

Annual Report

October 1, 2014 – September 30, 2015

submitted by

Innovative Agricultural Research Initiative (iAGRI)

October, 2015





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Cover photo:

A delegation from the Sokoine University of Agriculture (SUA) and iAGRI participated in a study tour on organizational transformation, visiting Egerton University, Kenyatta University, and the Jomo Kenyatta University of Agriculture and Technology (JKUAT). The visit resulted into SUA signing MoUs with the visited universities. The picture is of the MoU signing at JKUAT. From left are: SUA Deputy Vice Chancellor – Administration & Finance Prof Yonika Ngaga, SUA University Council Chairman Mr. Philemon Luhanjo, SUA Vice Chancellor Prof Gerald Monela, iAGRI Director Prof David Kraybill, JKUAT Deputy Vice Chancellor – Academic Affairs Prof. Romanus Odhiambo, JKUAT Registrar – Research, Production and Extension Mr Cyrus Chege Kamau, and JKUAT Deputy Vice Chancellor – Research, Production and Extension, Prof. Esther Murugi Kahangi. (*Picture: iAGRI*).

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Annual Report

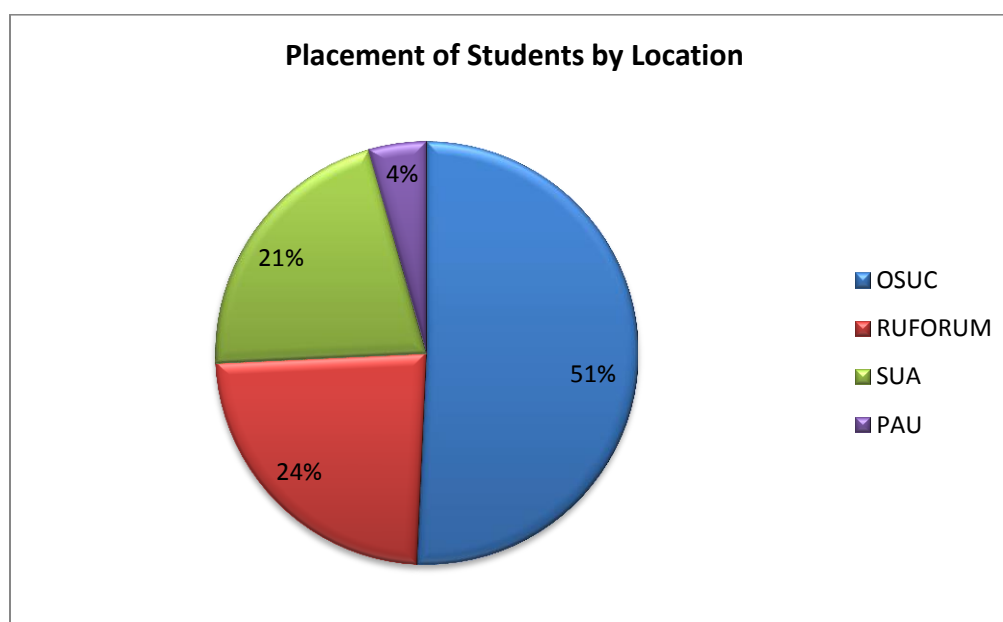
Innovative Agricultural Research Initiative (iAGRI)

October 1, 2014 – September 30, 2015

1. Executive Summary

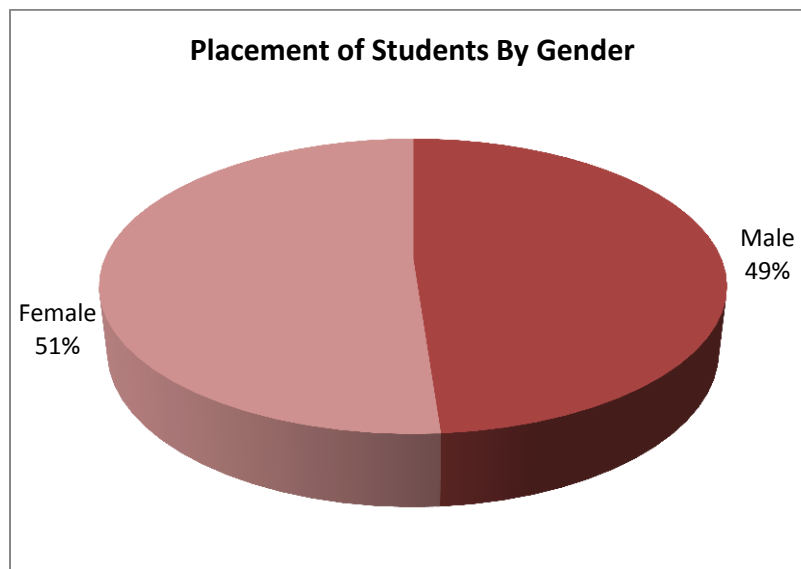
To date, USAID has placed 136 graduate students in degree training programs at universities on three continents (North America, Africa, and Asia) through the Innovative Agricultural Research Initiative (iAGRI). The breakdown of these placements is illustrated in the pie chart below.

Chart 1: Long-Term Training



Considerable progress has been made in achieving the objectives set for iAGRI at its inception which relates to the overall goal of iAGRI. This is to strengthen the capacity of Sokoine University of Agriculture (SUA) and the Ministry of Agriculture, Food Security, and Cooperatives (MAFC) to contribute to Tanzania's national development goals found in the Tanzanian Government's Agricultural Sector Development Plan, its Agriculture and Food Security Investment Plan, and its Comprehensive African Agricultural Development Plan. Specific iAGRI objectives are to (1) provide graduate level training to 135 young Tanzanian professionals in fields related to agriculture, with approximately half of this training occurring in the U.S.; (2) promote collaborative research among staff from SUA, MAFC, six U.S. universities forming the Ohio State University Consortium (OSUC), and Global South institutions; (3) strengthen the institutional capacity of SUA to contribute to food security in Tanzania; and (4) strengthen Tanzania's linkages with U.S. and Global South research and educational institutions.

Chart 2: Students by Gender



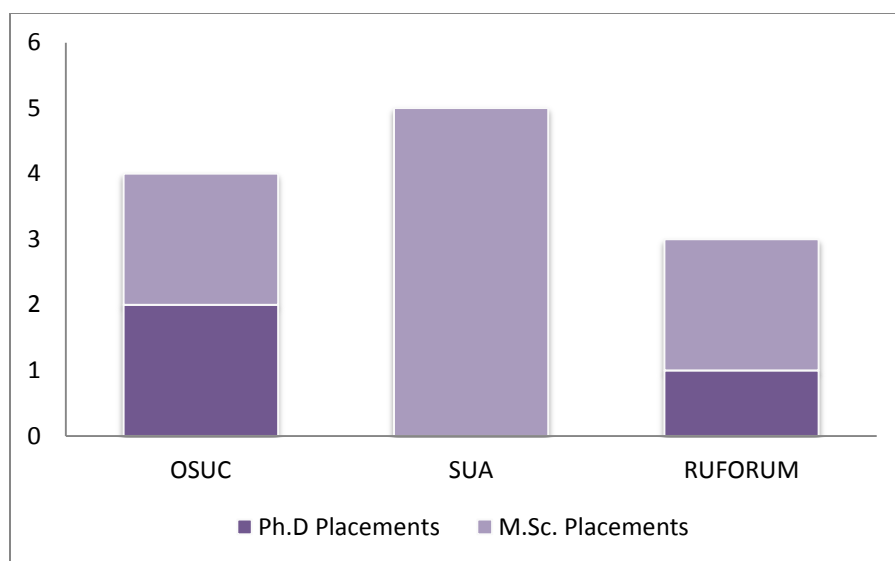
We have also been able to achieve the desired goal of ensuring that at least 50% of the placements are women, which is found in the original cooperative agreement signed between OSU and USAID/Tanzania. As illustrated above, 51% of the placements have been women. As might be expected, considerable variation exists by level of training. Fifty-five percent of all M.Sc. placements were female students, whereas only thirty-seven percent of all Ph.D. placements were females. In part this reflects the reality that many female students have to deal with more pressing family and other personal obstacles. This is particularly true when having to undertake overseas study, and most of the Ph.D. students were placed at OSUC institutions.

Progress toward degree completion is linked to the time of initiation of study programs. All Cohort I students have graduated and are resident in Tanzania. Most Cohort II M.Sc. students have likewise completed their programs and are in Tanzania.¹ Eight of them are awaiting their theses defences. One Ph.D. student from Cohort II has completed his program and has returned to a staff position at SUA. Other students are currently completing their dissertation research. Eight of the 26 M.Sc. placements in Cohort III have completed their programs and are in Tanzania. The remaining students are completing their thesis research. All 45 M.Sc. students in Cohort IV have recently initiated their field research and will be expected to graduate by the end of the coming fiscal year. Two Ph.D. student placements at SUA initiated their programs during the past year.

During the past year, we placed a final Cohort V of 12 students. It consists of 9 M.Sc. placements and 3 Ph.D. placements as depicted in the following bar graph.

Chart 3: Placements of Cohort V Students

¹ Ten B.Sc. placements from Zanzibar who were part of Cohort II are excluded. Three of these students continued their studies at SUA during the previous year. One student originally placed in a Ph.D. program failed her doctoral candidacy exam, but was reclassified as an M.Sc. placement because she received an M.Sc. degree



Nine of the placements were at the M.Sc. level. Five of these were at SUA and all of them were females. Three placements were at the Ph.D. level including two at OSUC member institutions and one at a RUFORUM member institution.

Consistent with the iAGRI focus on strengthening the capacity of SUA and MAFC to deal with food security in Tanzania, we provided all of these students with access to documentation developed at the program onset. These documents identified major food security themes for Tanzania and important research gaps found within them. Students have been encouraged to work from this base when identifying their research problems, and they have been encouraged to collaborate with other USAID-funded projects and CGIAR research programs located in Tanzania. The iAGRI Project Management has facilitated this collaboration.

Research

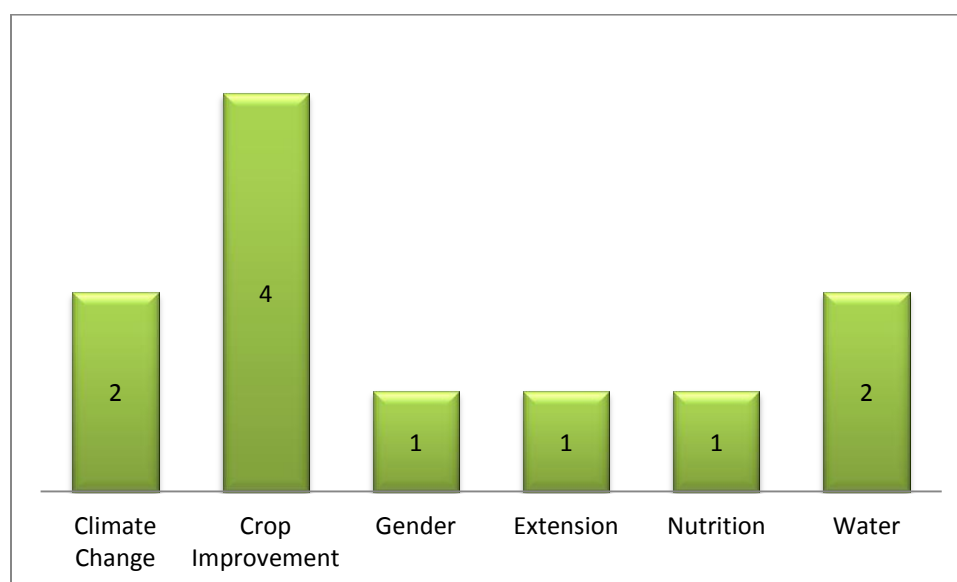
All 8 collaborative research projects supported under Phase I of this dimension of the iAGRI program continued over the past fiscal year. Five are led by women scientists. Five PIs are employed by SUA; one is employed by MAFC; and two are employed by OSUC institutions.

PIs for Phase I projects participated in a workshop on the SUA campus in January 2015. They presented preliminary results from their research, discussed activities remaining to be undertaken, and continued discussion about how to disseminate their research findings. The workshop was well attended by researchers from SUA, MAFC and OSU partner institutions. Seven Co-PI's from OSUC partner institutions were in attendance. Together with their MAFC and SUA counterparts they used this opportunity to chart additional collaborative activities to be undertaken in 2015. Annual reports for these projects were submitted in June 2015 and reviewed by iAGRI staff. Requests were made for extensions of all of the projects, primarily to allow for completion of analyses and publication of results.

