

A MONTHLY PUBLICATION OF THE TROPICAL LEGUMES II PROJECT

About the Bulletin

The Bulletin of Tropical Legumes is a monthly publication of the Tropical Legumes II (TL II) project, funded by the Bill and Melinda Gates Foundation, and jointly implemented by the International Crops Research Institute in the Semi-Arid Tropics (ICRISAT), the International Center for Tropical Agriculture (CIAT) and the International Institute of Tropical Agriculture (IITA) in close collaboration with partners in the National Agricultural Research Systems of target countries in Sub-Saharan Africa and in India. TL II aims to improve the livelihoods of smallholder farmers in drought-prone areas of the two regions through enhanced grain legumes productivity and production.



Harvesting the First Crop

Capacity building is an important component of the TL II project. This includes both long- and short-term training as well as infrastructure building for NARS. The project has sponsored 36 students from participating NARS in its first phase (Table 1). These were five each from Ethiopia, Kenya and Tanzania; four each from India, Mali, Mozambique and Nigeria; two each from Malawi and Nigeria; and one from Zimbabwe. Fourteen of those have successfully completed their studies and obtained their degrees (3 PhD and 11 MSc). These included four each from Mozambique and Ethiopia; two each from Tanzania and India; and one each from Kenya, Malawi, and Niger. Three of those are females. The remaining students are expected to be completing their studies in the coming months. Here below are highlights of those students who have completed their studies at various universities under TL II sponsorship.

Niger



Nana Mariama Idi Garba

Title of thesis: Characterization of the Niger groundnut collection for drought tolerance. University of Niamey, Niger, 2011.

Ethiopia



Tadesse Sefera (MSc)

Title of thesis: Genetic diversity analysis and DNA fingerprinting of chickpea cultivars (*Cicer arietinum* L.) using simple sequence repeat (SSR) markers. Haramaya University, Haramaya, Ethiopia, August 2009



Mitiku Demissie (MSc)

Title of thesis: Marketing of kabuli and desi chickpeas by smallholder farmers in eastern Shewa Zone. Haramaya University, Haramaya, Ethiopia, January 2011.



Teshale Assefa (PhD)

Title of dissertation: Selection for drought and bruchid resistance of common bean populations. University of Padova [Italy], Doctoral School of Crop Sciences, Cycle XXII, Department of Environmental Agronomy, February 2010



Mekbib Gebretsadik (MSc)

Title of thesis: Technology adoption and commercialization of chickpea in Ethiopia. Norwegian University of Life Sciences, Ås, Norway, 2011.

Kenya



Waweru Felix Muchiri (MSc)

Title of thesis: Phytotypic evaluation of *Phaseolus vulgaris* L. (common bean) under drought stress in Kenya. Department of Plant Science and Crop Protection, University of Nairobi, Nairobi, Kenya, September 2010.

Malawi



Lizzie Kachulu (MSc)

Title of thesis: Use of sequence characterized amplified region markers in marker assisted selection for common bean bacterial blight resistance in breeding populations of common bean. School of Agricultural Sciences, University of Zambia, July 2010.



Mozambique

Guilhermino Boina (MSc)

Title of thesis: The effect of farmer traditional methods of cowpea seed storage on seed quality in Malema District, Nampula Province, Mozambique. Bunda College, University of Malawi, October 2010



Henriques V. Colial (MSc)

Title of thesis: Screening of cowpea (*Vigna unguiculata* [L] Walp.) genotypes for drought tolerance. Bunda College, University of Malawi, October 2010



John Bulassi Kaunda (MSc)

Title of thesis: Evaluation of cowpea (*Vigna unguiculata* L. Walp.) genotypes for drought resistance. Bunda College, University of Malawi, October 2010



Anica Sandra Francisco Massas (MSc)

Title of thesis: Evaluation of promiscuous soybean (*Glycine max* (L.) Merrill) genotypes for their biological nitrogen fixation potential at Chitedze, Lilongwe, Malawi. Bunda College, University of Malawi, October 2010



Tanzania

Juma Mfaume (MSc)

Title of thesis: Genotype x environment (G X E) interaction in groundnut (*Arachis hypogaea* L.) genotypes. Sokoine University of Agriculture, Morogoro, Tanzania, February 2011

India



Shrikant L. Sawargaonkar (PhD)

Title of dissertation: Study of heterosis, combining ability, stability and quality parameters in CGMS-based pigeonpea [*Cajanus cajan* (L.) Millsp.] hybrid. Marathwada University, Parbhani, India, April 2011.



