. She worked on development of a study abroad program for OSU students at CAAS. **Mandy Pillivant**, FAES Study Abroad Coordinator, and **Melissa Krygier**, Assistant Vice-President for Fiscal Affairs, visited CAAS in anticipation of the study abroad program during summer 2006. Subsequently, **Melissa** served as the resident advisor to these students while they undertook an academic term of learning abroad at CAAS.

USDA Faculty Exchange Program

For the fifth consecutive year, CFAES participated in a Faculty Exchange program managed by the Office of International Cooperation in USDA. This program brings young agricultural economics scholars to the United States from regions that were once part of the Soviet Union. They undertake four months residency at land-grant university departments of agricultural economics. The program is designed to expose them to liberal western agricultural economics and to the U.S. land-grant university system. While on campus they attend courses being taught in agricultural economics with the purpose of modifying courses they are currently teaching at their home universities and/or introducing new courses. The program allows for CFAES faculty involved in the program to make follow-up visits to former scholars at their home institutions during the year as well.

During 2006, CFAES hosted the following scholars under this program:

- **Ekaterina Makarova**, Peoples Friendship University of Russia, Russia.
- **Nadiya Serskykh**, Tavriya State Agrotechnical Academy, Ukraine.
- **Gayrat Ibragimov**, Samarkand Agricultural Institute, Uzbekistan.
- **Mahmud Oripov**, Bukhara State University, Uzbekistan.

This project was managed by **Jeff Layman**, OSU Extension, with assistance by **Allan Lines**, AEDE. Faculty participating in the project include **Donald Larson**, Marketing; **Eugene Jones**, Agribusiness; **David Hahn**, Cooperatives; **Marvin Batte**,

Farm Management; **Ian Sheldon**, Food systems, **James Connors**, Leadership, **Lynn Forster**, Farm Management; **Stanley Thompson**, Marketing; and **Frederick Hitzhusen**, Cost/Benefit Analysis. **Edward Gerard**, USDA/FAS Program Manager, visited the OSU campus while the scholars were in place to discuss program performance and future plans.

Food Safety Visit by Chinese Delegation

A team from Gui Zhou Province, Peoples Republic of China, visited CFAES in November as part of a study tour entitled "*Study of Farm Produce Standards, Production, Quality, and Safety.*" The tour group met with OSU faculty members **Valente Alvarez**, **Yael Vodovotz**, **Denise Smith**, **Lynn Knipe**, **Celeste Welty** and **Joanne Kick-Raack**. They also toured the Michal Farms and met with Todd Michal. This visit was arranged by **Shari Plimpton** from the Center for Innovative Food Technology and **John Morgowski**, Ohio Farm Bureau. The program was arranged and led by **Mark Erbaugh**, IPA.



Collaboration with Cavite State University - Philippines

CFAES was visited early in the year by Dr. **Ruperto Sangalang**, President of Cavite State University. Dr. Sangalang is a graduate of the college. He discussed various opportunities for institutional collaboration. While on campus, he met with Dr. **Herb Ockerman**, Animal Sciences, and arranged for a shipment of books to be sent to the Philippines for the library of his university. President **Sangalang** arranged for Dr. **Ockerman** and **David Hansen** to visit his university in December 2006 but the trip has been postponed until 2007.

Carbon Sequestration in Central Asia Workshop

As follow up to the November 2005 workshop conducted to assess the potential for terrestrial carbon sequestration in Central Asia, papers presented at the workshop continued to be edited for publication as a proceedings book. The book will include papers by scholars from Central Asian nations as well as from co-organizing institutions, Washington, DC, and universities on the North American continent. Work continues to be done on establishing a network to pursue the potential for carbon sequestration in Central Asia (CASCANet).