Three new research projects were funded during the year dealing with climate change, crop improvement and water. One deals with agricultural insurance to mitigate agricultural risks associated with major weather events. Another deals with major biotic and abiotic stresses associated with maize production. And the final project deals with watershed management and water availability. These topics were identified through interactions with USAID-funded Feed the Future partners in Tanzania and targeted to address USAID priorities in Tanzania. The PMU has also continued to work with SERA on the development of new agricultural policy related projects dealing with rice marketing and land policy.

Chart 4: Collaborative Research

Feed the Future Themes Addressed by Research Projects



The eleven projects currently funded under iAGRI Collaborative Research Phase I and Phase II have all focused on one or more of the Feed the Future topics identified as priorities for iAGRI. Principal subject matter content of the funded projects is illustrated in the bar graph above. Crop improvement has received the greatest amount of attention, and the focus of related projects has largely been on maize, rice and horticultural crops. Following in degree of priority are climate change and water management.

Capacity Building

Capacity building during the past year continued along five dimensions which were defined in the Annual Work Plan for FY 2014-2015. They are (a) University Leadership/Change Management; (b) Teaching/Learning Improvement; (c) Staff Professional Growth; (d) Individual Program Strengthening; and (e) Infrastructure Strengthening.

University Leadership/Change Management – Over the past year, iAGRI staff worked closely with SUA leadership to implement a major restructuring effort designed to position SUA to maintain its relevancy to Tanzanian society and to position itself as a vanguard institution in the 21st century. iAGRI

organized several major study tours by SUA leadership to counterpart institutions in the East African region to learn how they have addressed change issues related to institutional funding, program relevance, and student learning. It also promoted the commercialization of SUA resources and research outputs through its Innovation Portfolio. It provided leadership training to senior level officials and mid-level management through monthly leadership forums and to future leaders through a series of webinars for iAGRI-funded students dealing with leadership competencies. Other major leadership activities addressed over the past year were a quality management training program for SUA management and administrative staff, continued strengthening of SUA's alumni association, and development of an income generating unit for the campus.

Teaching/Learning Improvement - The iAGRI Project Management Unit continued to work with the Quality Assurance and Promotion Bureau (QAPB) at SUA to equip and service classrooms with audio-visual equipment. Other major activities focused on the Sokoine National Agricultural Library and included continued attention to increasing access to SUA research and academic staff and students to scientific journals from around the world through a discovery tool known as LibHub. LibHub, which was initially funded by USAID, aggregates digital journal articles from multiple sources into a single searchable database. Program support was also provided to engage graduate students as teaching associates for high-student-volume programs. Finally, support was provided to the Department of Crop Science and Production for a review of its academic, research and outreach programs.

Staff Professional Growth – Continued attention was given to providing professional growth opportunities for SUA academic and research staff. These activities included efforts to implement gender related policies and initiatives as well as junior staff mentoring, with a focus on women. Several short-courses were offered to SUA staff and graduate students by visiting staff from OSUC member institutions and by other African experts, including some from the SUA campus. The short courses included proposal writing, business plan development, weather data usage, use of statistics software (R and SPSS), gender mainstreaming in agriculture, qualitative methods of research, randomized control trials, and development of policy briefs. Most of these short courses were led by staff from OSUC institutions and staffed by the PMU in Morogoro. Numerous OSUC and RUFORUM advisors offered seminars to SUA staff and graduate students on topics germane to the field work of their students when visiting SUA. These seminars were organized by the PMU. Several staff from SUA and MAFC travelled to the OSUC institutions to observe how administrative and program topics of interest to them are being managed and administered in the U.S. These staff persons were invited to give seminars to OSUC staff on topics of related interest. Several co-advisors for Ph.D. students also visited OSUC institutions to interact with their students and co-advisor counterparts on topics germane to completion of student theses and dissertations. These visits were well received and are expected to lead to continued long-term interactions.

SUA Program Strengthening – Specific academic and research programs and facilities at SUA have been identified for strengthening over the course of the project. Many of these activities actually were initiated prior to the onset of the past fiscal year. During the past year, continued attention was given to strengthening a commercial horticulture facility, a soil analysis laboratory, a statistical

collaboration laboratory, and the English Language Program. They all represent potential alternative revenue streams for SUA. Other program strengthening activities focused on SUGECO, which continues to support the creation of small businesses by SUA graduates, development of the capacity of SUA to hold major international conferences – specifically a conference on climate change, and an agricultural policy unit in the Department of Agricultural Economics and Agribusiness.

Infrastructure Strengthening – The second floor was added to the iAGRI Project Management building on the SUA campus, thus enabling it to expand its project related services to SUA staff and students. In addition, continued investments were made in development of the SUA website including planning and preparation for a major effort to modernize its structure and content. Attention was also given to updating the iAGRI website.

Global South-South Linkages – Over the past year, iAGRI continued to strengthen linkages between SUA and Global South partners. These linkages were primarily developed through the students placed by RUFORUM at its member institutions and through students placed at Punjab Agricultural University in India. RUFORUM has placed students in Zambia, Malawi, Kenya and Uganda. Study tours of SUA officials to counterpart institutions in Uganda and Kenya over the past year have also led to strengthened institutional ties and these ties have benefitted SUA in numerous ways. These strengthened ties are represented by MOUs which have been signed with several of these institutions.

2. Performance Against Targets

Indicator Data / Disaggregation	Baseline Value	2015 Target	Achieved to date	Q1	Q2	Q3	Q4	LOP - Life Of Project	Units
A: FTF INDICATORS									
IR 1: Improved Agricultural Productivity / Sub IR 1.1: Enhanced human and institutional capacity development for increased sustainable agriculture sector productivity									
4.5.2-6: Number of individuals who have received USG supported long-term agricultural sector productivity or food security training	0	7	12				12	129	Number
Male	0	3	3				3		
Female	0	4	9				9		
4.5.2-7: Number of individuals who have received USG supported short-term agricultural sector productivity or food security training	0	100	319		49	41	229	450	Number
Type of individual									
Producers									
People in government									
People in private sector firms									
People in civil society	0	0	319		49	41	229		

Sex									
Male	0	50	179		29	25	125		
Female	0	50	140		20	16	104		
IR 1: Improved Agricultural Productivity / Sub IR 1.2: Enhanced Technology Development, Dissemination, Management and Innovation									
4.5.2-39: Number of technologies or management practices in one of the following phases of development:								40	Number
Phase I: under research as a result of USG assistance	0	49	37				37	23	Number
Phase II: under field testing as a result of USG assistance	0	10	4		2		2	17	Number
Phase III: made available for transfer as a result of USG assistance									
IR 3: Increased investment in agriculture and nutrition related activities/ Sub IR 3.1: Increased Participation of the Private Sector in the Delivery of Services									
4.5.2.-12: Number of public-private partnerships formed as a result of FTF assistance	0	2	5		1	3	1	8	Number
Agricultural production	0	1							Number
Agricultural post harvest transformation	0	1	1			1			Number
Nutrition									Number
Other			2			2			Number
Multi-focus			1		1				Number
B: iAGRI CUSTOM INDICATORS									
Indicator Data / Disaggregation	Baseline Value	2015 Target	Achieved to date	Q1	Q2	Q3	Q4	LOP - Life Of Project	Units
IR 1: Improved Agricultural Productivity / Sub IR 1.1: Enhanced human and institutional capacity development for increased sustainable agriculture sector productivity									
OSU 1.1.1 Number of students assessed for Graduate level English competency	0	1	0				0	85	Number
Male	0	0	0				0		Number
Female	0	1	0				0		Number
OSU 1.1.2 Number of students making use of improved ICT in classroom instruction	0	2,500	2,050		2,050			6,250	Number
Male	0	1,500	1,306		1,306				Number
Female	0	1,000	745		745				Number
OSU 1.1.3 Number of researchers trained on Randomized Control Trials (RCTs)	0	15	23				23	85	Number
Male	0	10	19				19		Number
Female	0	5	4				4		Number

OSU 1.1.4 Number of research projects conducted which specifically focus on gender	0	2	2				2	9	Number
IR 1: Improved Agricultural Productivity / Sub IR 1.2: Enhanced Technology Development, Dissemination, Management and Innovation									
OSU 1.2.1 Number of research projects that address issues of climate change	0	3	3			1	2	14	Number
IR 3: Increased investment in agriculture and nutrition related activities / Sub IR 3.2: Increased Capacity of Women to Participate in Agriculture and Nutrition									
OSU 3.2.1. Percent of non senior female academic and technical staff participating in mentorship program	0	5						1,250	%
OSU 3.2.2. Number of high school girls provided with career guidance and counselling program	0	1,000	2,200				2,200	4,150	Number
IR 3: Increased investment in agriculture and nutrition related activities / Sub IR 3.2: Increased Capacity of Women to Participate in Agriculture and Nutrition									
OSU 3.2.3. Percentage change in the female secondary school students with intention to applying for admission to agriculture and science degree programs at Sokoine university	0	5							% change
OSU 3.2.4. Number of actions supportive of gender mainstreaming at Sokoine University of Agriculture	0	4	8	3	2	2	1	20	Number
IR 3: Increased investment in agriculture and nutrition related activities / Sub IR 3.3: Enhanced Knowledge and External ideas through study tours									
OSU 3.3.1. Number of people participating in study tours as a result of FtF assistance	0	15	52		24	16	12	18	Number
Male	0	10	35		16	12	7		
Female	0	5	17		8	4	5		
Indicator Data / Disaggregation	Baseline Value	2015 Target	Achieved to date	Q1	Q2	Q3	Q4	LOP - Life Of Project	Units
IR 8: Improved Enabling Policy Environment for both Agriculture and Nutrition / Sub IR 8.1: Improved Capacity to Conduct Policy Research and Analysis									
OSU 8.1.1. Number of policy issues in agriculture, natural resources and environment, climate change and nutrition researched and analysed as a result of FtF assistance	0	4	3			1	2	31	Number
IR 8: Improved Enabling Policy Environment for both Agriculture and Nutrition / Sub IR 8.2: Public/Private Sector Dialogue on Policy Increased									

OSU 8.2.1. Number of USG-supported policy dialogue events held that are related to improving the enabling environment for agriculture and nutrition	0	2	2			1	1	15	Number
C: iAGRI NEW INDICATORS UNDER THE GENERAL CATEGORY OF CAPACITY DEVELOPMENT									
OSU: Number of pre-SOWs completed	0	20	21	7	7	6	1	40	Number
OSU: Number of beneficiaries made aware of opportunities in the innovation portfolio	0	75	364	113	12	73	166	150	Number
OSU: Number of unique visitors to the innovation portfolio website	0	15	42		12	14	16	30	Number
OSU: Number of unique visitors to the posted pre-SOW pages	0	7	133	85	4	24	20	15	Number
OSU: Number of individuals joining the innovation portfolio group on LinkedIn	0	5	72	48	20	2	2	10	Number
OSU: Number of private/public/NGOs that have applied new technologies/management practices	0	5	3	0	1	2		10	Number
Private			2			2			Number
Public									Number
NGOs			1		1				Number
OSU: Value of new private/public/NGOs investments in agricultural/food chain leveraged	0	30,000	500				500	80,000	US \$
OSU: Percent increase in R & D budget of companies investing in the innovation portfolio	0	5						5	Percent
OSU: Number of individuals who have received short term training under the innovation portfolio	0	25	57	10	8	6	33	50	Number
Male	0		47	9	6	5	27		Number
Female	0		10	1	2	1	6		Number
OSU: Number of individuals trained under the Leadership and Management Training Program (LMTP)	0	150	109	36	8	38	27	150	Number
University level	0								Number
Faculty/Institute/Center	0								Number
Departmental level	0								Number
Male	0		68	31	7	30	26		Number
Female	0		14	5	1	8	1		Number
OSU: Number of individuals trained under the Quality Management Training Program	0	50	86				86	50	Number
Male	0		57				57		Number
Female	0		29				29		Number
Indicator Data / Disaggregation	Baseline Value	2015 Target	Achieved to date	Q1	Q2	Q3	Q4	LOP - Life Of Project	Units
OSU: Number of students participating in the Leadership Webinar Series Program	0	30	50	13	37			89	Number

Male	0	15	24	8	16				Number
Female	0	15	26	5	21				Number
OSU: Number of organizational experiments FtF helps develop and carry out	0	12	21		21			20	Number
OSU: Number of conversations that matter (CTM) with SUA personnel	0	15						30	Number
OSU: Number of ways that work (WTW) resulting from CTM	0	10						20	Number
OSU: Number of formal system changes through informal system activity	0	5						10	Number
OSU: Number of previously unimplemented components of SUA policies that are now implemented as a result of FtF effort	0	2						5	Number
OSU: Number of new English language services provided at SUA under FtF program	0	7						10	Number
OSU: Number of SUA students and staff involved in the new and improved English language services program	0	200	0			0	0	1,200	Number
OSU: Number of visitors to the redesigned SUA website	0							1M	Number
OSU: Percentage of SUA website visitors with positive perception of the website	0	75						75	Percent
OSU: Number of full text downloads through SNAL	0	10,000	8,829	2,203	2,711	2,576	1,339	35,000	Number

3. Introduction

This Annual Report contains a description of activities undertaken under iAGRI auspices from October 1, 2014 to September 30, 2015 and progress which has been made regarding achievement of iAGRI objectives. In addition to summarizing activities conducted during this period, it contains a discussion of results, outputs and preliminary impacts. It has been formatted to be consistent with the USAID template used to monitor and evaluate its programs in higher education and food security. The focus is on major food security indicators found in the USAID/Tanzania Feed the Future program.

