

innovATE

Innovation for Agricultural Training and Education

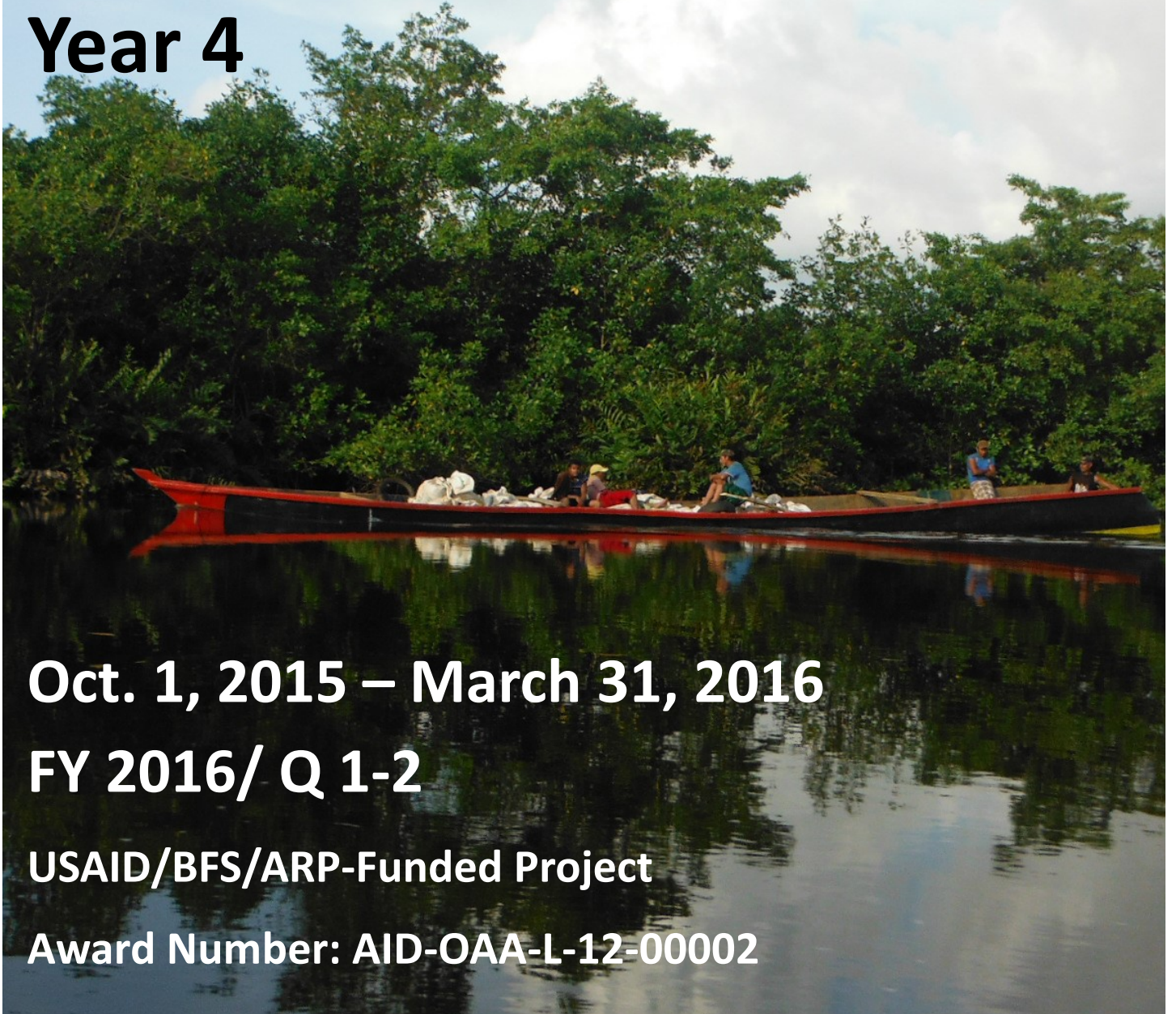


USAID
FROM THE AMERICAN PEOPLE



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

InnovATE Semi-Annual Report Year 4



Oct. 1, 2015 – March 31, 2016

FY 2016/ Q 1-2

USAID/BFS/ARP-Funded Project

Award Number: AID-OAA-L-12-00002



Virginia Tech
Invent the Future

PENNSYLVANIA STATE UNIVERSITY




TUSKEGEE
UNIVERSITY

UF UNIVERSITY of
FLORIDA
The Foundation for The Gator Nation

Innovation for Agricultural Training and Education (InnovATE) Semi-Annual Report, Oct 1, 2015 – March 31, 2016

Management Entity

Office of International Research, Education and
Development (OIREd)
526 Prices Fork Rd.
Blacksburg, VA 24061

Larry J. Vaughan
Director
(540) 231-2762
larryjv@vt.edu

Johanna Cricenti
Program Manager
(540) 231-1875
johanna5@vt.edu

Van Crowder
Executive Director, OIREd
(540)231-6338

USAID Bureau for Food Security

Clara Cohen
Agreement Officer's Representative
(202)-712-0119
ccohen@usaid.gov
<http://www.feedthefuture.gov>

InnovATE is supported by a grant from USAID and managed by Virginia Tech's Office of International Research, Education, and Development (OIREd). This project was made possible by the United States Agency for International Development and the generous support of the American people through USAID Cooperative Agreement No. AID-OAA-L-12-00002.

