



FEED THE FUTURE

The U.S. Government's Global Hunger & Food Security Initiative

October 30, 2021



*Borlaug Higher Education for
Agricultural Research and Development*

Final Scholar Report: Uganda

By

The BHEARD Administrative Team
Michigan State University

Office of the Dean
College of Agriculture and Natural Resources
Michigan State University
446 W. Circle Drive, Room 102
East Lansing, Michigan 48824-1039

Email: CGC.BHEARD@campusad.msu.edu

Project Website: <https://www.canr.msu.edu/bheard>



Executive Summary

Michigan State University (MSU) is the implementing entity of the Borlaug Higher Education for Agricultural Research and Development (BHEARD) program. As part of the United States government's Feed the Future initiative, BHEARD is funded by the United States Agency for International Development (USAID), through the International Maize and Wheat Improvement Center (CIMMYT).

Honoring the legacy of Nobel Peace Prize Laureate Norman Borlaug, the program increases the number of agricultural scientists and strengthens scientific institutions in partner countries. BHEARD supports long-term training of agricultural researchers at the master's and doctoral levels, linking scientific and higher education communities in Feed the Future priority countries and the United States.



A BHEARD scholarship supports coursework at U.S. and regional universities in Africa, Brazil, Bangladesh, and India; providing funding for research and post completion research in the student's home country. In addition, the program provides a variety of allowances to cover training costs and laboratory fees. BHEARD also aims to develop, test and evaluate new models of small-scale institutional capacity development. This report documents BHEARD programmatic activities from October 1, 2018 through September 30, 2019. It includes a program overview, financial summaries, and student updates for Uganda.

Acknowledgement and thank you to all BHEARD staff who have worked for this program and contributed to this report.

- John Medendorp, Director
- Mathias Ndizihiwe, Student Progress Coordinator
- Cait Goddard, Institutional Capacity Development Lead
- Jen Riebow, Fiscal Officer

Activity Summary

The Borlaug Higher Education for Agriculture and Development (BHEARD) program, supported by US Agency for International Development (USAID) develops agricultural scientists and increases agricultural research capacity in Feed the Future partner countries, including Uganda.

BHEARD has provided scholarships to students seeking masters and doctorate degrees at US and regional academic institutions and has provided funding for agricultural research in their home countries. The program also developed, tested, and evaluated new models of small-scale institutional capacity development. BHEARD sponsored 10 scholars from Uganda, 9 successfully completed their program and went back to their home institutions after completion of their degree program.

Successes

The strong relationship between the Kansas State University and Makerere University has served as the core of this program. The support that the Department of Agricultural Economics at KSU has been able to give to the Department of Agriculture and Natural Resource Economics at Makerere University has been invaluable. The support given by the BHEARD program has made possible the opening of a PhD program in the DANRE department.

Challenges

One scholar failed candidacy and was terminated from the BHEARD program. Other than that, the Ugandan cohort did not meet with any particular difficulties in successfully completing their programs.

LIST OF ALL SCHOLARS

Below is the complete list of Ugandan BHEARD scholars.

NAME (first and last)	SEX	COHORT	STUDENT STATUS	UNIVERSITY	SUBJECT AREA	ACADEMIC LEVEL	GRADUATION YEAR
1. Aseete, Paul	M	COHORT 5	COMPLETED	Kansas State University	Agricultural Economics	PhD	FY21
2. Nalunga, Asha	F	COHORT 5	COMPLETED	Kansas State University	Agricultural Economics	PhD	FY21
3. Lwiza, Florence	F	COHORT 4	COMPLETED	Kansas State University	Agricultural Economics	PhD	FY20
4. Bukenya, Richard	M	COHORT 1	COMPLETED	University of Illinois, Urbana-Champaign	Nutritional Sciences	PhD	FY17
5. Dramadri, Isaac Onziga	M	COHORT 1	COMPLETED	Michigan State University	Plant, Soil and Microbial Sciences	PhD	FY18
6. Male, Denis	M	COHORT 1	COMPLETED	Michigan State University	Food Science	PhD	FY18
7. Mugabi, Robert	M	COHORT 1	COMPLETED	University of Nebraska, Lincoln	Food Science and Technology	PhD	FY17
8. Ninsiima, Daniel	M	COHORT 1	COMPLETED	Michigan State University	Telecommunication, Information Studies, and Media	MSc	FY16
9. Sserunkuma, Herbert	M	COHORT 1	COMPLETED	University of Nebraska, Lincoln	Plant Breeding and Genetics	MSc	FY16
10. Kagoya, Sarah	F	COHORT 1	WITHDRAWN	Louisiana State University	Agricultural Economics and Agribusiness	PhD	FY21

PAPER PUBLICATIONS BY SCHOLARS

The following peer reviewed publications were submitted by Ugandan scholars. This list represents accomplishments of Ugandan BHEARD scholars through September 2021, the end-date of the scholar program.

