

Report on Travel to Honduras

February 8-12, 2000

U.S. AID Grant No. LAG-G-00-97-0002-00

SM-CRSP Project: *Decision Aids for Integrated Soil Nutrient Management*

Traveler: Lloyd R. Hossner, Texas A&M University in conjunction with Anthony Juo, Texas A&M University, SM-CRSP Steeplands Project; and Charles Sloger, USAID, Washington, D.C.

Objective:

- To collect and review published and unpublished soil nutrient management information at the Pan American Agricultural School (EAP) and CIAT hillside soil management program in Honduras,
- To visit the soil and plant analysis laboratory at EAP, and
- To explore potential linkages and collaboration with the agronomic and nutrient management components of the SM CRSP Steepland project.

Report:

The travel to Honduras was excellent and we were well received by all parties. Contacts were made with the USAID Mission, Escuela Agricola Panamericana (EAP) –Zamarano, and the Central America headquarters of Centro Internacional de Agricultura Tropical (CIAT). Trips out of Tegucigalpa were to the campus of EAP and to the CIAT watershed study site near Yoro in Central Honduras.

Our team, together with Miguel Ayarza of CIAT, met with Peter Hearne and Ray Waldron, both of USAID, Honduras. USAID is most interested in working with the hillside farm families and with municipalities for forest protection and water management. The first two-year allocation of hurricane Mitch funds end in 2002 with proposed new funding beginning in 2002 and beyond. USAID-Tegucigalpa will work through grants with NGO's and municipalities. There are 90 municipalities in Honduras and USAID programs are designed to reach 40. A U.S. company has been identified (not yet officially announced) as the sub-contractor to administer all large and small NGO grants for programs beginning in 2002. Primary emphasis is toward reforestation and environmental protection (protection against logging, burning, ensure safe water supply to urban users, etc.). Peter Hearne believes that the CRSP can be a player in the upper watershed management zone. He suggested that the CRSP talk to USDA, NOA, USGS, and Zamarano to develop proposals or be included in future research projects. Focus will continue to be on small farms in the upper watersheds. Programs must be tied to marketing and the maintenance and/or enhancement of productivity. Indicators of improved watershed health will include water quality, water quantity, sediment load, and stability. Ray Waldron would like to see work conducted in the larger watersheds with more water quality monitoring locations and simple methods of monitoring. USAID has no further interest in runoff and erosion studies at Choluteca or in starting a new site.

Zamarano is apparently classified as an NGO and is preparing a proposal. The funds will go through the NGO's so it was suggested that the CRSP link with one or more of these organizations. Drs. Juo, Ayarza (CIAT), and Sloger left bulletins and watershed management

training materials with USAID. The report on the effects of upstream soil erosion on shrimp production downstream was especially well received.

CIAT is interested in collaborating with the CRSP in Central America and the Caribbean. Their program in Honduras started in 1994. The CIAT program presently has field activities in Honduras and Nicaragua where they are developing alternative technologies on sloping lands (maintain/improve productivity; introduce technology; maximize human capital; crop/pasture/tree systems; nutrient cycling) and landscape applications (collection of biophysical and economic data; modeling; extrapolation; socio-economic constraints). They have good GIS facilities and personnel in Honduras and Nicaragua. Miguel Ayarza (Regional Coordinator), Bruno Barbier (Economist), and Marco Trejo Tercero (GIS/GPS specialist) were extremely helpful. Marco has developed a GIS system for the soils of Honduras with a data base of 4000 soil profiles, classified both according to the FAO/UNESCO legends and the U.S. Soil Taxonomy System (family level).

The CIAT watershed sites at Yorito near Yoro in Central Honduras are located on sandstone and limestone derived soils. CIAT has soil, land use, agronomic and socioeconomic data bases of the area. They are monitoring stream flow at various points, but have not started any runoff and erosion measurements. They want the CRSP to help establish both large and small (USLE) runoff plots at the Yorito site. The rainy season begins in May. The joint EAP/INTSORMIL/SMCRSP research program at Choluteca in Southern Honduras ends in March, 2000. Further collaborative activities between the SMCRSP in the area of watershed management would depend upon additional funding from the new USAID Upper Watershed Project.

Zamorano is interested in setting up the large-plot measurements on a basaltic soil site near the university using the equipment that will be removed from the CRSP Choluteca site. Luis Caballero is the faculty member interested in this project. He plans to attend Texas A&M in two years for a Ph.D. program. Peter Doyle is a relatively new Coordinator of the Economics, Environment, and Natural Resources Program at Zamorano and is the primary contact person for the USAID funding proposal. Peter Doyle indicated that Zamorano plans to work with local governments in the upper watershed and use a "common sense" approach that was not further elaborated. Their program will include land use planning, appropriate land use, soil conservation, water quality/quantity, and reforestation. It is anticipated that the CRSP and/or CIAT will be written into their proposal as a technical assistance component.

Mario Contreras (Executive Director of Zamorano) and Keith Andrews (Director General of Zamorano) indicated that their institutional position is to work together with the soil management CRSP and it's Universities. They would like to think big and develop and a long-term project with Texas A&M University and other U.S. Universities outside the CRSP. Their approach would include a standard exchange of professors and students, joint research and development programs, and training of graduate students from Zamorano in the U.S., and provision for U.S. students housed at Zamorano to conduct research projects.

Dr. Margoth Andrews (Soil Scientist, Ph.D. from the University of Florida) and Dr. Nancy Erickson (Soil Scientist, Ph.D. from Texas A&M University) would like to collaborate with the CRSP in water quality or nutrient cycling programs. They have good laboratory facilities and

access to students. Margoth is the head of the soil, water and plant testing laboratory. Nancy teaches beginning chemistry and the introductory soil science course.

Mr. Porfirio Lobo has a son and daughter who are students at Texas A&M University. He has a 2000 ha farm at Empalizada in central Honduras (near Juticalpa) where he is raising corn and sorghum using minimum tillage and center pivot irrigation. He is very interested in someone working with him on his farm. Analyses provided by Zamorano indicate that the loamy and clayey soils apparently contain kaolinitic clays, are acid (pH 3.5 – 4.5), and low in P, N, and K. Lime, diammonium phosphate, and “SulfoMag” have been applied based on recommendations from Dr. Margoth Andrews at Zamorano. He could be an excellent cooperator for testing the NuMass model.

Contacts:

USAID Honduras

Ray Waldron

Peter A. Hearne

CIAT Honduras

Miguel Angel Ayarza, Regional Coordinator

Marco Trejo Tercero, Investigation Assistant

Bruno Barbier, Economist

Zamorano

Mario Contreras, Executive Director

Keith Andrews, Director General

Peter Doyle, Coordinator, Economics, Environment and Natural Resources Program

Raul Espinal, Associate Professor, Seeds and Grains

Luis Caballero, GIS/GPS Specialist

Ana Margoth Andrews, Soil Scientist

Nancy Erickson, Soil Scientist

Others

Hector Sierra, Agronomist, CRSP Technical Support, Honduras

Porfirio Lobo, Hacienda “La Empalizada”