

Sustainable Agriculture and Natural Resource Management
Collaborative Research Support Program



SANREM CRSP Newsletter

October 2009

Promoting stakeholder empowerment and improved livelihoods through knowledge-based sustainable agriculture and natural resource management systems

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This newsletter is published by the SANREM CRSP Management Entity and Virginia Tech’s Office of International Research, Education, and Development, 526 Prices Fork Road (0378), Blacksburg, VA 24061. Online: <http://www.oired.vt.edu/sanremcrsp/> The SANREM CRSP is made possible by the United States Agency for International Development (USAID) and the generous support of the American people through USAID Cooperative Agreement No. EPP-A-00-04-00013-00. Read this newsletter online: <http://www.oired.vt.edu/sanremcrsp/documents/newsletters/October2009.pdf>



Program director's message



We wrap up the SANREM CRSP Phase III with the expected but exciting news that USAID has formally extended SANREM for five years, empowering us to continue our multidisciplinary international work on behalf of small-scale farmers and natural resource users.

Equally exciting, Elinor Ostrom, lead principal investigator (PI) for our Long-term Research Award (LTRA) project on forest decentralization reforms and property rights, won the 2009 Nobel Prize in economics for her analysis of economic governance, especially the commons.

The past few months have been challenging and extremely gratifying. In July, SANREM hosted a successful conservation agriculture symposium at the 2009 International Meeting of the Soil and Water Conservation Society (SWCS) in Dearborn, Michigan. The daylong session, cosponsored by the SWCS's International Activities Committee, explored the role of conservation agriculture in improving food security in developing countries.

As part of the SANREM annual meeting August 31-September 1, the SANREM PIs and collaborators visited USAID headquarters in Washington to report five-year research results to agency personnel. Harry Rea, agreement officer's technical representative (AOTR) for SANREM at USAID, and John Rifembark, program officer for USAID's Bureau of Economic Growth, Agriculture and Trade (EGAT), were among those attending.

This newsletter also features a report on SANREM's summer internship in Ecuador for Virginia Tech students. The venture is unusual because few research programs give undergraduates an opportunity to do hands-on field work in developing countries.

As we complete the work of SANREM Phase III and plan for the next five years, we want to express our appreciation to all of you, our research partners, collaborators, and colleagues, for your encouragement and support. You have ensured that SANREM is exactly what its name promises: a collaborative program that can truly improve lives through applied research, knowledge dissemination, and education. Our sincere thanks go to each of you.

Theo Dillaha
SANREM CRSP Program Director

News

SANREM receives \$15 million award for 5 more years of research

The SANREM CRSP was extended through 2014 with a \$15 million grant, USAID announced September 30. The focus of the next phase of research will be on conservation agriculture that enhances food and livelihood security in developing countries while limiting negative effects on natural resources through prudent environmental stewardship.

"The next phase of our research will emphasize increasing food production through the introduction of conservation agriculture principles into existing agricultural systems in food-insecure developing countries," Program Director Dillaha said. "We hope to develop new conservation agriculture technologies and techniques in collaboration with smallholder farmers that they can use to make the transition to more sustainable, resilient, and productive agricultural systems."

Under terms of the renewed five-year grant, made through USAID/EGAT/AG, the Office of International Research, Education, and Development (OIREd) at Virginia Tech will continue as the management entity (ME) for the program. SANREM Phase IV will comprise seven Long-term Research Award (LTRA) activities, one in Haiti and one in each of the following regions: East Africa, Latin America and the Caribbean, South Asia, Southeast Asia, Southern Africa, and West Africa. Each regional project will involve two or more countries.

SANREM's External Evaluation Panel (EEP) met September 28 and 29 for an initial review of the Phase IV research proposals. The LTRA for Southeast Asia is being re-competed with a new request for applications due December 1. Read more online:

http://www.oired.vt.edu/sanremcrsp/documents/SANREM_IV_SEAsiaRFA1.2.pdf

Other LTRA applications are being revised, with results of the regional competitions to be announced in November and December. SANREM CRSP Phase IV research will seek to identify and optimize locally appropriate conservation agriculture production systems (CAPS) that:

- Maintain, to the extent possible, a year-round soil cover provided by residues from previous crops and/or a cover crop
- Minimize soil disturbance by tillage
- Utilize crop rotation systems

Read more online:

http://www.oired.vt.edu/sanremcrsp/menu_research/longtermPhaseIV.php

2009 Nobel Prize in economics goes to SANREM researcher

Elinor Ostrom, lead PI for SANREM's LTRA-1, won the 2009 Nobel Prize in economics for her work on how community institutions can prevent conflict. In announcing the award October 12, the Royal Swedish Academy of Sciences cited Ostrom "for her analysis of economic governance, especially the commons"; and her demonstration of how common property can be successfully managed by user associations.

