



## Sustainable Agriculture and Natural Resource Management Collaborative Research Support Program

SANREM CRSP  
Office of International Research, Education, and Development  
Virginia Tech (0378)  
840 University City Blvd., Suite 5&7  
Blacksburg, Virginia 24061

Phone: (540) 231-1230  
Fax: (540) 231-1402  
sanrem@vt.edu  
[www.oired.vt.edu/sanremcrsp](http://www.oired.vt.edu/sanremcrsp)

### Trip Report: Zambia 20-30 June 2006

**Johannes Lehmann, Crop and Soil Sciences, Cornell University, and  
Robert Delve, Tropical Soil Biology and Fertility Institute (TSBF), CIAT**

**Purpose of Trip:** Kick-off for field site selection and definition of research program

**Sites Visited:** Lusaka, Headquarters of GART outside Lusaka, Headquarters of CFU, ICRAF (Chipata), Lundazi COMACO, field sites in the Luangwa Valley

**Description of activities:**

The first two days, we met with representatives of WCS, CFU, Steven Hagblade, Dr. Stephen Muliokela (GART), and Dr. Peter Aagaard (CFU) in and near Lusaka. These visits were held to coordinate research opportunities with host country institutions outside COMACO, defining project purposes and methods that will synergize with on-going COMACO activities and needs, while also broadening the soil types involved so that the research has broader trans-national applicability. This was very successful and we received full support for the research ideas that we jointly developed.

On day 3 and 4, we traveled from Lusaka to Lundazi, where we arrived in the afternoon of day 4. We discussed with Nimia Tembo (local coordinator of COMACO) the research ideas and more clearly defined the scope and details of the work.

On day 5, we traveled into the Luangwa Valley, visiting farmers' fields on the way and met with Dale Lewis (PI-WCS). We had a very fruitful visit which reinforced the scope of the planned research and development work. The overview of the planned activities is as follows:

- monitor yield in conservation agriculture and controls on 500 farms across a wide climatic, edaphic and relief gradient to identify biophysical boundaries of conservation farming
- identify the reasons for why conservation farming works in some areas and under some climatic conditions and not under others using crop analyses
- improve nutrient management by testing a variety of low-cost options, such as compost, legume mulch and bio-char from rice husks and peanut shells
- quantify the time necessary to improve soil properties and yield advantage of conservation farming using a false-time series (chronosequence)

On day 6, we traveled back to Chipata, where we met with representatives of ICRAF and visited their laboratory facilities. ICRAF was in full support of our proposed research, which was seen as an ideal collaboration with their unit.

Upon return to Lusaka, Robert Delve and Lydiah Gatere visited the National Research Laboratories and made extremely useful contacts with local scientists. This enabled us to access valuable soil and climate information. Meetings with WCS staff ended our trip.

**Progress in Meeting Objectives:**

We refined the project objectives and developed a time plan for the anticipated activities. Concrete activities are planned as preparations for the upcoming cropping season, such as installation of experimental plots and preparation of organic amendments (compost, green manure, biochar).

**Suggestions and Recommendations:**

Due to the time-sensitivity of planting and harvesting in agricultural experiments in general, resources for achieving the project objectives have to be prioritized for such activities as best as possible under the conditions in such remote areas. This includes significant coordination with other SANREM research groups on this project.

**List of Contacts Made:**

Name	Title/Organization	Contact Info (address, phone, email)
Steven Hagblade	Michigan State University	Return to East Lansing
Peter Aagaard	Conservation Farming Unit (CFU)	Email: paagaard@zamnet.zm ; (002601) 265455
Stephen Muliokela	Golden Valley Agricultural Research Trust (GART)	P.O. Box 50834 Lusaka, Zambia Tel: 260 1 213739/213780 Fax: 260 1 213832 gart <gart@zamnet.zm>
Klaus Droppelmann	The Agricultural Consultative Forum	Plot 30G, Sable Rd, Kabulonga, Lusaka. P/Bag 16, Woodlands, Lusaka. Tel/Fax: ++260-(0)1-263083, Cell: ++260-(0)97-723543. E-mail: klaus@coppernet.zm or acfs@zamnet.zm
Nimia Tembo	COMACO	Lundazi, no address
Gillian Kabwe	ICRAF	Chipata, g.kabwe@cgiar.org