



HORIZON

Vol. 1, No. 1, July 1998

SOIL MANAGEMENT COLLABORATIVE RESEARCH SUPPORT PROGRAM NEWSLETTER

Soil Management CRSP Restructured

TropSoils is alive and well as the Soil Management Collaborative Research Support Program (CRSP). The name TropSoils evolved as the abbreviated term to refer to the Soil Management CRSP soon after the establishment of this CRSP in 1981 by the U.S. Agency for International Development. At that time, it was the fourth CRSP and the first non-commodity CRSP. Its objective then was to develop and adapt improved soil management technologies that are agronomically, ecologically, and economically sound for developing countries of the tropics. The Soil Management CRSP was established as a collaborative effort among Cornell University, the University of Hawaii, North Carolina State University, Texas A & M University and USAID. North Carolina State University served as the management entity (ME) from 1981 to 1995. Dr. Charles McCants served as the first director, and was followed by Dr. Roger Hansen and Dr. Thurmond Grove. The TropSoils project concentrated its efforts in the humid tropics of Peru and Indonesia (North Carolina State and Hawaii), the semi-arid tropics of Niger and Mali (Texas A & M) and the acid savannas of Brazil (Cornell). Its major accomplishments during the first decade of its lifetime include the following.

- Developing local capacity for making and interpreting soil surveys.
- Predicting outcomes of alternative soil fertility recommendations.
- Developing local capacity to produce, distribute and benefit from biological nitrogen fixation technologies.
- Improving technology for soil water conservation and use.
- Improving methods for restoring degraded land for food production.

TropSoils began as a tropical soils program, and evolved into a program without geographical boundaries. The governing principles of soil management do not change from region to region, and the fundamentals of soil science apply in every location. This means what is learned in one part of the world can be adapted to other regions. The knowledge gained through TropSoils on soil acidity, nutrient deficiencies, water stress and other soil problems are applicable globally.

The acronym TropSoils was discontinued in 1990 when three AID-funded projects were administratively merged with the original CRSP partners. These new members included the NifTAL (Nitrogen Fixation for Tropical Agricultural Legumes) project at the University of Hawaii, and two USDA projects, referred to as Soil Management Support Services and the Technology of Soil Moisture Management.

Soil Management CRSP set its new goal to be a program that develops tools which non-experts can use to solve important soil management problems on a location-specific level. In March 1995 a restructuring of the Soil Management CRSP took place to better address this goal. The Office of Agriculture and Food Security of USAID requested North Carolina State University, which served as the ME at the time, to convene an advisory panel to identify and prioritize the five major constraints to the adoption and application of integrated nutrient and soil management technology in the tropics. Those constraints identified were: (1) nitrogen deficiency; (2) phosphorus deficiency; (3) soil acidity; (4) water deficiency; (5) soil erosion and degradation. As part of the restructuring process, a request for preproposals to address these constraints was then

solicited from qualified U.S. universities and both U.S and non-U.S research organizations. The six institutions that now constitute the Soil Management CRSP and their principal investigators are as follows.

- *Cornell University*
John Duxbury, Soil, Crop and Atmospheric Sciences
- *University of Florida*
Christina H. Gladwin, Food and Resource Economics
- *University of Hawaii, NifTAL Center*
Paul Singleton, Agronomy and Soil Science
- *Montana State University*
John M. Antle, Economics and Agricultural Economics
- *North Carolina State University*
T. Jot Smyth, Soil Science
- *Texas A & M University*
Thomas L. Thurow, Rangeland Ecology and Management

The University of Hawaii was voted by the new principal investigator to serve as ME. Goro Uehara is the director and Gordon Tsuji is deputy director.

SM CRSP

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What's in Store for the Soil Management CRSP?

The restructured Soil Management CRSP operates on the premise that a large body of knowledge on soil management already exists. While new knowledge is desirable and needed, soil management research must focus on customer adoption of proven technologies. The CRSP also assumes that knowledge from a single discipline is rarely sufficient to address customer needs. This means that researchers from other disciplines must contribute to the understanding of cultural and economic factors that affect technology adoption. This interdisciplinary approach compels researchers to treat soil as a component of the soil-plant-people-atmosphere continuum. The people component had been noticeably absent in the past, but is clearly evident in the projects of the restructured SM CRSP.

This CRSP must show through its work that productivity is an essential component of sustainable systems. Human ecologists generally agree that all sustainable agroecosystems share

four common properties. These properties are as follows.

- *Productivity*, the yield or profit obtained per unit area and time from the system.
- *Stability*, the fluctuations in productivity over time.
- *Resiliency*, the capacity of agroecosystems to recover from stresses and perturbations.
- *Equitability*, the fair sharing of benefits derived from the agroecosystem.

Human ecologists also realize that in the past too much emphasis was placed on productivity at the expense of the other system properties.

While it is necessary to integrate research on the basis of system properties, that alone is not sufficient to develop a successful project. Most projects plan to conduct research at two levels ranging from field size research in Haiti, to regional research on the rice-wheat cropping system in

South Asia. Because agroecosystems are complex, it is often necessary to deal with complexity at different hierarchical levels of organization.

A hierarchical approach is needed because the CRSP must deal with management practices at the lower levels and government policies at the higher levels. This approach also helps to prevent the soil scientists working at the plot level and the macroeconomists working at the regional level from talking past each other as they often do. Each scientist must understand how processes at one level relate to processes at levels above and below it.