All four iAGRI objectives were addressed during the reporting period. By the end of the year, 136 students had been placed in graduate degree programs at OSUC and RUFORUM member institutions, at SUA, and at the Punjab Agricultural University in India as summarized in the pie chart found in the Executive Summary. Oversight for these activities was provided by the iAGRI Management Entity (ME) in the Office of International Programs in Agriculture at Ohio State University and the iAGRI Project Management Unit (PMU) in Morogoro. iAGRI support continued for eight Phase I Collaborative Research Projects involving partners from SUA, MAFC and OSUC institutions, and three Phase II Collaborative Research Projects were initiated. All of the research projects address priority Feed the Future themes identified at the project onset through a knowledge gap assessment. During this period, emphasis was given to iAGRI-funded activities designed to strengthen the capacity of SUA's academic

and research programs and the capacity of SUA leadership to manage organizational transformation in response to changes in the university's external and internal environments. Major changes include reduced governmental funding, increased higher education competition, shifting demographics, and communication technology developments. To adapt to these changes, SUA must transform itself.

To date, iAGRI has received funding support from USAID/Tanzania totalling \$21,250,000 out of a total award of \$25,515,000. OSU has reported expenditures of \$17,151,330 as of 9/30/15. Currently, our budget estimate for the coming Fiscal Year is \$8,175,135. Thus, iAGRI may require additional funding support to implement the entirety of the project through the end date of 2/28/17.

Description of Program

iAGRI is designed to strengthen the training and collaborative research capacities of SUA and the MAFC. This is consistent with the theme and road map of the USAID Feed the Future initiative, particularly as it has been made operational by USAID/Tanzania. It is also consistent with Government of Tanzania priorities as reflected in its Agricultural Sector Development Program and the Tanzania Comprehensive Africa Agricultural Development Program compact. The four major iAGRI objectives are to:

- Provide advanced degree training in agriculture to 135 Tanzanian post-graduate students, twenty of whom are to be trained at the Ph.D. level;
- Establish a program of agricultural research involving collaboration between and among SUA, MAFC and OSUC representatives;
- Strengthen the capacity of SUA to directly develop and implement agricultural instruction, internship, research and outreach programs and to manage associated changes effectively; and
- Promote cooperation between SUA, U.S. universities and Global South universities.

Implementation of iAGRI involves a partnership between and among Tanzanian institutions and a consortium of universities led by the Ohio State University (OSUC). OSUC consists of six major U.S. land-grant institutions of higher education - Ohio State University (OSU); Michigan State University (MSU); the University of Florida (UFL); Virginia Tech (VT); Tuskegee University (TU); and Iowa State University (ISU). Together, these U.S. universities have many years of experience working with human and institutional capacity development in Sub-Saharan Africa, including a history of collaboration with SUA and MAFC institutions in Tanzania. Over the past four years they have all made important contributions to iAGRI. In addition, other U.S. land-grant universities, the Regional Universities Consortium for Capacity Building in Agriculture (RUFORUM), and Global South institutions, such as Punjab Agricultural University (India), have provided training and technical assistance inputs upon request.

4. Activity Implementation Progress

During the past fiscal year, iAGRI has fulfilled commitments made with regard to long-term degree training, collaborative research and institutional capacity building. The project has provided additional focus to its institutional capacity building dimension, including building stronger private sector linkages,

alternative income generation opportunities, and administrative and managerial reforms at SUA. Similar to past Annual Reports, this report is organized around the Intermediate Results (IRs) associated with the USAID/Tanzania Monitoring and Evaluation Plan and the Project Management Plan prepared by iAGRI at its onset.

IR 1 – Improved Agricultural Productivity (Part 1 – Training)

Long Term Graduate Degree Training

Our report of long-term degree training is organized by cohorts of students selected for training in the U.S. at OSUC member institutions, at RUFORUM member institutions, at SUA, and at Punjab Agricultural University. The actual breakdown of Cohorts I - IV student placements is found in the table that follows.

Completed or Continuing Student Graduate Degree Placements

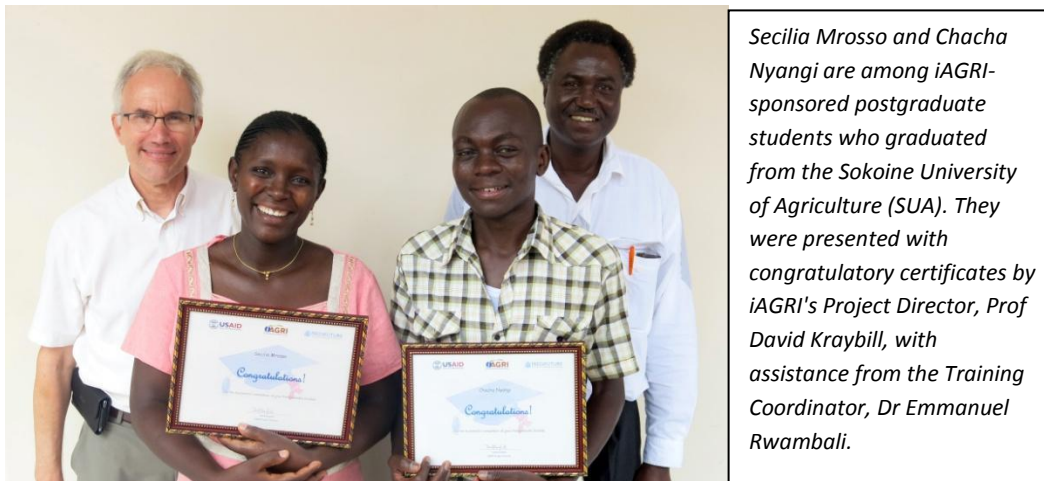
	<u>M.Sc.</u>		<u>Ph.D.</u>		<u>Total</u>	
	Placed	Completed	Placed	Completed	Placed	Completed
Cohort I						
OSUC	6	6	---	---	6	6
Cohort II						
OSUC	13	13	15	1	28	14
SUA	8	4	2	---	10	4
RUFORUM	8	6	---	---	8	6
Cohort III						
OSUC	10	6	---	---	10	6
SUA	4	---	---	---	4	---
RUFORUM	10	---	---	---	10	---
Punjab Ag Un	2	2	---	---	2	2
Cohort IV						
OSUC	23	---	---	---	23	---
SUA	8	---	2	---	10	---
RUFORUM	10	---	---	---	10	---
Punjab Ag Un	4	---	---	---	4	---
TOTAL	106	37	19	1	125	38

- Cohort II consisted of 53 students, 26 of whom were placed at OSUC member institutions. The 12 M.Sc. placements in the U.S. have all graduated and are back in Tanzania. Additionally, one Ph.D. placement graduated and returned to his position at SUA. The remaining 14 Ph.D. candidates at OSUC institutions completed their course work and initiated their dissertation

research.² Two Ph.D. students placed at SUA as part of Cohort II worked on preparation of their dissertations. Four of the 8 students placed at SUA as part of Cohort II graduated while the other four await external examiner reviews of their theses. Six of the 9 students placed at RUFORUM member institutions as part of Cohort II completed their programs during the past year. One dropped out of the program and the other three are awaiting final reviews of their theses. Three B.Sc. students placed at SUA continued their studies.

- Cohort III consisted of 26 M.Sc. placements. Six of the 10 students placed at OSUC member institutions completed their theses during the past year and are residing in Tanzania. The other four students continued their field research and worked on their theses. They are all programmed to graduate by the end of the 2015 fall term. The two students placed at Punjab Agricultural University as part of this cohort also graduated and returned to their places of employment in Tanzania. None of the students placed at SUA and at RUFORUM member institutions completed their programs. Three of them finished their research and submitted their theses to external examiners for review. The other 11 were in the process of completing drafts of their theses at the end of the fiscal year. Most students placed at RUFORUM and OSUC member institutions hosted their thesis research advisors during the year. These field visits greatly facilitated the completion of the students' research as well as the writing of their theses. Interaction between thesis advisors and co-supervisors was also very beneficial in this regard. We anticipate that all of these students will graduate by the end of the coming fiscal year.

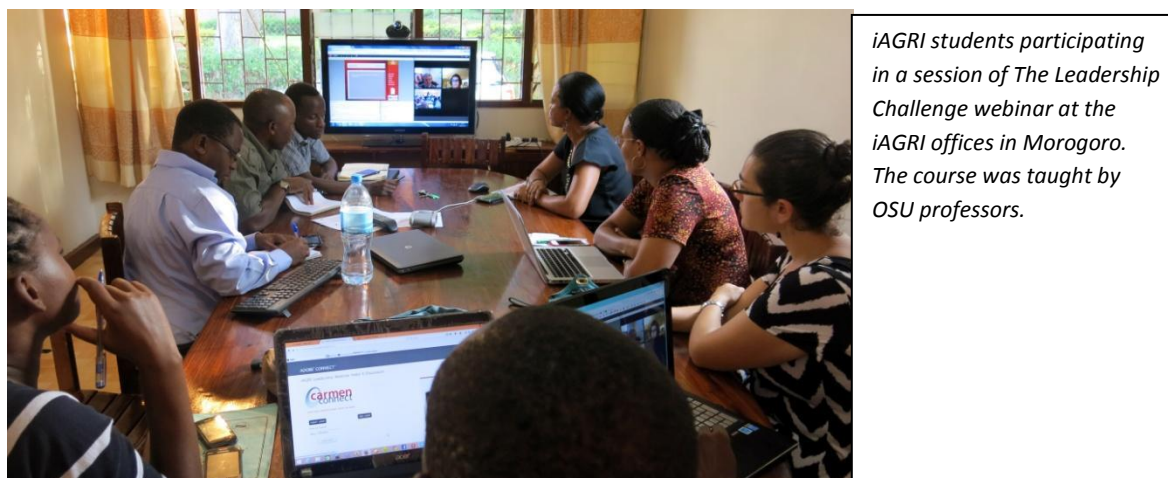
Picture 1: Long-Term Graduate Degree Training



² One student failed to pass her doctoral candidacy exam and was awarded a Master's degree. She is now back in Tanzania working for MAFC.

- Cohort IV consists of 47 M.Sc. and Ph.D. candidates. Twenty three of them were placed at OSUC member institutions in fall, 2014. An additional ten candidates were placed at SUA, two of whom initiated Ph.D. programs. An additional 10 students were placed at RUFORUM member institutions. The remaining students were placed at Punjab Agricultural University. The cohort was larger than initially anticipated due to the addition of 15 student placements through an amendment to the iAGRI Cooperative Agreement. All students in this cohort were busy taking classes related to their degree programs. Students placed at OSUC and RUFORUM institutions returned to Tanzania in summer, 2015 to initiate their field research. All students placed at OSUC member institutions prepared approved thesis proposals prior to returning to Tanzania and all of them have been assigned thesis co-supervisors in Tanzania. The provision of Tanzanian co-advisors for the students and the expectation that all students conduct their research in Tanzania on topics directly related to food security or related topics have increased the relevancy of the research conducted.
- Cohort V students were selected and placed in degree programs during the latter part of the past fiscal year. This cohort resulted from a decision by USAID/Tanzania in 2014 to augment the number of students to be trained under iAGRI by 15. The cohort consists of 12 students. Two Ph.D. candidates were placed at OSUC member institutions and one was placed at a RUFORUM member institution. The seven remaining students are M.Sc. candidates, five of whom were placed at SUA. With these students, we now have 51% female and 49% male.