Ostrom is the first woman to win the Nobel Prize for economics in its 40-year history. Her SANREM research is related; she is

examining how alternative forest management policies and governance regulations in developing countries affect the livelihoods of local forest users and protect the forests. Her research finds that government policy reforms such as decentralization do not automatically translate into new property rights for forest users or show clear benefits to the environment.



Elinor Ostrom (center) confers with co-PIs Krister Par Andersson and Ruth Meinzen-Dick at this year's SANREM CRSP annual meeting at Virginia Tech's Northern Virginia Center.

Program Director Dillaha expressed his excitement about and support for Ostrom's award. He indicated that Ostrom is not only a brilliant scientist but also very personable, "a joy to work with and hard to keep up with due to her seemingly boundless energy. The SANREM CRSP has been fortunate to have her on its team. Her research in Uganda, Kenya, Mexico, and Bolivia on how government policy reforms such as decentralization affect forest sustainability and forest users has been groundbreaking."

SANREM Administrative PI S.K. De Datta, associate vice president for international affairs at Virginia Tech and director of OIRED, which includes the SANREM ME, said, "OIRED and Virginia Tech are thrilled to learn that Dr. Ostrom is the first woman recipient of the Nobel Prize in economics. We are proud to have her as a researcher for one of our long-term projects."

Ostrom, 76, is a professor of political science at Indiana University and founding director of the Center for the Study of Institutional Diversity at Arizona State University. Indiana is one of 17 U.S. universities with which SANREM has partnerships. Ostrom's work centers on how communities manage natural resources such as pastures, lakes, and forests. Though the approach in recent decades has been to regulate or limit the use of such resources or to privatize them, her research finds that common property is often very well managed by the people who use it. "Bureaucrats sometimes do not have the correct information, while citizens and users of resources do," Ostrom said by phone at the press conference announcing her award.

She shares the \$1.4 million Nobel Prize with Oliver Williamson, a professor in the graduate school at the University of California, Berkeley. The Nobel committee cited Williamson "for his analysis of economic governance, especially the boundaries of the firm." Williamson's work examines why large corporations tend to arise – and why they do not – based on the cost and complexity of transactions, the Nobel committee said.

Ostrom received her Ph.D. in political science from UCLA in 1965. She is past president of the American Political Science Association, which honored her in 2005 with the James Madison Award; and past president of the International Association for the Study of Common Property. In 2008 she won the William H. Riker Prize in Political Science. Her book *Governing the Commons: The Evolution of Institutions for Collective Action*, published in 1990 by Cambridge University Press, has been cited by scholars and reviewers for its significant contribution to literature on common ownership and management of natural resources.

Read more online:

http://nobelprize.org/nobel_prizes/economics/laureates/2009/

<http://www.oired.vt.edu/sanremcrsp/>

http://www.oired.vt.edu/sanremcrsp/menu_research/LTRA-1.Sept.2007.php

Students interview Ecuadorian farmers about conservation

A team of SANREM CRSP researchers and Virginia Tech undergraduate students traveled to Ecuador this past summer to research how improved agricultural practices can win wider acceptance among subsistence farmers in remote areas of the high Andes.

“We wanted to study why people do what they do,” said Jeffrey R. Alwang, lead PI for SANREM’s LTRA-3. His applied research project in Ecuador and Bolivia is studying all facets of farm life in the Altiplano – the Andean highlands – and teaching conservation practices such as reduced tillage, crop rotation, and contour plowing. The goal of the project is not only to raise farm families’ incomes but also to improve water quality and reduce erosion, a significant problem on the steep Andean slopes.

With co-PIs Darrell Bosch and George W. Norton, Alwang organized a program that took five undergraduates to Ecuador in May and June for six weeks of study. Norton said the program is unusual because “it’s hard to get undergrads involved in hands-on research, especially in a developing country. There are programs for graduate students but very few in which undergrads can spend concentrated time doing field research.”