The application of system approaches to soil nutrient management presents new opportunities for CRSP customers to assess and adopt improved practices, and to formulate sound policies for achieving customer-specified objectives.

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This newsletter is published by the Soil Management Collaborative Research Support Program.

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Editor's Corner

This is the first newsletter of the restructured Soil Management Collaborative Research Support Program. Articles printed in this first issue provide readers with a capsule of information on our start, our restructuring and our future plans. Cornell University, North Carolina State University, Texas A & M University and the University of Hawaii, participants in the original soil management CRSP, are now joined by Montana State University and the University of Florida. Future news will have reports from the respective projects. Additional information on the six projects, the principal investigators and institutions can be found at the SM CRSP web site. Our URL is <http://agrss.sherman.hawaii.edu/sm-crsp>.

Contributing articles and stories should be sent to the editors. We reserve the right to select those we consider appropriate for inclusion in the HORIZON. Send them by post, fax, or e-mail (gordont@hawaii.edu). If you have any announcements to share, please forward them to us.

If you wish to subscribe to the HORIZON please send us your name and postal address. At this point in time, there is no subscription fee.

The Editors

Sloger is SM CRSP Program Officer

Dr. **Charles Sloger** has been an interested bystander in the transition of the Soil Management CRSP in the past two years. Professionally trained as a microbiologist, he left his USDA laboratory in Beltsville, Maryland for the USAID's Office of Agriculture and Food Security to serve as the program officer for the NifTAL project. He subsequently became the program officer for the Soil Management CRSP as it headed towards restructuring and continues in that position today. As our program officer, Sloger serves as an ex-officio member on the Board of Directors and the Technical Committee of this CRSP.

Sloger is an avid outdoors person judging from his choice of vacation destinations. His current duties as program officer suit him well because he is required to travel frequently outside of Washington. He spent nearly the entire month of June in eastern Africa visiting with AID mission personnel in Kenya, Rwanda and Malawi.

SM CRSP

Technical Committee Convenes First Meeting

The first meeting of members of the Technical Committee was held in Dallas, Texas during the first weekend in April. Members of the TC include two principal investigators of projects in the SM CRSP and two scientists external to the SM CRSP. Dr. **T. Jot Smyth** of North Carolina State University and Dr. **Thomas Thurow** of Texas A & M University represented the principal investigators. External members are

Dr. **E. B. (Ron) Knapp** of CIAT and Dr. **Tom Walker** of CIP. Smyth was elected chair. Progress reports, budgets for the second year and work plans submitted by each of the six projects were reviewed by the TC. The chair communicated the recommendations of the committee to each of the principal investigators.

SM CRSP

New Board of Directors Selected

The Ronald Reagan Building, new home of the U.S. Agency for International Development, was the venue for the very first meeting of members of the Board of Directors in November 1997. Dr. **Richard Guthrie** of Auburn University and Dr. **Michael Walter** of Cornell University were elected chair and vice-chair, respectively. Other members of the Board include Dr. **John Havlin** of North Carolina State University, Dr. **Charles Laughlin** of the University of Hawaii, Dr. **Thomas**

McCoy of Montana State University, and Dr. **Philip Thornton** of the International Livestock Research Institute (ILRI) in Nairobi, Kenya. Principal investigators from each of the six projects of the restructured SM CRSP presented a descriptive overview of their respective programs and highlighted their accomplishments to date to both the Board members and USAID.

SM CRSP

ASA National Meeting in Baltimore

Symposium on the CRSP Program Planned

The Collaborative Research Support Program, a program of the U.S. Agency for International Development and implemented by U.S. universities, will be the focus of a symposium session in association with the American Society of Agronomy's (ASA) annual national meeting. This year's meeting will be held in Baltimore, Maryland. Dr. **David Sammons** of Purdue University is the lead organizer of the symposium entitled "The Collaborative Research Support Program (CRSP): A Unique USAID Partnership with Higher Education," which is scheduled for Monday, October 19, 1998.

Dr. **Thomas Thurow** of Texas A & M University will represent the Soil Management CRSP in an invited oral presentation portion of the symposium. Speakers representing the CRSP on bean and cowpea; sorghum and millet; and peanut were also invited. Collaborators for the remaining six CRSPs were invited to join in poster presentations during the poster sessions linked to the CRSP symposium. The six remaining CRSPs include pond dynamics, post harvest, small ruminants, SANREM, IPM, and BASIS.

SM CRSP

Attention: USAID Missions

The SM CRSP would like to join forces with USAID Missions to achieve common natural resource management goals and objectives in a more timely and cost-effective way. We welcome Mission queries about potential benefits of integrating Mission and CRSP efforts to generate better results in a shorter period of time. This newsletter, the list server, and web site will serve as information links between interested parties wishing to join forces with the CRSP.

Announcements

- A discussion list for SM CRSP has been established. If you would like to subscribe, please e-mail listproc@hawaii.edu with the subject line blank, and the following line:

Subscribe sm-crsp-L (your name first-last)—leave out parenthesis

- Two technical bulletins are now available.

Assessment of Soil and Water Conservation Methods Applied to the Cultivated Steeplands of Southern Honduras;

Sustainable Management of Tropical Steeplands: An Assessment of Terraces as A Soil and Water Conservation Technology.

To obtain copies contact Dr. Tom Thurow at t-thurow@tamu.edu or gordont@hawaii.edu.



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