Picture 2: Webinar Series



Leadership Webinar Series for iAGRI Students – Three leadership webinars were initiated during this reporting period. Thirty-three iAGRI-funded students attended a series based on Stephen Covey's *The Seven Habits of Highly Effective People*. Fourteen iAGRI-funded students completed a series built around the book *The Leadership Challenge* by James Kouzes and Barry Posner. *The Leadership Challenge* webinar was taught by OSU professors, while *The Seven Habits of Highly Effective People* was taught by PMU staff. Both series were attended by students from Cohorts II, III and IV. Additionally, two

Leadership Webinar series began during the month of September. They are based on the books of *The Seven Habits of Highly Effective People* and *The Leadership Challenge*. Twenty-eight recipients of iAGRI fellowships registered for the former, and 27 for the latter.

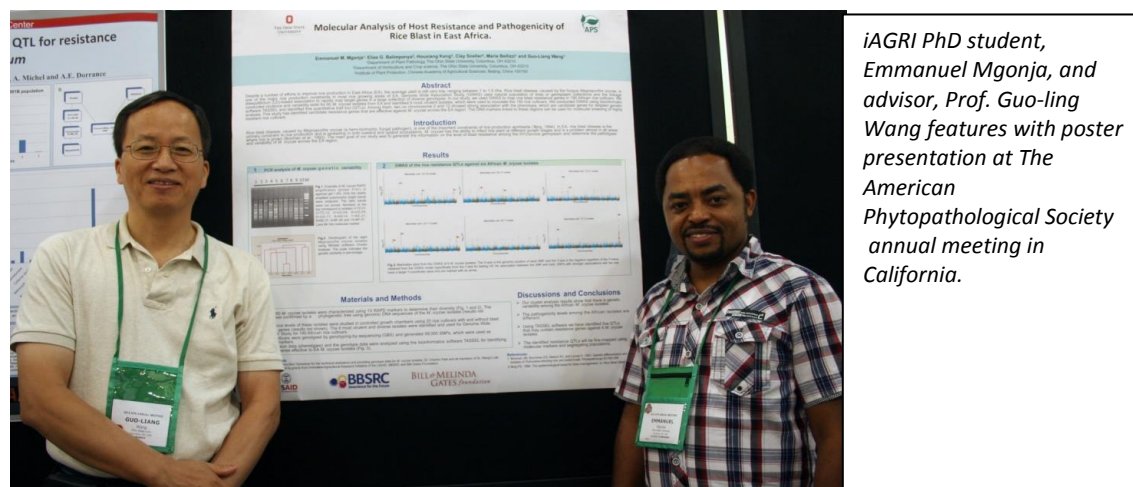
Advising of Long-Term Degree Candidates – An important aspect of the graduate degree training under iAGRI is the emphasis given to local relevance of graduate degree programs completed outside of Tanzania. A local Tanzanian supervisor is assigned to each student studying at OSUC and RUFORUM institutions to assist in this regard. Advisors for students placed at OSUC and RUFORUM institutions interact with Tanzanian supervisors and the students over the entire life of the degree program, beginning with the selection of an appropriate thesis/dissertation topic. Several of the Ph.D. student co-supervisors have actually visited with students placed at OSUC member institutions and their advisors as part of the program. Students and their advisors were given access to literature describing priority Feed the Future themes, which were based on the iAGRI Needs Assessment report mentioned above. They have also been encouraged to interact with other Feed the Future partners in Tanzania, including international agricultural research center representatives while identifying appropriate research topics.

Student Advisor Visits to Tanzania

Visitor	University	Dates	Student	Local Advisor
Ariena Van Bruggen	Florida	11/10-23/	Mpoki Shimwela	Fen Beed, IITA
Clay Sneller	Ohio State	1/29-2/17/15	Elias Balimponya	Ashura Luzi Kihupi, SUA
Conrad Heatwole	Virginia Tech	2/24-3/6/15	Winfred Mbungu	Henry Mahoo, SUA
Samuel Kyamanywa	Makerere	3/1-6/15	Happiness Nnko	Gratian Rwegasira, SUA
Jeffrey Jones	Florida	3/13-26/15	Mpoki Shimwela	Fen Beed, IITA
Egnin Marcelino	Tuskegee	3/19-4/3/15	Innocent Ritte	Paul Kusolwa, SUA
Mildred Ssemakula	Makerere	5/15-16/15	Allan Mariki	Kumar, IITA
Gilly Evans	Florida	6/6-12/15	William Warsanga	Elibariki Msuya, SUA
Guo-Liang Wang	Ohio State	6/8-13/15	Emmanuel Mgonja	Robert Mbagala, SUA
Conrad Bonsi	Tuskegee	6/10-18/15	Papias Binagwa	Susan Nchimbi-Msolla, SUA
Steve Sargent	Florida	6/13-20/15	Ramadhani Majubwa	Theodosy Msogoya, SUA
Jenipher Bisikwa-Isiko	Makerere	6/13-20/15	Erick Mvati	Juma Kayeke, SUA
Kathleen Alexander	Virginia Tech	6/25-07/5/15	Kuruthumu Mwamende	R.H. Makundi, SUA

Lee Burras	Iowa State	6/13-25/15	Johnson Mtama	Balthazar Msanya, SUA
Kokoasse Kpomblekou	Tuskegee	6/27-7/11/15	Mawazo Shitindi	Johnson Semoka, SUA
Ivan Muzira Mukisa	Makerere	6/29-7/2/15	Honi Buzo	Richard Mongi, SUA
Gireesh Rajaskekara	Ohio State	7/6-17/15	Isaac Kashoma	Rudovick Kazwala, SUA
Jeremiah Kang'ombe	LUANAR	8/11-16/15	Sebastian Mosha	Nazael Madalla, SUA
Won Song	Mich State	7/16-21/15	Saidah Bakar	C.N. Nyaruhucha, SUA
Gale Strasburg	Mich State	8/11-20/15	Juma Mmongoyo	Jovin Mgula, SUA
Dr Gracious Diiro	Makerere	9/3-6/15	Marco Sanka	Per Hilbert (IITA)

Picture 3: Student Ph.D. Program Progress



iAGRI PhD student, Emmanuel Mgonja, and advisor, Prof. Guo-ling Wang features with poster presentation at The American Phytopathological Society annual meeting in California.

Placements at Global South Institutions – Four students from Cohort IV were placed in graduate degree programs at the Punjab Agricultural University (PAU) in India. PAU is part of the state agricultural university system in India and is recognized as one of its premiere universities. Having made significant contributions to the Green Revolution in India, it is currently focused on addressing sustainability of the Indian agricultural and food systems. Two of these students are pursuing degrees in Food Technology. Another student is pursuing a M.Sc. degree in Human Nutrition; and a final student is pursuing a M.Sc. degree in Soils.

An important iAGRI objective is to build long-term collaboration between SUA and other Global South institutions. RUFORUM was subcontracted by iAGRI to place students from several cohorts, and has numerous member institutions in Eastern and Southern Africa. As for other Global South placements, these will help build productive and mutually beneficial ties between RUFORUM institutions and SUA.

Picture 4: iAGRI Students at PAU



IR 1.2 Phase I iAGRI Collaborative Research Program

iAGRI continued to fund, monitor, and provide feedback to eight Phase I collaborative research projects as part of its overall program. Each project includes the participation of at least one researcher from SUA, MAFC and an OSUC member institution. U.S. scientists have played an active role in all of these projects. Two projects are headed by U.S. based PIs and others involve graduate students from OSUC member institutions. Participation has included interactions via internet and video conferencing and visits to Tanzania. Several of the Tanzanian PIs have also visited with counterparts in the U.S.

iAGRI-supported Phase I research projects are listed below along with the names of the principal and co-principal investigators from OSUC member institutions. All of these projects were initially funded for a period of two years and designed to end in June, 2015. However, all requested and were granted extensions – seven through the end of calendar year 2015 and one through the end of calendar year 2016. Most of the projects completed their field and analytic activities during the past fiscal year.

Phase I iAGRI Collaborative Research Projects

Principal Investigator	Base	Project Title	OSUC Partners
AMURI, Nyambilila	SUA	Improving Agricultural Productivity and Crop Nutritive Quality through a Gender Sensitive Approach to Cereal and Vegetable Production in Tanzania	Rakowski, OSU
CHASE, Carlene	Florida	Improvement of Tomato Productivity and Quality in Tanzania through Reduction of Adverse Effects of Biotic and Abiotic Stresses	Chase, Florida Xin-Zhao, Florida

KASHENGE-KILLENGA, Sophia	MAFC	Integrated Salt Affected Soil Management Options for sustainable Rice Productivity in Tanzanian Irrigation Schemes	Boman, Florida Dick, OSU
KIMARO, Didas	SUA	Agricultural Innovation for Smallholder Farmers through Locally Adapted Conservation Agriculture for Improved Food Security in the Context of Climate Change	Lal, OSU
KINABO, Joyce	SUA	From Soil Elements to Food Nutrients: Improving Nutrient Content of Foods for Human Consumption via Agriculture	Dawkins, Tuskegee
MILLER, Sally	OSU	Improved Soil Health and Germplasm to Advance Tomato Production in Tanzania	McSpadden, OSU Francis, OSU Testen, OSU
TARIMO, Andrew	SUA	Promotion of Low-Cost Drip Irrigation Technology for Enhancing Agricultural Productivity and Livelihoods of Small-Scale Farmers in Semi-Arid Areas of Tanzania	Boman, Florida Dick, OSU
WAMBURA, Raphael	SUA	Using the Agricultural Innovation Systems (AIS) Approach to Improve Maize and Rice Production through Extension Service Delivery in Morogoro and Dodoma, Tanzania	Doamekpor, Tuskegee, Masinde, ISU

A major workshop involving the PIs for these eight collaborative research projects was held in Morogoro in January 2015. It was designed to assess the status of individual projects. PIs were asked to report on (a) research activities undertaken; (b) research activities to be undertaken over the following five months; (c) preliminary results from the research; and (d) anticipated research publications and other dissemination activities to be completed. The workshop was well attended and participants included members of the research teams as well as representatives of SUA and MAFC, including the Director of Research and Development from MAFC.

Most of the OSUC Co-PIs were also in attendance. They included:

- Brian Boman, University of Florida
- Carlene Chase, University of Florida
- Norma Dawkins, Tuskegee University
- Warren Dick, Ohio State University
- Dorothy Masinde, Iowa State University
- Sally Miller, Ohio State University
- Cathy Rakowski, Ohio State University

Picture 5: Collaborative Research Workshop



iAGRI Project Director, Prof. David Kraybill, provided an overview of iAGRI and a summary of capacity building activities at SUA at the Collaborative Research workshop held at the Hilux Hotel in Morogoro in June.

Prior to and following the workshop, OSUC PIs worked with their Tanzanian counterparts on project related activities, including the conduct of field research, planning collaboration for the following six months and discussion of prospective joint publications emerging from the research.

IR 1.2 Borlaug Program Research Awards

Several additional iAGRI-sponsored students located at OSUC member institutions were awarded USAID-funded Borlaug research awards. These awards of up to \$20,000 are intended to build student linkages with international agricultural research centers (IARC). iAGRI student recipients of Borlaug awards are building linkages with IARC facilities in East Africa, including Tanzania. Several students received these awards during the previous year and visited Tanzania during the past twelve months, using these funds to interact with CGIAR counterparts in East Africa. These interactions lead to thesis and dissertation research that is aligned with Feed the Future priorities and research programs supported by IARCs. They will also lead to long-term collaborations between SUA and MAFC once students graduate and return to their home institutions.³

IR 1.2 Graduate Student Summer Research Internships

Pat Bell, an advisee of Rattan Lal, OSU, participated in the 2013 summer research internship program funded from OSU sources. During the current reporting period, he returned to Tanzania as a Borlaug Fellow to continue his research on an iAGRI collaborative research project directed by Prof. Didas Kimaro. In addition, another student advised by Prof. Lal, Eric Stein, also initiated field research related to the same project during summer, 2015. He will continue his fieldwork in Tanzania focusing on the analysis of research data collected over the previous year. His internship in Tanzania is partially funded by the OSU Office of International Programs in Agriculture.

³ Refer to the annex of this report for names of scholarship recipients.

