

Project Summary

Title	Towards benchmarking conservation agriculture in prevalent cropping systems of Malawi
PI	H. R. Mloza-Banda, PhD. University of Malawi, Bunda College, P. O. Box 219, Lilongwe, Malawi Email: mlozab@yahoo.co.uk
Co-researchers	M. Sikwese, PhD. University of Malawi, Bunda College P. O. Box 219, Lilongwe, Malawi Email: mnyaganje@yahoo.com C. Makwiza MSc. University of Malawi, Bunda College P. O. Box 219, Lilongwe, Malawi Email: cmakwiza@bunda.unima.mw
Purpose	To analyse crop growth and yield under conservation agriculture in the different agro-ecological zones
Project Summary	Conservation agriculture (CA) which comprises a suite of technologies has been shown to limit, arrest or revert many of the causes of unsustainable agricultural practices, such as soil erosion, soil organic matter decline, soil physical degradation and excessive pesticide and fuel use resulting from age-old conventional tillage practices. For CA to work, a diverse group—researchers, farmers, input supply companies and extensionists—must share ideas and products. To foster such arrangements for the maize-based farming systems and agro-ecological zones in Malawi, this project proposes establishing decentralized learning “hubs,” on-farm research focal points intended to serve as sites for technology development and extension activities that are concentrated in a few defined locations. The overall hypothesis of the project is that a service delivery objective, which is incorporated into a broader programme of capacity building and information transfer, is critical in engaging local communities and stakeholders in directly harnessing opportunities to build resilient agroecosystem through land use changes. The strategy involves use of ethnographic methods of study and implementation of CA practices in combination with landscape elements, namely, infield nitrogen-fixing trees and biological contour barriers that result in providing eco-system services such as biological carbon sequestration, runoff-control and enhancing water infiltration, while providing new options for farm management and diversification in the face of land degradation and climate change.
Country and	Lilongwe District on the Lilongwe Plain

Specific Location(s)	Salima District, is on the lakeshore plain of Lake Malawi
Participating Institutions	Department of Land Resources and Conservation (DLRC), the ILRAD Project and the FIDP project, all under the Ministry of Agriculture and which have both taken the leading role in implementing CA. The project will also engage local agro-dealers trained by CNFA/RUMARK and any NGO situated within the hub sites.
Start Date	August 2010
End date	July 2012
Amount of Funding	USD 59999.10

Conserve and screen premium value indigenous plant biodiversity and products on smallholder farming systems of Lake Victoria Basin in East Africa. (PI-Agnes Namutebi. Co-Researchers-Levi S. M. Akundabweni).

Improving biological nitrogen fixation (BNF) by groundnuts (*Arachis hypogea* L.) grown in acid soils through amendment with calcitic and dolomitic limestones. (PI- Beatrice Were. Co.-Researchers-J.R. Okalebo, . Pieter Pypers, David Kalule Okello, Abigael Nekesa Otinga, Roel Merckx, . Caleb Othieno, Janet Ogega, Dorothy Akinyi Onyango).

Soil properties effects and management of organic residues to improve C sequestration, reduce N losses and improve crop yields. (PI-Benjamin Oginga Danga. Co-Researchers-Benson Mochoge, Jayne Mugwe, Zachary Getenga).

Functional Analysis of Cooperatives and their impact on Livelihood and Sustainability: A case of Agricultural Cooperatives in Malawi. (PI-Beston B. Maonga. Co-Researchers-Sera Gondwe, S. Phiri).

Assessment of spatio-temporal redistribution of major crops and livestock mobility due to climate change and variability in Uganda. (PI-Majaliwa Mwanjalolo Jackson-Gilbert. Co-Researchers- Paul Isolo Mukwaya, Prossy Isubikal, Lawrence Aribo).

Development of management practices for sustainable improvement of indigenous goats in Tanzania. (PI-Sebastian W. Chenyambuga. Co-Researchers-Daniel M. Komwihangilo, Edith E. Ndemaniho).

Assessment of the fruit fly, *Bactrocera invadens*, pest status and the establishment of the parasitoid, *Fopius arisanus* in Mozambique. (PI-Domingos Cugala. Co-Researchers-Luisa Santos, Albano Gabriel).

Participatory control of Newcastle disease in village poultry using thermostable ND vaccines in Uganda. (PI-Denis K. Byarugaba. Co-Researchers-Jesca L. Nakavuma, Andrew State).

Participatory action research-based strategies for utilising fallows to enhance land and livestock productivity in Zimbabwean communal lands. (PI- Emmanuel Manzungu. Co-Researchers-Sharai Ncube, Benjamin Hanyani-Mlambo).

Development of improved Scald tolerant Barley varieties with superior end-use (malt) and nutritional quality for dry land areas of the northern Ethiopia. (PI-Feiten Abay. Co-Researchers-Asmund Bjornstad, Richard Edema).

Production of disease-free papaya (*Carica papaya* L.) planting materials of known sex for commercial fruit production. (PI-Fredah K. R. Wanzala. Co-Researchers- Agnes W. Kihurani, Mercy Mwaniki, Monica M. Waiganjo).

Enhancing productivity of dry bean in the face of climate variability through drought resilient varieties. (PI-George N. Chemining'wa. Co-Researchers-Mary Mburu, Paul M. Kimani, John Nderitu, Jessica Ndubi, John Mwaniki).



Participatory Development, Testing and Validation of Concepts and Technologies for Site-Specific Detection and Control of Plant Parasitic Nematodes Infecting Tomatoes in Mwea, Kenya. (PI-George M. Kariuki. Co-Researchers-Francis Kariuki, Violet Gathaara, Jonah K. Birgen).

Towards benchmarking conservation agriculture in prevalent cropping systems of Malawi. (PI-H.R.Mloza-Banda. Co-Researchers-M. Sikwese, C. Makwiza).