STUDENT NAME	TITLE	AUTHORS	PUBLISHED IN	PUBLICATION DATE
1. Aseete, Paul	Consumer Demand Heterogeneity and Valuation of Value-Added Pulse Products: A case of Precooked Beans in Uganda	Paul Aseete, Enid Katungi, Jackline Bonabana-Wabbi, Eliud Birachi, and Michael Adrogu Ugen	Agriculture & Food Security	07/28/18
2. Bukenya, Richard	Validity and Reliability of General Nutrition Knowledge Questionnaire for Adults in Uganda	Bukenya, R., Ahmed, A., Andrade, J.M., Grigsby-Toussaint, D.S., Muyonga, J., Andrade, J.E.	Nutrients; Basel	02/21/17
3. Bukenya, Richard	Assessing the reliability of FTIR spectroscopy measurements and validity of bioelectrical impedance analysis as a surrogate measure of body composition among children and adolescents aged 8-19 years attending schools in Kampala, Uganda	Ndagire, C.T., Muyonga, J.H., Isabirye, D., Odur, B., Somda, S.M.A. Bukenya, R., Andrade, J.E., Nakimbugwe, D.	BMC Public Health; London	06/04/18
4. Dramadri, Isaac Onziga	Identification of QTL Associated with Drought Tolerance in Andean Common Bean	Isaac Dramadri Onziga, Stanley T. Nkalubo, and James D. Kelly	Crop Science	03/21/19
5. Lwiza, Florence	Dis-Adoption of Household Biogas Technologies in Central Uganda	Florence Lwiza, Johnny Mushiga, Peter N. Walekhwa, Jo Smith, and Bedru Balana	Energy for Sustainable Development	01/25/17
6. Male, Denis	Modeling the emetic potencies of food-borne trichothecenes by benchmark dose methodology	Male, D., Wu, W., Mitchell, N.J., Bursian, S., Pestka, J.J., Wu, F.	Food and Chemical Toxicology	08/01/16
7. Male, Denis	Modelling the anorectic potencies of food-borne trichothecenes by benchmark dose and incremental area under the curve methodology	Male, D., Mitchell, N.J., Wu, W., Bursian, S., Pestka, J., Wu, F.	World Mycotoxin Journal	12/21/15
8. Male, Denis	Reduced foodborne toxin exposure is a benefit of improving dietary diversity.	Wu, Felicia; Mitchell, Nicole J; Male, Denis; Kensler, Thomas W	Toxicological Sciences: An Official Journal of the Society of Toxicology	10/01/14
9. Male, Denis	Influence of Food Safety Knowledge, Attitudes and Practices of Processors on Microbiological Quality of	Stellah Byakika, Ivan Muzira Mukisa, Yusuf Byenkya	Food Control	01/24/19

	Commercially Produced Traditional Fermented Cereal Beverages, A Case of Obushera in Kampala	Byaruhanga, Denis Male, and Charles Muyanja		
10. Mugabi, Robert	In-store drying as an alternative for corn drying in Uganda	Mugabi, R., Driscoll, R.	American Society of Agricultural and Biological Engineers	07/26/15
11. Mugabi, Robert	Performance Evaluation of Locally Fabricated Hammer Mills in Rural Uganda: Crafting a Test Protocol	Mugabi, R., Byaruhanga, Y.B., Weller, C.L.	American Society of Agricultural and Biological Engineers	07/26/15
12. Mugabi, Robert	Study of Maize Drying in Uganda Using an in-Store Dryer Weather Data Simulation Software	Robert Mugabi and Robert Driscoll	International Journal of Food Processing Technology	02/18/16
13. Mugabi, Robert	Comparison of Experimental Designs Used to Study Variables During Hammer Milling of Corn Bean	R. Mugabi, K.M. Eskridge, C.L. Weller	American Society of Agricultural and Biological Engineers	12/01/16
14. Mugabi, Robert	Challenges Faced by Small-Scale Local Fabricators and Millers in Uganda: A Case Study of Hammer Mill Fabricators and Users	Robert Mugabi, Yusuf B. Byaruhanga, and Curtis L. Weller	Journal of Advances in Food Science & Technology	09/01/18
15. Nalunga, Asha	The Dynamics of Household Labor Allocation to Biogas Production, Farm and Non-Farm Activities in Central Uganda	Asha Nalunga, Johnny Mugisha, Peter Walekhwa, and Jo Smith	Renewable Energy	04/30/19
16. Ninsiima, Daniel	"Buuza Omulimisa" (Ask the extension officer): Text Messaging for Low Literate Farming Communities in Rural Uganda	Ninsiima, D.	Association for Computing Machinery	05/05/15
17. Paul Aseete	SPATIOTEMPORAL EVALUATION OF DRY BEANS AND GROUNDNUT PRODUCTION TECHNOLOGY AND INEFFICIENCY IN GHANA	Francis Tsiboe Paul Aseete Justice G Djokoto	Review of Agricultural and Applied Economics	02/28/21
18. Paul Aseete	Allocation of farm output and farmer-agribusiness linkages: Cyclical decisions and welfare effects	Paul Aseete	K-REx	03/24/21