IR 1.2 Phase II Collaborative Research Programs

Three major research projects were funded under Phase II of the iAGRI Collaborative Research program during the past fiscal year. Discussions were also held with SERA about how to fund additional policy related research dealing with rice markets and land use, two topics of great interest to Tanzanian policy makers. Given that iAGRI is currently scheduled to end in February, 2017, a decision has been made to limit additional funding for these initiatives. Phase II research projects address key constraints encountered in the production and marketing of priority Feed the Future crops as well as problems encountered by Feed the Future partners in Tanzania in carrying out their project activities. They also reflect greater direct involvement of OSUC researchers in the definition and implementation of projects. The iAGRI Management Team identified priorities for this phase in order to ensure that funded activities help meet the goals of the USAID/Tanzania Mission Feed the Future program.

Maize Productivity Constraints – A major maize research project was funded to address major biotic and abiotic production constraints, including maize lethal necrosis disease, striga and moisture stress tolerance. It involves major collaboration between research scientists located at Iowa State University and the Mikocheni Agricultural Research Institute in Tanzania. The research at Iowa State has focused on development of maize germplasm tolerant to these stresses. Scientists at Iowa State are building on their participation in a Germplasm Enhancement Maize Project funded by USDA. Research at Mikocheni has focused on field testing of different maize varieties and development of management practices that increase tolerance levels. Activities in Africa have included collaboration with the International Center for Improvement of Maize and Wheat (CIMMYT) and its scientists located in Nairobi, Kenya as well as scientists working on the Water Efficient Maize for Africa (WEMA) project, managed by the African Agricultural Technology Foundation. Maize lethal necrosis disease has recently become a major limiting factor in maize production in much of East Africa.

Climate Change and Agricultural Risk Management - Climate change has increased the risk associated with crop production in Tanzania, particularly in regard to rain-fed agriculture and the production of cereal crops. This project focuses on how to reduce these risks through the provision of risk insurance based on weather indexing. Expanding upon their previous research in West Africa, agricultural economists at Ohio State University in collaboration with counterparts at SUA developed a proposal to investigate the feasibility of this type of insurance program in Tanzania. The research focuses on the use of index insurance and risk sharing by farmers as well as the sustainability of group lending activities. The project also examines the impact of index-insured group credit on technology adoption by small farmers. The research findings are intended to contribute to greater understanding of the conditions under which farmers will participate in insurance programs designed to reduce the negative effect of extreme weather events associated with climate change as well as the challenges faced by agricultural banks and other agricultural lenders wishing to use index insurance and group credit to expand services to marginal smallholders. The project was recently funded in September, 2015.

Land Use and Climate Change Impacts on Sustainable Agricultural Intensification – iAGRI recently funded a project dealing with land use and climate change impacts on agriculture as well as the availability and use of water in the Wami/Ruvu River Basin. This is a very important watershed because it supplies much of the fresh water being used by the Dar es Salaam greater metropolitan area. Principal institutions involved in the project are Virginia Tech, SUA and the Wami/Ruvu Basin Water Office of the Tanzanian Ministry of Water. The project builds on research currently being conducted by Winfred Mbungu, a Ph.D. candidate at Virginia Tech. Research objectives of this project are to (1) quantify and compare land use impacts on infiltration, runoff, and erosion for priority soil/land cover complexes; (2) evaluate the impacts of long-term climate change on hydrology and erosion in the basin under different land use scenarios; and (3) select, adapt and evaluate a watershed model that supports watershed management activities in the Wami/Ruvu Basin being addressed by the Ministry of Water Office. Expected outcomes are models developed to facilitate improved water and land management methods that can be used in other watersheds and to ensure a sustainable water source for farmers as well as downstream non-farm water users.

Food Demand in Tanzania – **Food Demand in Tanzania** – SERA in consultation with iAGRI developed a concept note on “Food Demand in Tanzania”. This was a follow on study of the “Rice Demand” study that was completed in the last fiscal year 2013-14 and which was funded as part of Collaborative Research Phase 2. The main objective of the food demand study is to estimate price, income and expenditure elasticities for different food groups in Tanzania using current household survey data and a theoretically consistent micro-econometric demand model. Most of the funding of this study would come from SERA. iAGRI anticipates picking up the project and funding it as SERA comes to a closure in mid 2016. The study will be implemented by Edith Lazaro who carried out the initial study on Rice Demand as part of her MSc thesis under The Ohio State University, and who is now employed by SERA.

Land Access Study – iAGRI has collaborated with SERA and Michigan State University in the design of a land access study. The design of the study is such that there will be four members from the Department of Agricultural Economics and Agribusiness at SUA who will be conducting the field surveys. Two members from Michigan State University will play a technical backstopping role given their experience on the same study in other African countries. The bulk of funding of this study will be provided by Michigan State University through another USAID-funded project.

IR 3 – Increased Investment in Agriculture and Nutrition Activities

IR 3.1 SUA Capacity Building – Individual Program Strengthening

iAGRI continued to assist SUA to implement an organizational transformation program, which has been sanctioned by SUA leadership. In the approach introduced at SUA by iAGRI, transformation is brought about through dynamic interaction of the formal and informal systems of the university. Problems are identified by faculty and staff and solutions to them are “blessed” and encouraged by university

administrators. The solutions are implemented on an experimental basis in the informal system without yet being part of the formal system. iAGRI has developed a series of 12 steps through which the innovations implemented in the informal system influence and alter the formal organizational structure and operation of the university.

The iAGRI organizational transformation model begins with “conversations that matter” about particular challenges faced by the university. “Conversations that matter” are meetings that result in a clear understanding of what needs to be done, who will do it, and when it will be done. Emerging from these conversations are organizational experiments, which are participatory learning processes that identify solutions (“ways that work”) that are tested in SUA’s informal system. From this process of learning in the informal system of the university, new or altered projects, programs, processes and procedures are adopted as part of SUA’s formal organizational structure as “changes that sustain.”⁴

From October 1, 2014 to September 30, 2015, iAGRI supported 23 organizational experiments (listed below). The changes brought about using iAGRI’s organizational transformation model -- solutions identified through experimentation and sustainably incorporated into SUA’s formal system -- will ensure SUA’s long-term viability as a premier African university in the 21st century.

Organizational Experiments Related to Institutional Capacity Building at SUA

1. Income Generation, Investment, and Asset Utilization
2. Classroom Services Unit and Projectors
3. Teaching Assistant Pilot Project
4. University Teaching and Learning Improvement Program
5. Mentoring/Gender Issues – Gender Policy Implementation Committee/Informal Gender Group
6. Strengthening Convocation (Alumni Association)
7. Revamping of SUA Website
8. Strengthening English Language Program
9. Digital Librarianship at SNAL
10. Strengthening Entrepreneurship Training
11. SUA Horticultural Demonstration Facility
12. International Scientific Conferences
13. Statistical Collaboration Laboratory
14. Induction Training for Deans, Directors and Heads of Departments
15. Quality Management in Procurement
16. Quality Management in Asset Management
17. Quality Management in Accounting
18. Quality Management in Human Resource Management
19. Quality Management in Auditing
20. Quality Management in Project Management

⁴ See the iAGRI Organizational Change Indicators in the annexes.

21. Monthly Leadership Forum
22. Commercial Soil Laboratory
23. Electronic Document Management System

These experiments are intended to change mindsets about the nature of leadership. They are “leadership laboratories” designed to bring about particular changes in areas of greatest need. The organizational experiments are designed to strengthen SUA’s capacity to manage university operations effectively and to promote organizational changes that are consistent with SUA’s strategic plan. Current experiments have resulted from interactions between the PMU staff and SUA staff.

Income Generation, Investment and Asset Utilization – With iAGRI's assistance, SUA brought experts from three East African universities to campus in June to review a SUA task force report on income generation. They met with University officials, observed SUA's income generating assets, and made recommendations about the way forward. University Council, at its June meeting, accepted the recommendations and instructed SUA management to move forward with an income generating plan that includes a Coordinator of Income Generating Units position and a university-owned private company. The Coordinator was appointed by SUA in September 2015. In August, iAGRI sponsored a study tour to Kenya by SUA’s Vice Chancellor, Chairman of the University Council, and other SUA officials to observe income generating projects at three Kenyan universities and to bring back income generating ideas relevant to SUA. This tour was a follow-up to a study tour by lower-level SUA officials to Kenyan universities in January 2015 to investigate resource mobilization strategies.

Quality Assurance and Promotion Bureau - In response to a SUA administration request, iAGRI has continued to strengthen the university’s Quality Assurance and Promotion Bureau (QAPB), a unit designed to improve standards and performance related to academic activities, physical facilities, services and student experiences. iAGRI currently supports QAPB to implement three organizational experiments:

- **Classroom Services Unit and Projector Installation** – The PMU continued to work with QAPB representatives to improve the learning environment in SUA classrooms. The one-year iAGRI-funded contract of the interim QAPB administrator ended on June 30, and SUA has agreed to hire a permanent full-time administrator to continue the activities of the Classroom Services Unit. SUA is in the process of advertising the position. As part of improving classroom facilities, iAGRI has agreed to install five additional LCD projectors in classrooms on SUA’s main campus and 10 additional projectors on the Solomon Mahlangu Campus. iAGRI agreed to fund these projectors on the condition that SUA first repairs the classrooms and enhances security. The QAPB has finalized plans to repair the classrooms in which projectors are to be installed and it has submitted a budget for this purpose to SUA administration.
- **Teaching Assistant Pilot Project** – This project is designed to reduce the teaching workload of the SUA academic staff and to prepare graduate students to be teachers. Over the reporting period, iAGRI provided financial support for TAs and refurbished their offices. The Department

of Animal Science and Production, the Department of Veterinary Microbiology, and the Institute of Development Studies participated in this program. Nine graduate student applications were approved and these students were hired as Teaching Assistants through a program administered by the QAPB.

- **University Teaching and Learning Improvement Program** – This activity is designed to improve the quality of teaching at SUA through the provision of short courses on alternative teaching/learning methodologies and practices. The courses focus on how to improve teaching effectiveness and how to increase student learning. Training activities are designed to address critical areas identified through a needs survey of teaching staff. During the past year, this program emphasized how to incorporate the internet into classroom teaching and the use of other new teaching technologies. Two UTLIP trainings were also conducted during this reporting period. The QAPB conducted a consumer satisfaction survey and revised a proposal that will be submitted to iAGRI for future funding.

Mentoring Program – A mentoring evaluation report was prepared during the past year. This report highlights key aspects to be incorporated into a revised SUA mentoring model. Plans were made to test this revised model with a second round of mentoring over the coming year.

Strengthening Convocation – The Convocation is SUA's alumni association. Eligible members include everyone who has ever studied at SUA. A Convocation Liaison Officer was hired during this reporting time. The SUA Executive Convocation Committee (ECC) completed the alumni database and initiated formal communication with alumni inside and outside Tanzania. Additionally, during this period, the ECC produced a final draft of its strategic plan, which was approved at the Convocation Annual General Meeting in November 2014. Plans were made by Convocation to print and distribute copies of the document during the coming period.

Revamping of SUA Website – Over the past year, PMU staff worked extensively with SUA Computer Center staff members who are responsible for maintaining and upgrading the website. Several strategies were used to identify individuals or local businesses that would be able to not only build a new site for SUA, but also to build the capacity of Computer Center staff to manage and maintain the new site once completed. Unfortunately, SUA and iAGRI were unable to identify outside service providers that met the specific and highly technical requirements for the activity. Consequently, iAGRI has requested that SUA hire additional skilled and experienced full-time staff to create and maintain a robust web presence. iAGRI and the Computer Centre are nearing agreement on the hiring of a webmaster and an online communications specialist, with iAGRI providing funding for the new positions for one year and SUA providing the funding thereafter.

Picture 6: English Language Training



English Language Program – The English Language Program (ELP) addresses challenges in the English Language and Communications Skills program at SUA. It strengthens the foundation of English language teaching and learning at SUA and employs innovative strategies to make SUA a more supportive learning environment for English language. A comprehensive package of activities, based on the findings of a study tour held in 2014, was designed and approved during the reporting period. Achievements in the implementation of these activities have included (a) revising SUA's English language curriculum and teaching materials, (b) providing a week-long short course with online follow-up on language teaching that was led by staff from Virginia Tech's Language and Culture Institute, (c) applying for and receiving support from the US Department of State's English Language Specialist and English Language Fellows programs, (d) securing space and initiating renovation of an English Language Resource Centre, (e) conducting a market study of demand for English language training which SUA will use to revise its business plan, and (f) documenting learning outcomes resulting from iAGRI-funded activities.