The students – Julia Gibson, Lindsay Hall, Jessica Martin, Andrew Sowell, and Erin Zeiders – were selected in late 2008 for the internships, which paid their expenses using scholarship funds from SANREM and Virginia Tech’s College of Agriculture and Life Sciences, in which Alwang, Bosch, and Norton are professors. In a spring semester seminar taught jointly by the three professors, the students studied Ecuador’s culture, history, and economy, and polished their



Student Andrew Sowell and Professor George Norton interview an Ecuadorian farmer at her home to learn about her conservation strategy.

Spanish language skills. They wrote a research plan, formulated objectives, and developed hypotheses. Finally, they learned what to pack for their trip, how to avoid getting sick, and how to adjust to altitudes as high as 12,000 feet.

Alwang led the first two weeks of the program, which included Spanish language classes and brainstorming to refocus the research plan. Bosch took the lead for the next two weeks, when the students began one-on-one surveys with farmers on what conservation practices they were applying and, if none, why not.

“Some of the hills are so steep, tractors can’t plow horizontally – they have to climb to the top of the slope and roll down,” Bosch said. “Otherwise they will overturn.” Such

furrows allow rainwater to wash downhill, carrying topsoil with it. The SANREM project trained farmers to use hedges to trap sediment and retain water, to plow around hills instead of up and down, to rotate improved pasture with potatoes, and, in the lower part of the watershed, to try crops such as blackberries that hold soil well and command high market prices.

“For the farmer, the main consideration is survival: making a living,” Bosch said. “We focus on practices that make the lower land more productive, reducing the need to go up the steep slopes.”



An Ecuadorian extension agent (left) briefs students Andrew Sowell, Lindsay Hall, Julia Gibson, Erin Zeiders, and Jessica Martin before they begin their field research on farms in the Andes.

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LTRA-3 researchers Ruben Botello (left), Sarah Hamilton, Victor Barrera, and Jeffrey Alwang review their findings before meeting with USAID personnel in Washington on August 31.

Annual meeting shares research results with colleagues, USAID personnel



Peter Motavalli and Corinne Valdivia fine-tune their USAID presentations.

Research results from SANREM's Phase III were the focus of the 2009 annual meeting, held August 31 and September 1 in the Washington, D.C., area. Lead PIs from the five LTRAs and the five cross-cutting initiatives presented their findings to colleagues and USAID personnel in sessions that highlighted key development implications of SANREM's research and outreach activities of the past five years.

The meeting opened with a morning business session August 31 at Virginia Tech's Northern Virginia Center. After welcomes and introductions by Administrative PI De Datta and Program Director Dillaha, Associate Program Director Keith M. Moore outlined requirements for Phase III final reports. Economic Impact Assessment Coordinator Michael Bertelsen explained opportunities for associate awards in SANREM Phase IV. Participants then traveled to the Ronald Reagan Building in Washington for an afternoon of presentations to USAID personnel, followed by discussion.

September 1 began with a Technical Committee (TC) meeting, followed by in-depth scientific presentations on research findings. The meeting ended with a discussion on details of Phase IV and closing remarks. Besides PIs and co-PIs, the 36 meeting participants included Board Chair Alton Thompson of North Carolina A&T State University; Shirley Tarawali of the International Livestock Research Institute, a TC member; EEP Chair Ron Cantrell; Elizabeth Jiménez, TC host country representative; and Harry Rea and John Rifenbark of USAID.

Read more online: <http://www.oired.vt.edu/sanremcrsp/AM2009/Program.php>

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The students were divided into three teams, each accompanied by a local extension person or a scientist from Ecuador's national agricultural research institution (INIAP), a collaborator on the SANREM program. The teams went from farm to farm conducting interviews in which they asked about planting and harvesting schedules and the history of each area. In less than four weeks, they interviewed nearly 100 farmers, both women and men.

Norton led the final two weeks, which concluded with a field day at a farm near Guaranda, the capital of Bolivar Province. More than 100 farmers and about 50 representatives from local organizations assembled to hear presentations by extension personnel and the students, who summarized their research findings. The event drew mayors and business

people from local towns, technicians from Ecuador's Ministry of Agriculture, and personnel from the International Red Cross and World Vision. Farmers met in small groups to exchange information on their successes and innovations.

Word that Virginia Tech students were participating caught the attention of the local television station and the national station in Quito. "The fact that they were there made a difference," Norton said. "Local extension agents were interviewed on TV, and they had a chance to talk about conservation agriculture practices. Local organizations got a look at the bigger picture."

Read more online: <http://www.oired.vt.edu/sanremcrsp/News%20archives/Andes.php>



Program Director Dillaha leads a discussion with Panelists Rattan Lal, Josef Kienzle, and Paul Hepperly at the July 13 SANREM symposium, part of the SWCS international meeting in Dearborn, Michigan.

