Sustainable Agriculture and Natural Resource Management
Collaborative Research Support Program

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Trip Report: Zambia

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Purpose of the Trip:

Detailed purpose of the trip was to:

(i) organize and define experimental issues that needed clarification—both technical and logistical,
(ii) categorize and start site selection, to ensure that the data are gathered from regions representing diverse soil types and climates,
(iii) follow up collaboration with other partners (GART and CFU), and
(iv) collect base-line data.

Sites Visited: WCS Lusaka, Headquarters of GART outside Lusaka, Headquarters of CFU- Lusaka, ICRAF-World Agroforestry (Chipata), COMACO area (Lundazi and Chama Districts).

Description of Activities:

The goal was to meet with our primary partners and other collaborators (GART, CFU and ICRAF) to review project goals, objectives and methods with respect to research opportunities. In addition the team visited the SANREM sites in Lundazi. I met with Dale Lewis, the WCS PI for briefing and reviewing the goals of our soils research group. I learned in detail what crop production related projects have been in place with COMACO. Also I met with Dr. Peter Aagaard (CFU) and Dr. Stephen Muliokela (GART) in and near Lusaka to identify the various experiments they have going on with Conservation Farming (CF) in other agro-ecological zones of Zambia. CFU and GART have had CF extensively for approximately ten years all over Zambia. Both were enthusiastic about the research questions being addressed and gave support on using part of their sites to complement the data being acquired in the Luangwa Valley. In this way, data representing more diverse soil and climate zones will enhance the exportability of our findings across a broader area of southern Africa.

While in Lundazi, I learned the organizational and educational structure of the COMACO crop production system, which is an important aspect in carrying out the field work. I extensively learned the operation system of COMACO from production to processing the raw materials. COMACO staff aided in field visits which was useful in introducing me to the farmers. The

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farmers are interested in participating in the project since CF has demonstrated the potential for yield increase. The visit involved interviewing farmers and training a few extension officers on site selection and the experiments.

Other organizations that support our work were ICRAF on agroforestry measures and use of their laboratory facilities. Zambian Agricultural Research Institute (ZARI) scientists were useful in accessing valuable soil information and offered possible use of their laboratories. At the end of the trip, I had a meeting with SIDA –ASP representatives to coordinate research opportunities in the Northern Province, where COMACO is currently not active. This collaboration will complement the on-going COMACO activities and needs, while also broadening the soil types involved so that the research has broader trans-national applicability. I had a productive visit which reinforced the scope of the planned research and development work. The team identified the need to start the experiments immediately because of Zambia's unimodal rainfall regime. Also, we plan to tackle different soil fertility management issues through the use of soil amendments by having a Masters student from the University of Zambia focus exclusively on this project.

Observations:

COMACO operates in both the plateau and the valley area (Luangwa Valley) at an elevation of 1100m and 500m ASL respectively. The farms are found around a cluster of villages and are generally small-scale hand-hoe farmers. Most farmers had one hectare under both conventional and Conservation Farming (CF) although to qualify as a COMACO recipient, a farmer must have a minimum of one quarter hectare (one lima) under CF techniques. Maize, groundnuts and soya bean were the main crops and farmers were finishing with the harvest although the post-harvest handling was underway. Being the winter season, the temperature were between 24C (day) and 12C (night).

The CF fields had noticeably more weeds in the valley relative to the plateau. Of the farmers interviewed, 30% did not have a good grasp of what CF entailed. A number of trainers have experience using GPS. Each trainer works with approximately 300 farmers who are in groups of 10 -20 members per group. Each depot has a manager with five units with each unit made up of five village agricultural groups (VAGS) and a trainer manages a VAG made up of 20- 30 groups. Each depot has a demonstration site for composting and crop trials.

Potential Problems, Suggestions and Recommendations:

Transportation issues were identified as a potential bottleneck as our group requires significant driving time, especially moving from site to site. Our research must take place at defined times of year relative to the rainfall, and we plan to work with the PIs (Travis and Lewis) to coordinate our research activities with those of the other research groups.

List of Contacts Made:

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