Digital Librarianship at SNAL – iAGRI is supporting Sokoine National Agricultural Library (SNAL) efforts to improve digital library services, including increasing the availability of electronic resources, implementing a resource management system, and promoting the use of new tools such as LibHub. During FY2014-15, iAGRI contracted with a company, SemperTool, to enhance SNAL's knowledge and utilization of its resource management system. In conjunction with the training, iAGRI sponsored the development of an online Guide to Digital Librarianship (GDL), which serves as an ongoing knowledge base and networking hub for librarians. The GDL is available at <http://gdl.sempertool.dk/>. In addition, iAGRI approved a phase II digital librarianship proposal from SNAL. Activities implemented under this proposal have included (a) printing and displaying marketing materials to promote LibHub at key locations in the library, (b) user training on the ABCD database for digital library management, (c) planning and initiating a library champions program that will enhance staff utilization of LibHub, and (d) performing a technical evaluation of power backup needs.

Strengthening Entrepreneurship Training – This activity is a partnership between iAGRI and the Sokoine University Graduate Entrepreneurs Cooperative (SUGECO). The mission of SUGECO is to prepare, enable, and support knowledge-intensive, innovative entrepreneurs as they build successful businesses along agricultural and agribusiness value chains throughout Tanzania. Through its support of SUGECO, iAGRI is helping SUA graduates create self-employment and helping to increase connections between SUA and the private sector. Major activities undertaken during the past year were (a) preparation of organizational manuals, (b) discussion of potential partnerships with Geita Gold Mine and COSTECH, (c) negotiation with Africa Lead for additional capacity building support (d) provision of business skill training to over 50 individuals; (e) procurement and supervision of CRDB Bank loans for SUGECO-supported individuals; and (f) the creation and convenement of a SUGECO board of directors.

Horticultural Demonstration Facility – iAGRI continued to support the development of the commercial horticultural facility administered by the SUA Department of Crop Science and Production. This project is a collaborative effort involving TAPP, TAHA, SUA and iAGRI. TAPP ended as a USAID project in August, but the HDF facility continues to be supported by TAHA, SUA and iAGRI. A campus store for the sale of produce from the facility was renovated and a shopkeeper was hired. Four students from Tumbi Agricultural College in Kibaha undertook a three-week field practical training at the facility. Also farmers from Zanzibar, Dar es Salaam, Morogoro and the Coast region participated in a one-day practical training at the facility. This event was organized by SUA and TAHA. The HDF also conducted a Farmer's Field Day in July, an event that was attended by about 300 farmers, extension officers, SUA students and agricultural input suppliers from Morogoro and the surrounding area.

Picture 7: Climate Change Conference



Participants follow deliberations at the "Climate Change and Multi-Dimensional Sustainability in African Agriculture" conference organized by SUA and OSU, and held at the Hilux hotel in Morogoro in June.

International Scientific Conferences – iAGRI sponsored a three-day international conference on Climate Change and Multidimensional Sustainability in African Agriculture in Morogoro in early June. The conference was co-organized by SUA and The Ohio State University, and brought together over 100 scientists and agribusiness experts from around the world. It was funded primarily by USAID, with

additional support from FAO, NORAD, The Ohio State University and the Norwegian University of Life Sciences. Springer will publish a book containing key presentations made at the conference in 2016. Also during the past fiscal year, iAGRI distributed copies of a book containing papers at the international conference it cosponsored at SUA in 2013. The theme of that conference was Sustainable Intensification to Advance Food Security and Enhance Climate Resilience in Africa.

Statistical Collaboration Laboratory – iAGRI continues to support development of the Sokoine University of Agriculture Laboratory for Interdisciplinary Statistical Analysis (SUALISA) for staff and student researchers and external researchers. OSUC-originated technical support and related training were provided by Virginia Tech. iAGRI-funded student, Emmanuel Msemu, completed his Master’s training at Virginia Tech and returned to SUA and works in the laboratory. Dr. Benedicto Kazuzuru, a SUA faculty member, completed a six-month residential program at a statistical collaboration laboratory at Virginia Tech and returned to SUA to lead this effort. In the meantime, Adam Edwards, a PhD student in statistics at Virginia Tech, initiated a six-month program at SUALISA to train and mentor staff at the laboratory. Dr. Eric Vance of Virginia Tech visited SUA to assist in the continued operation and further development of SUALISA. His interactions with SUALISA staff focused on the sustainability of the program. While at SUA he accompanied SUALISA staff on visits to key agencies, including the National Bureau of Statistics in Dar es Salaam to discuss SUALISA’s outside statistical consulting services.

Induction Training for New Deans, Directors and Department Heads – Typically, SUA staff do not receive orientation or training on their new responsibilities prior to becoming Department Heads. During the past fiscal year, iAGRI held two orientation sessions for SUA staff that assumed new mid-level leadership positions. They were fully supported by SUA Top Management including the VC and the two DVCs. These activities occurred in late 2014, and in early 2015.

Quality Management – iAGRI and the university administration are undertaking six organizational experiments dealing with applying quality management principles to various areas of administration at SUA. Each experiment aims to improve business services delivery at the university and is based on the understanding that SUA cannot excel in its core mandate of teaching, research, and outreach if support services are not delivered efficiently and effectively. During the reporting period, iAGRI engaged consultants to deliver tailored training and engage SUA stakeholders in identifying and implementing system changes that will improve service quality in the following areas:

- Quality Management in Procurement
- Quality Management in Asset Management
- Quality Management in Accounting
- Quality Management in Auditing
- Quality Management in Human Resource Management
- Quality Management in Project Management

Consultants were provided by Kilimanjaro International Corporation (KIC). A program manager was contracted and assigned to SUA through the end of July to implement the program. The inaugural training sessions were held in April. Approximately 82% of the eligible SUA administrative staff members were engaged in the training. A parallel event took place in May, and it focused on the Public Procurement Act of 2011 and related regulatory provisions enacted in 2013. The Vice Chancellor, Deputy Vice Chancellor–Academic, and Deputy Vice Chancellor–Administration and Finance, administrative department heads, and many administrative staff persons participated in the training program. The first phase of training ended July 31, 2015 having achieved more than 80% of the training goals identified at its onset.

Monthly Leadership Forum – This forum is designed to build the capacity of middle-level managers at SUA, including Deans, Directors and Heads of Departments. It is focused on assisting them to manage their responsibilities as leaders of their respective units. However, more importantly, this forum is designed to help them provide leadership to the transformation process that is being undertaken at SUA under the restructuring plan approved by the SUA University Council in 2014. The first monthly forum was held in March 2015 and other sessions were held in during subsequent months. The forums emerged out of the Induction Training for Deans, Directors and Heads of Departments, which was held in 2014.

Commercial Soil Laboratory – Tanzania currently has no soils laboratory that provides both soil analyses and related fertilizer recommendations. iAGRI partnered with the Soil Science Department at SUA to identify the equipment, physical infrastructure, and management structure needed to establish a commercial soils lab during the past year. The commercial lab will provide high-demand services to the agricultural sector and it will generate income for the department and university. iAGRI worked with the department to finalize the plans and related budget.

Electronic Document Management System – During the reporting period, SUA’s Computer Centre submitted a proposal to iAGRI to develop and implement an electronic document management system. iAGRI agreed in principle to fund the proposal and worked with SUA staff to refine the initial draft. The plan is expected to be finalized soon after the start of the next fiscal year. It will include the creation of a document management system, including a project management scheme and related additional training needs.

Additional Investments in Institutional Capacity Building and Program Strengthening at SUA

Innovation Portfolio – The Innovation Portfolio (IP) was launched in March 2014 to address information challenges on both the demand side and the supply side of the market for hard and soft technologies. On the former, potential clients are unaware of the services or benefits of innovation services that exist at SUA, while on the supply side, SUA service providers are unaware of the opportunities or appropriate innovations in the market place. During the past fiscal year, the IP focused on creating demand for innovation services. It entered into partnerships with two private sector companies and two

international non-governmental organizations. Two drip irrigation innovations, controller and emitter based systems, were taken to the market by iAGRI's IP. First, the drip irrigation systems were tested in the farmers' fields prior to being fully commercialized. Then, a local manufacturer was identified and is working with the iAGRI innovators to further improve the systems and reduce production costs. Through the process of working with the investors, we have learned that many of SUA's research findings are not market ready and that investors require an opportunity to tweak or adjust innovations before they are willing to buy them.

Picture 8: Innovation Portfolio



iAGRI signed a contract with the Mennonite Economic Development Associates (MEDA) for Sokoine University of Agriculture (SUA) to design alternative water resources, aimed at providing year-round water for irrigation of cassava "seeds" (vegetative planting materials).

Gender Issues – Several interventions designed to increase gender mainstreaming at SUA were implemented over the past year. They include discussions with administrative staff about gender gaps and discrimination practices affecting female and male administrative staff in the workplace. These discussions raised the levels of gender awareness among the staff. An open seminar on the role of men in gender equality was conducted in order to increase understanding of the role and positioning of men regarding gender equality issues. A total of 29 secondary schools in Mbeya, Rukwa, Coastal and Dar es Salaam were visited by SUA faculty and staff, and a total of 14,270 girls and 15,555 boys were reached through the visits. A Morogoro municipal school delegation consisting of 80 girls was hosted at SUA. These visits were designed to sensitize both girls and boys to take up science subjects while in secondary school and in further studies, to create awareness about SUA degree programs, and to provide them with career guidance. Promotional DVDs about SUA and science subjects were distributed to the schools visited. A study on sexual harassment was undertaken to collect information on this topic. The information will be used by the Gender Policy Implementation Committee and other relevant units to develop evidence-based solutions to address sexual harassment including the formulation of a comprehensive institutional anti-sexual harassment policy. Results of the study were used to identify short term and long term strategies to address on campus sexual harassment behavior. Requests for nominations of individuals to reconstitute the Gender Policy Implementation Committee were sent to

various units on campus by the new committee chair – the Deputy Vice Chancellor for Administration and Finance.

Departmental External Program Reviews at SUA - At the request of SUA's Crop Science Department Head, Dr. John Cardina and Dr. Matt Kleinhenz, OSU plant scientists, spent a week on the SUA campus meeting with members of the department and its stakeholders. These meetings served as a key input to a strategic visioning activity designed to lead to recommendations for changes in departmental curriculum, research and outreach activities. The meetings were a first step in designing a departmental restructuring plan that more effectively responds to the needs of students and stakeholders in the public and private sectors of Tanzania. Their report contained recommendations for improvements and suggestions about how to implement them. Leadership, database technology, academic programs, income generation, and vision implementation were major topics addressed in their report.

SUA Faculty Visits to the U.S. - Several SUA staff travelled to OSUC partner institutions for short-term training during the past year. Their interactions with counterparts centered on the specific areas of interest of the visitors. It is anticipated that these visits will lead to additional iAGRI-funded programming at SUA, designed to strengthen teaching, research and administrative capacity.

- **Abel Kaaya** – Prof. Abel Kaaya visited the Ohio State University in Spring, 2015, primarily to work with Ph.D. student, Boniface Massawe, for whom he served as co-supervisor. While in the U.S. he worked with him and his advisor, Prof. Brian Slater, on refining his dissertation. He also presented a seminar about soil research in Tanzania and interacted with other faculty members in the soil science group. Among those with whom he interacted were Prof. Warren Dick, who oversees the Star Soil Lab located at the Ohio Agricultural Research and Development Center in Wooster, Ohio. Drs. Kaaya and Dick explored how they can work together to improve the soil laboratory on the SUA campus.
- **Jovin Mugula** – Dr. Jovin Mugula visited three OSUC member institutions in spring, 2015. His primary objective was to work with student, Juma Mmongoyo, and his co-supervisor, Dr. Gale Strasburg, on dissertation research. While at Michigan State, he met with other staff in Food Science and Nutrition and planned a visit by Dr. Strasburg to SUA, which occurred in August. Dr. Mugula also visited the Ohio State University campus where he met with Ph.D. student, Rita Mirondo, her advisor, Dr. Sheryl Barringer, and with M.Sc. student, Joan Msuya, and her adviser, Dr. Sanja Ilic. He also toured the Ohio Food Industry Center, the OSU extension arm to agribusinesses in Ohio. He ended his tour at Florida where he met with iAGRI M.Sc. student, Gloria Kuhumba, for whom he is also serving as a co-supervisor, and her advisor, Dr. Amy Simonne.