Rachit K. Saxena (PhD)

Title of dissertation: Study of inheritance and identification of molecular markers for fertility restorers in pigeonpea (*Cajanus cajan* (L.) Millsp.). Ousmania University, Andhra Pradesh, India, June 2011.

Table 1: Graduate degree students sponsored by the TL II project

Name	Gender	Degree	University	Area of thesis	Status
Mali					
Siaka Dembele*	M	MSc	University of Ibadan	Cowpea breeding	In progress
Abdoulaye Diarra	M	MSc	University of Ouagadougou	Ag economics	In progress
Ibrahima Z. Doumbia	M	PhD	University of Mali	Cowpea breeding	In progress
Mamary Traore	M	MSc	University of Mali	Groundnut breeding	In progress
Niger					
Nana Mariama Idi Garba	F	MSc	University of Niamey	Groundnut breeding	Completed
Abdou Souleymane*	M	MSc	University of Ibadan	Cowpea breeding	In progress
Nigeria					
Habibu Aliyu	M	MSc	Ahmadu Bello University	Cowpea breeding	In progress
Shaahu Aondover	M	MSc	University of Makurdi	Soybean breeding	In progress
Kayode Ogunsola**	M	PhD	University of Ibadan	Cowpea breeding	In progress
Auwalu Adamu Umar	M	MSc	Ahmadu Bello University	Cowpea breeding	In progress
Ethiopia					
Berhanu Amsalu	M	PhD	University of Pretoria	Common bean breeding	In progress
Teshale Assefa***	M	PhD	University of Padova	Common bean breeding	Completed
Mitiku Demissie	M	MSc	Haramaya University	Chickpea market chain	Completed
Mekbib Gebretsadik	M	MSc	Norwegian Univ. of Life Sciences	Chickpea adoption	Completed
Tadesse Sefera	M	MSc	Haramaya University	Chickpea breeding	Completed
Kenya					
Peter Kaloki	M	MSc	University of Nairobi	Chickpea physiology	In progress
Waweru Felix Muchiri	M	MSc	University of Nairobi	Common bean breeding	Completed
Nancy Wathimu Njogu	F	MSc	Edgerton University	<i>Helicoverpa</i> resistance in chickpea	In progress
David Nyongesa	M	PhD	University of Dar es Salaam	Agro-enterprise development	In progress
Scolastica Wambwa	F	MSc	Kenyatta University	Seed systems	In progress
Malawi					
Wilson Chafutsa	M	MSc	University of Malawi	Groundnut seed technology	In progress
Lizzie Kachulu	F	PhD	University of Zambia	Common bean breeding	Completed
Mozambique					
Guilhermino Boina	M	MSc	University of Malawi	Cowpea seed storage	Completed
Henrique Victor Colial	M	MSc	University of Malawi	Cowpea breeding	Completed
John Bulassi Kaunda	M	MSc	University of Malawi	Cowpea breeding	Completed
Anica Sandra F. Massas	F	MSc	University of Malawi	Soybean breeding	Completed
Tanzania					
Maryama Maryange Mayomba	F	PhD	Sokoine University of Agriculture	Pigeonpea pathology/ breeding	In progress
Didasi R. Kimaro	M	MSc	Sokoine University of Agriculture	Cowpea breeding	In progress
Juma Mfaume	M	MSc	Sokoine University of Agriculture	Groundnut breeding	Completed
Julius Missanga	M	MSc	Sokoine University of Agriculture	Cowpea breeding	In progress
Justine Alfred Mushi	M	MSc	Sokoine University of Agriculture	Soybean processing	In progress
Zimbabwe					
Godwill Makunde	M	PhD	University of Free State	Common bean breeding	In progress
India					
Tosh Garg	M	PhD	Punjab Agricultural University	Chickpea breeding	In progress
Vikas Navhale	M	MSc	Dr. PDKV Akola Univerity	Pigeonpea breeding	In progress
Rachit K. Saxena	M	PhD	Ousmania University	Pigeonpea breeding	Completed
Shrikant L. Sawargaonkar	M	PhD	Marathwarda University	Pigeonpea breeding	Completed