CEDAF Dominican Republic Project

The program to strengthen higher agricultural education and research in the Dominican Republic was phased down during the year. A fourth student who continued his PhD studies in Food Science and Technology, **Danis Feliz-Perez**, expects to obtain his PhD degree in 2007 after which he will return to the *Instituto*

Superior de Agricultura in Santiago, Dominican Republic. Under this program, CFAES continued to provide support for three on-going M.S. degree programs in the Dominican Republic, namely, Soils at the Autonomous University of Santo Domingo, Biotechnology at the Superior Institute of Agriculture (ISA) in Santiago, and Ecology at the National University “Pedro Henriquez Urena” in Santo Domingo. A program designed to offer HACCP training at the *Instituto Superior de Agricultura*, involving participation by **Danis Feliz-Perez** and Dr. **Valente Alvarez**, Director OSU Food Industries Center, was developed. In addition, preliminary discussions have been held with CEDAF regarding the potential to collaborate on training for animal production in the Dominican Republic as part of a special program in that nation dealing with increasing competitiveness of its agricultural sector.

Trade Mission to Central America

David Hansen, Director of IPA, participated in a trade mission to Costa Rica and the Dominican Republic organized by the Ohio Department of Agriculture in November. The purpose of this trade mission, which included representatives from the Ohio agricultural sector, was to explore new opportunities for market development in these nations under the Central American Free Trade Agreement (CAFTA). While in these nations, the team visited with U.S. embassy officials, government officials, livestock producers and university personnel.

Puerto Rico: Universidad del Este Project

CFAES completed its collaboration with the Universidad del Este in San Juan, Puerto Rico. Supported by a USDA Hispanic Serving Institution grant, the program was designed to establish an Executive Agribusiness M.S. degree program as a continuing education effort. Dr. **David Hahn**, Agricultural, Environmental and Development Economics, provided leadership for it for the college. **Carolina Prado** completed her M.S. degree in agribusiness at The Ohio State University under the supervision of Dr. **Frederick Hitzhusen**.

Collaboration with the Colegio de Post-Graduados, Mexico

CFAES has maintained a collaborative program with the Colegio de Post-Graduados (CPG) in Montecillo, Mexico for the past fifteen years. During the past year several reciprocal visits occurred which were designed to increase the intensity and scope of future collaboration. **David Hansen** visited CPG to discuss the potential for expanded cooperation dealing with the Hispanic labor force in Ohio. Discussions were also held about the potential to develop new projects using funding from USAID, the Ford Foundation, and other available sources. Some of this discussion related to attempts on the part of the Mexican government to address persistent rural poverty in Mexico. Potential collaboration under the umbrella of a broader multi-state Mexican and U.S. initiative to deal with rural poverty in Mexico was also discussed. **Ricardo**

Barcena, Director General of CPG, intends to visit CFAES during early 2007 to pursue this opportunity.

World Food Day Celebration

The Ohio State University has been an active participant in the Annual World Food Celebration day for the past several years. This year's satellite program entitled "*Power of the People: Bottom-up Solutions to Hunger*" presented a panel discussion on ways grassroots activism seeks to address the hunger crisis. The panelists discussed the expanding role of individual activists, non-governmental organizations (NGOs), the Information Revolution, grassroots movements, debt relief for poor nations, and the Millennium Development Goals. Students and faculty came together to view and discuss this year's 23rd Annual Teleconference on October 16. The OSU coordinator for this annual event is **Mark Erbaugh**, Associate Director of International Programs in Agriculture.

New Agreements

Various new agreements were signed between CFAES and counterpart institutions throughout the world during 2006. They are designed to facilitate additional program development.

- Tashkent State University of Economics; Tashkent, Uzbekistan.
- University of Agricultural Sciences, Dharwad, India.
- Faculty of Modern Agricultural Engineering, Kunming University of Science & Technology, Kunming, China.
- Universidad de Belgrano, Buenos Aires, Argentina.
- Fundación Antisana – Quito, Ecuador.
- The University of Antioquia, Medellin, Colombia.
- Tomsk State University, Tomsk, Russia.