SANREM cosponsors symposium at 2009 SWCS international meeting

The role of conservation agriculture in improving food security in developing countries was the subject for a July 13 symposium cosponsored by SANREM at the 2009 International Meeting of the Soil and Water Conservation Society (SWCS). Co-sponsored by the SWCS's International Activities Committee, the symposium also served as a kickoff meeting for the next five-year phase of the SANREM research program.

Program Director Dillaha and Associate Program Director Moore were among presenters at the seminar, which covered causes and human consequences of the global food security crisis, the role of declining soil quality in agricultural productivity and food insecurity, the potential of conservation agriculture to improve productivity, challenges faced, and environmental benefits of conservation agriculture. The program began with opening remarks by Dillaha and ended with a panel discussion.

The symposium included the following topics and presenters:

- "Conservation agriculture and food security symposium overview," Theo Dillaha, professor of biological systems engineering, Virginia Tech
- "Conservation agriculture in developing countries," Josef Kienzle, agro-industries officer, Rural Infrastructure and Agro-industries Division, Food and Agriculture Organization, United Nations
- "Soil carbon sequestration for advancing food security and offsetting CO₂ emissions," Rattan Lal, director, Carbon Management and Sequestration Center, Ohio State University
- "Food security crisis: Causes and solutions," Jonathan Winsten, research assistant professor,

University of Vermont; and program officer, Winrock International

- "Conservation agriculture and soil quality," Paul Hepperly, senior scientist and research director, Rodale Institute
- "Conservation agriculture and ecosystem services," Theo Dillaha
- "Challenges and opportunities for smallholder adoption of conservation agriculture," Keith M. Moore, adjunct professor of sociology, Virginia Tech

U.S. Secretary of Agriculture Tom Vilsack was keynote speaker for the SWCS conference, which opened on July 12 with a poster session. SANREM was also an exhibitor at the conference. "This was an excellent opportunity to raise the profile of the SANREM CRSP and to highlight our theme for the next five years: conservation agriculture for farmers in food-insecure countries," Dillaha said. "We are grateful for this opportunity to work with the SWCS toward our common goal of prudent stewardship of natural resources."

Based in Ankeny, Iowa, the SWCS is a nonprofit scientific and educational organization for conservation professionals. It has more than 5,000 members globally. It states its mission as "science-based conservation practice, programs, and policy." The overall theme for July's annual meeting in Dearborn, Michigan, was "Delivering Conservation Today and Tomorrow." Read more online:

<http://www.swcs.org/index.cfm>

<http://www.oired.vt.edu/sanremcrsp/Meetings/SWCSsymposium.php>

2010 conference will focus on watershed management solutions

Planning continues for next year's 21st Century Watershed Technology Conference in Costa Rica, for which SANREM is a cosponsor. Early registration deadline for participants is January 4, 2010. A visa may be required for travel to Costa Rica, depending on the nationality of the traveler.

The conference, a forum for natural resource management researchers and practitioners to exchange information on science, applications, and developments in the use of watershed science and technology, will be February 21-24 at Earth University, a private university in Guácimo, Limón, dedicated to education in agronomy and natural resources in the tropics. Organized by the American Society of Agricultural and Biological Engineers (ASABE) and Earth University, the event is one of a series on watershed technologies covering topics ranging from new applications of well-established practices to applications of emerging technologies, policy issues, and knowledge dissemination. The Costa Rica conference will focus on emerging problems

and new solutions to managing watersheds to meet water quality and quantity standards. SANREM researchers Theo Dillaha, Brian Benham, Saied Mostaghimi, Conrad Heatwole, Victor Barrera, Manuel Reyes, and Carlos Montufar will make presentations at the meeting.

ASABE is an educational and scientific organization dedicated to the advancement of engineering applicable to agricultural, food, and biological systems. Founded in 1907, it has 9,000 members worldwide. Conference cosponsors besides SANREM and Earth University are the Tropical Agricultural Research and Higher Education Center (CATIE), Texas Institute for Applied Environmental Research (TiAER), University of Florida, Universidad de Costa Rica, and Colegio Federado de Ingenieros y de Arquitectos de Costa Rica.

Read more online:

<http://www.watershedtech.org/index.htm>

Calendar

2010

Feb. 21-24: 21st Century Watershed Technology Conference, Earth University, Costa Rica