*Joint financing with AGRA (university costs) and TL II (research costs)

**Joint financing with Government of Nigeria (university costs) and TL II (research costs)

***TL II covered costs for field operations in Ethiopia

Challenges and Lessons Learned

There are several hurdles to be overcome in implementing degree training programs. First, many national agricultural research and development programs in Sub-Saharan Africa (SSA) are underfunded and lack the necessary number of young researchers that need to replace the mostly aging population of researchers¹. This situation has clearly manifested itself in the Western and Central Africa (WCA) region when TL II started recruiting researchers for degree training. Either there were no adequate number of young researchers in the system and/or they were not fully equipped to get admission to universities. For example, only one student out of four that were originally identified for training in Niger could get admission to University of Niamey; the situation was not much different in Mali, either.

Second, students in some countries obtained a more attractive deal than the fellowship TL II was ready to offer. For instance, four students from Malawi took other scholarships that provided them with the opportunity to study in foreign countries (TL II encourages studies to be undertaken within the country or within the Africa region). The decline in the exchange rate of the US dollar has also shrunk further reduced the funds allocated for training when the project was approved in 2007. Some objectives got round this by seeking and finding joint funding. One student each in cowpea breeding program from Mali and Niger is jointly sponsored by AGRA (Alliance for the Green Revolution in Africa) PASS (Program for Africa's Seed System) and TL II. Similarly, another student in cowpea breeding from Nigeria is jointly funded by the Government of Nigeria and TL II.

Third, as shown in Table 1, the number of women trainees is disproportionately lower than that of men; men outnumbered women by 5:1. This is a reflection of the overall number of women in agricultural research and development in SSA, despite the high number of women in African agriculture. In fact, the situation shown here for TL II is much better than the national averages for many countries in SSA, where women researchers account for less than 5% of the total work force. Advocacy work is needed to help African governments to introduce pro-women policies in agricultural research and development – such as family scholarships, reduced number of service years before researchers can qualify for further studies, and preferential placement.

¹ The average age of researchers in many countries in SSA is over 50

Mozambique Releases 10 New Varieties!

The variety release committee of Mozambique approved the release of six and four new varieties of groundnut and pigeonpea, respectively, during a session held at IIAM (Institute of Agricultural Research for Mozambique) on 3 June 2011. Dr. Manuel Amame, Leader of Grain Legumes Program of Mozambique, has reported that this is the largest number of varieties released in one go in the country. This is testament to the enthusiasm of the government to speed up development of tropical legumes in the country. These varieties have been released because of their ability to give high yields, resistance to major diseases, early maturity, and market preference.

It should be noted that the groundnut varieties ICGV-SM 99568, CG 7, and JL 24 are commercially grown in Malawi; JL 24 is also a commercial variety in Mali.

The pigeonpea variety ICEAP 00040 is commercially grown in Malawi and Tanzania (locally known in the latter country as “Mali”); the variety ICEAP 00557 was released by Malawi as “Mwaiwathu Alimi” (meaning hope) in 2009.

Funding for groundnuts was provided under TL II whereas pigeonpea was funded under different projects through ICRISAT.

Variety name/code (groundnut)	Variety name/code (pigeonpea)
ICGV-SM 01513	ICEAP 00020
ICGV-SM 01514	ICEAP 00040
ICGV-SM 99541	ICEAP 00554
ICGV-SM 99568	ICEAP 00557
CG 7	-
JL 24	-

News and Events

The Project Coordinator of TL II participated in the AGRA-Soil Health Project workshop titled “Soil Health Grantees Meeting – Going beyond Demos” and made a presentation on the experience of TL II and ways for future collaboration between the two projects. The meeting was held on 6-10 June 2011 at the Windsor Golf Club Hotel in Nairobi, Kenya.

The TL II Project Review and Planning Workshop for chickpea in India is scheduled for the week beginning on 5 September 2011. It will be held at the ICRISAT-Patancheru campus, Hyderabad, India.