Dr. Didas Kimaro – Dr. Didas Kimaro visited The Ohio State University during summer, 2015. While on campus, he discussed his iAGRI-funded collaborative research project with Prof. Rattan Lal, Co-PI for the project. He also worked with him and other collaborators on publications to emanate from the research and presented a seminar on the project. He visited the Coshocton

watershed research station and the Star Soil Lab in Wooster. These activities provided him with an opportunity to interact with other soil scientists on the OSU campus. He also attended a Global Workshop on Digital Soil Morphometrics at the University of Wisconsin prior to returning to Tanzania.

Picture 9: Short Term Training



IR 3.1 SUA Capacity Building – Short-Term Training

Short Courses Offered – Several faculty members from OSUC member institutions and professionals from other Tanzanian institutions offered 12 short courses to SUA staff and graduate students during the past fiscal year as described in the table below. They were widely advertised and well attended. Attendees were requested to provide feedback on the content and operation of the courses.

Short Courses Offered during the Past Fiscal Year

<u>Short Course Title</u>	<u>Dates</u>	<u>Facilitators</u>	<u># Participants</u>
Scientific Data Management	3/30-4/01	Susan Balabi Vincent Oeba	21
Preparation of Policy Briefs	5/13-15	David Nyange Anne Nyamu	20
Data Analysis – Use of SPSS	7/13-17	Zena Mpenda Kenneth Kitundu	25
Research/Project Proposal Writing	7/27-31	John Tenywa Paul Nampala	25
Data Analysis - Statistics with R	8/10-14	Emmanuel Msemo Adam Edwards	25

Qualitative Research Methods	8/17-21	Adelia Bovell Benjamin	20
Weather Data Management	8/17-18	Dave Lundberg	12
Cohort IV Orientation	9/16	Siza Tumbo	40
Technology Field Testing	9/17-18	Emmanuel Rwambali	40
		Lucy Chove	
Agri-business Plan Development	9/22-23	Luseko Chilangane	25
		David Hahn	
Broiler Production Training	9/28-30	Jeremiah Makindara	21
		Shahn Bisschop	
Randomized Control Trials	9/28-10/1	Tony Willis	23
		Abdoul Sam	
		Richard Gallenstein	

Much of the training was provided by instructors from SUA and from other Tanzanian and East African institutions to resource the short courses. Some of the instructors were SUA staff who took the same short course the previous year. In this sense, capacity building during the previous year resulted in the training of trainers who subsequently passed on their expertise to others. Other instructors included staff from universities in East Africa and from Tanzanian institutions such as MAFC. iAGRI Cohort 2 Student, Emmanuel Msemo, facilitated the week-long course on “Statistics with an R”. SUA staff and graduate students represented the majority taking the course. They are all actively involved in research. Most of the short courses offered were focused on increasing research capacity, relating specifically to data collection, data analysis and/or the preparation of research proposals and the presentation of results in the form of scientific publications and policy briefs.

IR 8 – Enabling Policy Environment for Agriculture and Nutrition

IR 8.1 Agricultural Policy Capacity Development at SUA

iAGRI continued to work with the SUA Department of Agricultural Economics and Agribusiness to develop its capacity to undertake agricultural policy analyses. This dialogue directly involved SERA as a potential partner. Discussions have occurred regarding the creation of an Agricultural Policy Unit in the Department.

IR 8.2 Agricultural Policy Briefs

During the past year, the PMU worked with a consultant to develop policy briefs originating from iAGRI-funded research on the National Agricultural Input Subsidy program, early child nutrition, and cashew marketing. And, as previously noted in this report, a short course was offered on how to communicate research findings to policy makers by David Nyange, MSU, and Anne Nyamu, Regional Strategic Analysis

and Knowledge Support System (ReSAKSS). Course participants worked in groups to create and present a policy brief based on their own research after learning the basics of effective policy-brief writing.

Project Administration

Project administrative activities support the achievement of iAGRI objectives as reflected by the intermediate results found in this report. They are discussed below.

- i. **Update Data for M&E Plan** – The Project Management Unit (PMU) continued to update data for the M&E Plan. It worked closely with the USAID/Tanzania Mission in the conduct of this activity. It collected data on appropriate Tanzania Feed the Future indicators for the project, but also on other custom indicators. Recently it began collecting data of specific indicators related to institutional capacity building experiments and related activities on the SUA campus. Data on intermediate results achieved during the past year are found in this report.
- ii. **Collaboration with FtF Partners in Tanzania** – Over the past year, iAGRI collaborated with SERA on agricultural policy matters. This included the preparation of a proposal to continue research on rice markets in Tanzania, other policy efforts, and development of a study on land access. The latter will include direct involvement of researchers from Michigan State and from SUA's Department of Agricultural Economics and Agribusiness in support of the Agricultural Policy Seminar Series described previously.

A second collaboration involves placement of several iAGRI degree trainees with partner institutions. Research collaboration with partners also continued, based on joint identification of research topics germane to these partners and iAGRI. Several iAGRI students conducted thesis and doctoral research with researchers from Africa Rising, IITA, and AVRDC. This activity was strengthened by the receipt of Borlaug fellowships by several iAGRI-funded scholars pursuing degrees at OSUC member institutions. A third collaboration was initiated between iAGRI, TAHA and TAPP. It provides training for horticultural producers at the Horticultural Demonstration Facility and is viewed as an important effort to strengthen public-private linkages between the university and the horticulture industry.

- iii. **Project Updates for Tanzanian and U.S. Feed the Future Partners** – In an effort to keep stakeholders in Tanzania and the U.S. informed about the activities being undertaken under iAGRI, the PMU and ME continued to prepare occasional program updates.⁵ In addition, the organization's website, www.iagri.org, has been redesigned to provide stakeholders with more specific project information and regular updates.
- iv. **Feed the Future Partners Meeting in Tanzania** – The PMU Project Director and Deputy Director continue to interact on a regular basis with Feed the Future partners in Tanzania. These meetings represent opportunities to check signals with counterparts of these partner programs,

⁵ See annex of this report for copies of these updates.

including the identification of opportunities for future collaboration. The focus of iAGRI on degree training and agricultural research complements the focus of these other programs, thereby giving iAGRI opportunities to provide unique inputs to other projects.

- v. **Dissemination of iAGRI Accomplishments through Local Media** – The PMU staff provided information about iAGRI activities to the local media in Tanzania. This activity is designed to increase awareness of the impact of SUA through iAGRI on food security as well as related investments being made by USAID/Tanzania. It also informs the public about potential opportunities for them to access resources that can support agricultural activities in their communities.

Picture 10: iAGRI Participation at Nane Nane Farmer's Day Exposition in Morogoro



SUA TV crew recording a special program on iAGRI's participation at the Farmers' Day exhibitions in Morogoro, popularly known as Nane Nane. iAGRI's booths at the fair were manned by iAGRI students, who featured results of their student research work. In addition, two iAGRI collaborative research projects and the Innovation Portfolio were represented.

- vi. **Nane-Nane Exhibits** – Several SUA staff and students receiving support from iAGRI presented the results of their research at the annual Nane-Nane exhibition in Morogoro. These presentations ranged from alternative agricultural practices to new foods produced from local crops, to the nutrient content of foods. iAGRI had two exhibits at the fair, one at the SUA site and one at the Feed the Future site. They were well attended and judged to be an effective outreach activity by SUA and iAGRI.
- vii. **Meeting of OSU Consortium Institution Representatives** – The fourth annual meeting of OSU consortium member representatives was held at OSU in April. Participants included staff from the iAGRI ME and the PMU. Members of the PMU participated in this meeting via electronic communication. Discussion focused on activities in which consortium staff are directly involved, namely, training and research. The meeting was also an opportunity for those present to be updated on the latest developments in the field, including efforts directed towards capacity building at SUA.
- viii. **Weekly Joint Video Meetings of PMU and ME Staff** – In order to facilitate coordination of project activities, the PMU and ME staff held weekly video conference meetings to discuss

project planning and implementation. These meetings have improved project management efficiency.

- ix. **BIFAD Visit to Tanzania** – A BIFAD team headed by Dr. Brady Deaton, Chairman of the Board for International Food and Agriculture Development, and also consisting of Susan Owens, USAID/Bureau for Food Security, and Montague Demment, Association of Public and Land-Grant Universities (APLU), visited the Project Management Unit in Morogoro to review the iAGRI Program. They prepared a report entitled, *Report on BIFAD Visit to Sokoine University of Agriculture (SUA) and Innovative Agricultural Research Initiative (iAGRI)*, which was distributed by BIFAD on September 16, 2015. This report reviewed the several dimensions of iAGRI and recommended additional activities that might be undertaken by the program. The report is to be discussed at the next BIFAD Meeting which will be held at Purdue University on October 21. Overall, the report was very favourable regarding the innovations taking place in regard to degree training, research and institutional capacity building at SUA.

5. Activities Implemented in Zanzibar

Ph.D. Degree Training – Omari Haji Ali, a Cohort II PhD student from Zanzibar, continued to attend classes at SUA. He has now completed his research proposal, which has been approved by SUA.

M.Sc. Student Degree Training – Hilali Saleh Hilali, a Zanzibar Student from Cohort III, completed his program at the Punjab Agricultural University and returned to Zanzibar. Hilali has worked closely with rice breeders on his thesis research. The Punjab Agricultural University has substantial research capacity in rice production, which is a major component of the rice-wheat system prevalent in the Indo-Gangetic plains region of India. Plans are to continue collaboration.

B.Sc. Degree Training of Students from Zanzibar – iAGRI converted two M.Sc. degree training slots into 10 undergraduate degree slots at SUA and reserved them for students from Zanzibar in 2012. This decision was prompted by the fact that iAGRI was unable to find students from Zanzibar with adequate qualifications to pursue graduate degrees. Three of the ten students continued their studies at SUA during the past three months.⁶

Climate Change Conference Presentation by Zanzibar Researcher – iAGRI sponsored Mohamed Rashid from Zanzibar's Kizimbani Agricultural Training Institute (KATI) to attend the Climate Change Conference that took place in Morogoro in the first week of June. Mr. Rashid made a presentation titled, *Pro-poor chains linking smallholder farmers and the Zanzibar tourism industry*. His presentation highlighted the importance of agriculture in Zanzibar. It is the second largest employer and an important driver of growth that accounts for approximately 30% of its GDP. He also addressed challenges facing smallholder farmers, which include the extended length and complexity of existing value-chains, and the

⁶ The other seven students initially placed at SUA had to terminate their studies due to inadequate performance.

weak enforcement of market rules that reflect unfair and inequitable market principles. Mr. Rashid's participation and presentation at the conference were significant, since sharing research about Zanzibar with a prestigious international audience provided him with the opportunity to network, raise the profile of his institution, and create new collaborations.

Tripartite SUA/U.S./Global South Cooperation

Strengthening of SUA's linkages with other Global South institutions is another major iAGRI objective. These activities are designed ultimately to improve agricultural productivity in Tanzania by gaining access to appropriate agricultural technologies, research practices, and related policies in other partner institutions of the Global South. Long-term collaborative linkages will facilitate these technology transfer processes.

- i. **RUFORUM Placement of Trainees** – OSU and the PMU continue to work directly with RUFORUM to facilitate the placement of iAGRI students at RUFORUM member institutions. This activity is the responsibility of the iAGRI Training Committee. RUFORUM has placed several additional students as part of Cohort V. RUFORUM places students for study at universities and takes responsibility for monitoring their progress. The latter includes attention to the completion and presentation of graduate student research. Thus far, RUFORUM has placed students at Stellenbosch University; Lilongwe University of Agriculture and Natural Resources, Malawi; University of Nairobi; Egerton University; Kenyatta University; Jomo Kenyatta University of Agriculture and Technology; University of Zambia; and Makerere University. Through these linkages, SUA has access to technologies and cutting edge policy, production and organizational research that are relevant to Tanzanian conditions. These student linkages also help develop additional networking for SUA research and academic staff.
- ii. **Non-African Global South Institution Student Placements** – Students undertaking their M.Sc. studies at Punjab Agricultural University continue to make progress. The two students who were placed as members of Cohort III have completed their programs in July and have already returned to Tanzania. The other four students are continuing with their programs at PAU.