For more information about the InnovATE project and other publications visit our website at <http://www.oired.vt.edu/innovate> Contact us at innovateprogram@vt.edu or call 540-231-1875. Follow us on Twitter: @Innov_ATE and Facebook: [facebook.com/InnovATEAgEd](https://www.facebook.com/InnovATEAgEd).

All pictures and images courtesy of InnovATE and OIREd

Cover Photo: Wawashang, Nicaragua

Table of Contents

List of Acronyms	1
Executive Summary	2
I. LEARN: AET system analysis and pilot projects	4
Activity 1: Gather information and creating AET knowledge	4
Activity 2: Engage with a global audience and make AET knowledge accessible.....	7
Activity 3: Transition AET community of practice to Agrilinks community	11
II. DESIGN: Technical support and design	12
Activity 4: Respond to mission-requested services	12
Activity 5: Build project design capacity for missions	12
Activity 6: Provide technical assistance to missions project design	12
III. TRAIN: Direct investment in Human Development	15
Activity 7: Plan and conduct thematic workshops	15
Activity 8: Revise strategy to complete AET training modules	16
Activity 9: Produce a database of agricultural training opportunities.....	17
Activity 10: Publish and disseminate results of prior studies	17
IV. Administrative Tasks	18
Activities 11-13 10: Administrative Tasks	18
Appendix A: Year 4 Completed Activities by Theme Q1-Q2.....	19
Appendix B: Evaluation Questions for USAID Mission Staff	20

List of Acronyms

- AET - Agricultural Education and Training
- AOR - USAID Agreement Officer's Representative
- CDCS - Country Development Cooperation Strategy
- CFCN - Call for Concept Notes
- CIDER - Center for Instructional Development and Educational Research
- COMET - Connecting the Mekong through Education and Training
- CoP - Community of Practice
- EARTH - Escuela de Agricultura de la Región Tropical Húmeda
- EE - Entrepreneurship Education
- FADCANIC - Foundation for the Autonomy and Development of the Atlantic Coast of Nicaragua
- FTF – Feed the Future
- GFRAS - Global Forum Rural Advisory Service
- HICD- Human and Institutional Capacity Development
- InnovATE - Innovation for Agricultural Training and Education Project
- KDAD - Knowledge Driven Agricultural Development project
- MHM - Menstrual Hygiene Management
- OIRED - Office of International Research, Education, and Development
- PAC - Program Advisory Council
- Penn State or PSU – The Pennsylvania State University
- SOW - Statement of Work
- TAP – Tropical Agricultural Platform
- TU - Tuskegee University
- TVET – Technical and Vocational Education and Training
- UF - University of Florida
- USAID - United States Agency for International Development
- VT - Virginia Tech

Executive Summary

InnovATE made a series of operational adjustments for Year 4. Activities in Year 4 focus on three themes: Gender Challenges and Opportunities; Rural Workforce Development and Youth; and Pedagogy and Curriculum. The selection of these themes was based on the mid-point review held at the annual partners' meeting in March 2015. Table 1 shows Year 4 activities arranged by these three themes. Appendix A includes a table of activities completed in the first two quarters.

Key findings from work completed in the first half of Year 4 by theme are listed below.

Gender Challenges and Opportunities

Some concrete steps to breaking down the existing barriers for girls in agriculture are:

- Creating awareness about agricultural careers through mentorships and career counseling;
- Developing gender-sensitive curricula; and
- Investing in improved infrastructure that recognizes gender differences and that allows girls to be inspired and to actively engage with global agricultural issues.

Tangible actions to target girls' participation in agricultural education include:

- Utilizing parents and creating stronger linkages between families and schools to facilitate the support network girls need to decide to study agriculture
- Providing mentors and networking opportunities
- Having educational institutions highlight the diverse professions in agriculture
- Offering secondary-level career counseling about scholarship opportunities, application procedures and sources of university-level support

Rural Workforce Development and Youth

Youth engagement and interest in agriculture the world over has been low and there are many challenges and barriers to entry. In response, entrepreneurship education in agriculture for secondary students may re-engage rural youth. Best practices in program design, curricula, and content should be more thoroughly researched for this unique group. