

Title	Increasing production and marketability of improved cowpea varieties in northwestern Uganda
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Co-Researchers	Dr. Giregon Olupot, Lecturer and Soil Scientist, Department of Agricultural Production, School of Agricultural Sciences, College of Agricultural and Environmental Sciences, Makerere University, P.O Box 7062 Kampala; Tel +256-772552672; Email: olupot@caes.mak.ac.ug . Mr. Robert Amayo, Research Officer and Acting Program Head, Dryland Legume Research Program, National Semi-Arid Resources Research Institutes (NaSARRI), Serere, Phone: +256-772-785216326; Email: rob.amayo@gmail.com .
Purpose	This project focuses at increasing the adoption and marketability of improved cowpea varieties and subsequently household incomes.
Project Summary	Cowpea is a neglected crop that forms an important component of agricultural food crops consumed by smallholder farming households in Sub-Saharan Africa and thus plays an important role in achieving food and nutritional security. This study proposes to increase production and marketability of newly released and improved cowpea varieties in Arua district, northwestern Uganda. The specific objectives are: (1) Increased yields of high quality cowpea in northwestern Uganda by piloting, with smallholder farmers in participatory field trials, the new varieties of cowpea that have been developed by National Semi-arid Resources Research Institute, Serere, one of the participating institutions; (2) Increased cowpea marketability through strengthening capacity of smallholder farmers to participate in the cowpea value chain and market studies. Each of the specific objectives is addressed by a master's student assisted by two undergraduate students as interns during long vacation. One student (Soil science) will pursue the following hypotheses: (1) Growing new improved cowpea varieties in the region is associated with higher yields compared to local varieties; (2) Inoculation of new improved cowpea varieties with rhizobia is associated with higher yields compared to local varieties. The other



	<p>student (Agricultural Extension and Education) will address the next two hypotheses: (3) Adoption of improved cowpea varieties is associated with higher profit margins; and (4) Strengthening capacity of smallholder farmers in the cowpea value chain enhances the marketability of the crop. Key research activities on increasing production include participatory rural appraisals on knowledge, attitudes and practices concerning cowpea, participatory field trials for evaluation of local and new improved varieties and the effectiveness of inoculation in increasing yields. On marketability, key activities include participatory appraisals regarding awareness of market and trade information. Other activities will be value chain analysis and market studies to understand market channels and margins. In depth market studies to understand marketing channels and estimate profit margins from each channel. Detailed economic analysis of the new varieties will involve assessment of: (1) Farmer profitability (gross margins and returns to labor) in the short term and potential long term benefits to their soil fertility and increased value of land; (2) Postharvest losses and market for processed commodities and (3) the markets. Key results expected to be scaled up and adopted are local cowpea seed production and distribution for increased access to high quality improved seeds, use of <i>rhizobium</i> inoculum for improved soil fertility, and intercropping or planting in rotation legumes with cereals for improved water use efficiency.</p>
Country and Specific Location(s)	Uganda and Arua district
Participating Institutions	<p>Makerere University Kampala (Mak) National Semi-arid Resources Research Institute, Serere (NaSARRI) Arua District Farmers Association (ARUDIFA)</p>
Start Date	November 1, 2014
End Date	31 October, 2016
Amount of Funding	64,999





Bernard B. Obaa (PhD)

Dr. Bernard B. Obaa is a Rural Sociologist. He holds a Ph.D. in Rural Sociology from Iowa State University, USA. His area of concentration is Food Systems, Agriculture and Environment and Social Change and Development. He has over 15 years of progressively responsible experience in teaching at a university, agricultural and rural development work. He began his career as an extension field officer with Arua District Local Government in 1999. He then joined Makerere University as a Teaching Assistant in 2001-2004. After completing his master's degree in Agricultural Extension and Education, he was promoted to Assistant Lecturer before moving to United States for doctoral studies in December 2006. For his doctoral research, he was based at International Center for Tropical Agriculture (CIAT) Uganda as a Research Fellow (Oct. 2009 - Jan. 2011) with financial support from the competitive Dr. Norman Borlaug Leadership Enhancement in Agriculture Program (LAEP) managed by University of California, Davies. He also worked as Graduate Research Assistant at the Center for Sustainable Rural Livelihoods and the Department of Horticulture, Iowa State University (Jan. 2007 - Dec. 2009). Currently, Dr. Obaa is a lecturer in the Department of Extension and Innovation Studies, College of Agricultural and Environmental Sciences, Makerere University. In addition to teaching and research at the university, he has several years of experience in providing consultancy services in agricultural and rural development issues for various local and international organizations and government bodies. For instance, he has led teams for studies on cassava and rice value chains for the World Bank funded Eastern Africa Agriculture Productivity Project (EAAP) under National Agricultural Research Organization (NARO) and the Ministry of Agriculture Animal Industry and Fisheries (MAAIF). He has consulted for the following international organizations: GOAL Uganda, Plan Uganda and VECO Uganda.

Selected Publications

- Agea, J.B., Obaa, B.B., Kimondo, J.M., Okia, C.L., Isubikalu, P., Woiso, D.A., Obua, J., & Teklehaimanot, Z. (2013). "Impediments, opportunities and strategies to enhance trade of wild and semi-wild food plants in Bunyoro- Kitara Kingdom, Uganda," *African Journal of Environmental Science and Technology*, 7(6): pp.472-481.
- Kabambe, O.M., Lopokoiyit, M.C., Mutonga, S.N., & Obaa, B.B. (2013). "How have agricultural practitioners and their organizations changed?" In: Ochola, Washington, Willem Heemskerk, Mariana Wongtschowski (Eds.). *Changing agricultural education from within: lessons and challenges from the GO4IT programme*. RUFORUM, KIT Publishers.
- Isubikalu, P., Kyazze, F.B., Agea, J.G., & Obaa, B.B. (2013). "Building capacities on agricultural innovation within a university context: the case of Makerere University," In: Ochola, Washington, Willem Heemskerk, Mariana Wongtschowski (Eds.). *Changing agricultural*



education from within: lessons and challenges from the GO4IT programme. RUFORUM, KIT Publishers.

- Agea, J.G., Okalang, E., Obaa, B., Okia, C.A., & Okullo, J.B.L. (2010). "Women's position in on-farm tree planting activities: a case of Kachumbala Sub-county Kumi District, Eastern Uganda," *International Journal of Rural Studies (IJRS)*, 17 (2): 19-26.
- Obaa, B., Mutimba, J., & Semana, A.R. (2005). "Prioritizing farmers' extension needs in a publicly-funded contract system of extension: A case study from Mukono District, Uganda," Agricultural Research and Extension Network (AgREN). *Network Paper No. 147. July 2005. London: Overseas Development Institute (ODI).* www.odi.org.uk/agren.
- Obaa, B., & Nshemereirwe, F. (2004). Assessing the potential of mushroom cultivation in improving household incomes of smallholder farmers in Kabale district. *Uganda Journal of Agricultural Sciences*, 9:656-662.

Previously funded projects

- 2014-2016: Increasing production and marketability of cowpea among smallholder farmers in semi-arid regions of northwestern Uganda. A Competitive Graduate Research Grant with funding allotment of \$64,998 from Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), 2014-2016. **Principal Investigator**
- 2014-2016: Unlocking the potential of indigenous fruit trees for increased food security, nutritional health, cash income, farm diversity and environmental resilience in Uganda. A Competitive Graduate Research Grant with funding allotment of \$65,000 from Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), 2014-2016. **Co-Investigator**.
- 2011-2015: Examining Success Factors for Sustainable Rural Development through the Integrated Co-operative Model. A funding allotment of \$355,179 from IDRC-CRDI Canadian Partnership Grant, 2011-2015. **Senior Researcher**.
- 2011-2015: Developing an Outreach framework for strengthening University Farming Community Engagement for improved and sustainable livelihoods. A community Action Research Program with a funding allotment of US \$300,000 from Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) under ACP-EU S&T Program, 2011-2015. **Project Coordinator**.
- 2011: Potential of edible insects in alleviating household food insecurity in Lango Sub-region, Northern Uganda. A funding allotment of US \$ 50,000 from the Competitive Postdoctoral Research Grants from School of Graduate Studies, Makerere University Kampala in 2011. **Co-Investigator**
- 2009: Dr. Norman Borlaug Leadership Enhancement in Agriculture Program (LEAP) Fellowship on Livelihood Resilience and Food Security among formerly displaced people in Lira, northern Uganda. A funding allotment of \$20,000 from LEAP Fellowship Program in 2009 for doctoral research.