Students, who were in place at PAU over the past two years include:

- Hilali Saleh Hilali, Plant Breeding (Graduated)
- Emmanuel Lulandala, Agribusiness (Graduated)
- Amina Ahmed, Food Technology (Thesis Research)
- Meshack Tegeye, Food Technology (Thesis Research)
- Nengilang'et G. Kivuyo, Food and Nutrition (Thesis Research)
- Ashura Dulazi, Soil Science (Thesis Research)

6. Lessons Learned

Organizational Transformation Activities

In the last week of August, iAGRI sponsored a week-long study tour to Kenya that included top administrators from SUA and members of the SUA University Council. They visited Egerton University, Kenyatta University (KU) and Jomo Kenyatta University of Agriculture and Technology (JKUAT). *An important lesson learned during this tour was that key learning can occur through interaction of individuals in similar leadership positions in higher education.* Tanzanians became aware of alternative ways to address some of the key issues they face in charting SUA's future. Among the mechanisms they witnessed were forms of stakeholder interaction and resulting stakeholder support for programs, alternative ways to generate income for higher education institutions, and ways to improve curriculum and student learning.

With support from iAGRI, SUA is undertaking 23 organizational experiments designed to enable it to become a better university. The iAGRI approach to organizational transformation at SUA is to support innovative ideas as they develop in SUA's informal system and to use them to reform SUA's formal system. This is accomplished through a three-stage conversation-based process defined in a previous section of this report. *An important related lesson learned is the importance of a participatory approach to organizational transformation activities.* We are already engaging SUA administrators in conversations about new ways to do things and how to get them done. However, we also need to engage them and other relevant stakeholders in specifying objectives, challenges and opportunities that will affect the search for *Ways that Work (WTW)*. This implies that, in initiating each organizational experiment, a more thorough exercise be undertaken as part of the *Conversations that Matter (CTM)*, including full consideration of objectives and constraints faced in addressing a particular problem prior to moving on to consideration of the next stage of the transformation process.

A related lesson learned is that organizational experiments need to be continuously scrutinized throughout the transformation process in order to determine what it will take to make them successful. Giving special attention to internal and external factors that support or challenge an activity will lead to better planning and better strategies. The proposed additional step identified in the *Conversations that Matter stage* addresses this need early in the planning process. However, more attention also needs to be given to analyses of proposed identified solutions in order to increase the chances of their being fully implemented. This implies the need for an additional step in the *Ways that Work stage*, namely an analysis of the benefits, costs, and challenges related to solution implementation.

Training Activities

A major iAGRI objective has been to offer graduate degree training to 135 Tanzanian students who have been placed at institutions based in the United States, Africa, and India. Student degree programs include research under the supervision of advisors at respective host institutions. For various reasons, some students fail to initiate interaction with their supervisors. In fact, some supervisors have found it necessary to look for ways to link with their students. *A lesson learned is that students may require*

special orientation about how to interact with supervisors in the context of undertaking graduate education programs prior to the initiation of these programs.

Research Activities

iAGRI has supported two general categories of research. The first is research conducted by sponsored students. The second is the iAGRI Collaborative Research Program that involves researchers from U.S. universities, SUA and the MAFC. Experience has shown that many researchers tend not to hold themselves fully accountable for funds allocated to them. Both programs require that researchers initially prepare project budgets and then retire advanced funds according to predetermined schedules. Recent experiences have shown that some researchers fail to adhere to these schedules. *A lesson learned is that participants need to be reminded of the need to adhere to related program expectations as well as other related project management requirements. Researchers may also be required to take imprest advances in smaller amounts that can be easily managed and accounted for before taking another advance.* As the program has matured, iAGRI staff members have found that researchers who were selected through a competitive process are more likely to manage pre- and post-selection research project processes well than those found through a pre-identified solicitation process. Although it makes good sense to pre-identify priority agricultural development constraints for research, *the lesson learned is that care should be taken to select researchers who are competent and who have demonstrated the ability to follow through on their research in an organized manner.*

7. Planned Activities

The PMU and OSU/ME will continue to focus on implementation of objectives of the iAGRI program over the coming year. Details are found in the Annual Work Plan for FY 2015-2016.

Long-Term Graduate Degree Training – The amendment to our iAGRI Cooperative Agreement increased the number of students to be trained to 135. As of fall, 2015, iAGRI placed a total of 136 students in graduate degree programs and 10 students from Zanzibar in undergraduate degree programs at SUA. Over the coming year we will continue to monitor the progress of students in their degree programs. We anticipate that the Ph.D. students placed as part of Cohort II will all complete their programs and return to Tanzania during this period. We also anticipate that all Cohort III and Cohort IV M.Sc. students will complete their respective programs. Exceptions may be students placed at SUA and at RUFORUM member institutions due to the involvement of external examiners in the evaluation of student theses. This process frequently extends the time from student completion of thesis draft to submission of final draft. We will also continue to monitor the classroom performance of the 12 students comprising Cohort V.

Research – In the next quarter, we expect that the following activities related to Phase I research projects will be implemented:

- Two PIs will visit their U.S. counterparts to work on several activities in their respective projects. They will work with counterparts on project data analysis, preparation of journal articles for

publication, identification of potential future collaborative research beyond the life of iAGRI, and they will attend scientific conferences in their respective disciplines.

- PIs will work with their counterparts to complete the write-up of final project reports for seven out of the eight projects.
- PIs and their counterparts will develop training manuals, extension materials, and flyers.
- PIs and their counterparts will continue to draft papers for publication in refereed journals and conference proceedings.

We anticipate continued substantial involvement of OSUC counterparts in this finalization phase. Likewise, iAGRI will continue to monitor the projects to ensure that implementation moves in accordance with the plans.

Phase II Collaborative Research – This phase consists of three projects which are at different stages because their commencement dates differ significantly. As opposed to Phase I (which was on competitive basis), the mode of mobilizing researchers for Phase II was on a solicited basis. We anticipate Phase II projects to continue to evolve. Concrete field activities are planned over the next three months.

Short Term Agricultural Policy Studies – An “Agricultural Land Access” study will be undertaken. It is a joint activity involving iAGRI, SERA, Michigan State University and MAFC. In the next quarter, the team will develop sampling strategies, will establish a sampling frame for farms to be visited, and prepare research samples in selected regions. Since these activities require considerable preparation, actual field surveys will not begin until in January 2016.

SUA Capacity Building – During the coming year we will continue to emphasize collaboration with SUA to facilitate its efforts to adjust to rapidly changing social and economic conditions in Tanzania. In addition to ongoing efforts to improve infrastructure on the campus, we will provide short-term capacity-building inputs for SUA and MAFC staff and students in the form of short-courses, workshops and seminars, as well as short-term training for them at OSUC member institutions. However, we intend to concentrate our efforts on the restructuring process which is occurring at SUA, including expanded linkages with stakeholders, particularly in the private sector, and identification and facilitation of alternative sources of revenue generation. We will also follow up on improving management quality at SUA. This activity will continue to focus on changes in project management, fiscal management, project development and auditing procedures. By the end of the year, we hope to have supported SUA’s attempt to implement the recommended changes which emerge from the Kilimanjaro International effort in quality management training.

Quality Management – Planned activities for the next year will be to support SUA as they sustainably implement the system changes identified and initiated under the Quality Management Training Program led by Kilimanjaro International consultants. The six organizational experiments are in the areas of procurement, asset management, accounting, auditing, human resources, and project management.

Monthly Leadership Forums – iAGRI will continue to sponsor monthly leadership forums on a bi-monthly schedule. Themes for these forums are going to be engaging and participatory. Plans are underway to invite external speakers/resource persons to the forums during the next quarter.

Horticultural Demonstration Facility – This facility will continue to offer the Farmers Field Day. Plans are to expand its field operations by adding an additional acre. TAHA will provide the funding for this expansion.

SUA Convocation – The Executive Committee of the Convocation planned to have a “Homecoming Week” just prior to graduation day in November, 2015. The event will be designed to strengthen alumni relationships and fund raising for construction of the student center. Planned activities during that week will include a symposium, sports events, a charity walk, community service, talent shows and dance competitions and a fundraising dinner party.

Revamping of SUA Website – iAGRI plans to continue helping SUA to redesign its website, given that it has agreed to acquire the technical and administrative capacity on its staff to oversee the redesign, to maintain the site once the redesign is completed, and to generate quality content. Over the next year, a website company will be hired to create the new site. Training sessions will be offered to content managers throughout the university on the new use of the new CMS and best practices in content generation.

Promoting Digital Librarianship at SNAL – iAGRI and SNAL have been working together since 2013 to improve access to and utilization of electronic resources at SUA. In the next year, support to SNAL will include installation of a power backup system to enhance reliability of access to the e-documents. iAGRI will also help SNAL promote LibHub within and beyond SUA. iAGRI will also help train and facilitate the activities of LibHub champions who will spread the word about LibHub, and help departments utilize it.

English Language Program – Since November 2013, iAGRI and SUA’s Department of Social Sciences have been working together to improve English language resources and outcomes at SUA. Support will continue in this coming year to enhance the capacity of the English Language Resource Centre. Activities will include renovation of the ELRC and classroom, furnishing the centre and the classroom, as well as engaging SUA students to help maintain technologies in the ELRC and provide technical support to clients.

Innovation Portfolio – Apart from having a new website that was redesigned in the last fiscal year (<http://iagri.org/innovation-portfolio/>), the IP is expecting to have a new strategy approach, which will be to work with intermediary organizations that support agricultural production. Special emphasis will be given to smallholder farmers and small-medium sized enterprises (SMEs) who are involved in marketing, processing, and the supply of agricultural inputs and tools. A demand driven, market-led approach to innovations will be implemented addressing identified needs on both the supply and

demand sides as well as strengthening the capacity of the supply side (innovators) to generate innovations on a continuous basis. Proposed interventions will emphasize training of innovators through coaching, networking and ways to pitch their innovations to investors when they have the opportunity to meet them. On the demand side, SUA's expertise will be marketed through development of promotional and marketing materials.

8. Special Issues

Completion of iAGRI Building – Completion of the second floor of the iAGRI Office Building has taken longer than originally planned. Although initial projections were to have it completed at the end of February 2015, it remained uncompleted at the end of the fiscal year. Given the large number of students returning to Tanzania to conduct field research for their theses, the increase in PMU staffing as capacity building activities have increased in number and size, and the increased number of OSUC and RUFORUM staff visitors related to student and staff research, it will be important to soon have it ready for occupancy. The PMU has worked with SUA administration to put pressure on the contractors to complete it.

Need for Additional iAGRI Funding – At the time of the amendment to the original iAGRI cooperative agreement between OSU and USAID/Tanzania, an additional \$1.5 million was provided to extend the life of the agreement for an additional year. The additional allocation of funds was for the placement of 15 additional students in graduate degree programs, the implementation of a quality management training program at SUA, and the building of a second floor for the iAGRI Office complex. No additional funds were provided to cover staff salaries and other administrative costs for an additional year, and no funds were provided to extend capacity building activities initiated during earlier years for this additional year. As we have planned for the coming fiscal year, we have noted that, should additional funding not be made available to the cooperative agreement, we will need to begin to cut back on some of our critical activities related to capacity building at SUA as well as related staffing.

Gender Policy - One of iAGRI's latent objectives is to change the long-term human resource profile of agricultural and nutrition sciences in Tanzania by engaging more women in them. Thus, it focuses on gender issues in every activity. Over the coming year, we will continue to pay special attention to the needs of women trainees. In recruiting for Cohorts IV and V, we continued to give preference to recruitment of women candidates. For Cohort IV approximately two women were placed in the U.S. for every male candidate. Many of them continue to focus on human nutrition topics for their research. We continued this emphasis for Cohort V which consists of 9 women and 3 men. Activities involving women continue to be highlighted on iAGRI website.

9. Financial Summary

As per the Cooperative Agreement between USAID and The Ohio State University, project finances are reported on a quarterly basis using Federal Financial Form (SF-425). Accumulated expenditure from project inception to end of the current reporting period (September 30, 2015) is \$17,323,275. Total expenditures for Fiscal Year 10/1/2014 – 9/30/2015 are \$7,053,585. Planned annual expenditures for the next Fiscal Year (10/1/2015 – 9/30/2016) are \$8,175,135.

Annexes

1. Annual Work Plan (FY 2014-2015)
2. Success Story
3. iAGRI Project Update (July-September, 2015)
4. iAGRI News (July-August, 2015)
5. Draft MoU between SUA and JKUAT
6. Kenya Study Tour Report
7. Crop Science Program Review Report
8. Makerere University Study Tour Report
9. BIFAD Report
10. iAGRI Borlaug LEAP Fellows
11. iAGRI Training Status Report
12. Organizational Transformation Indicators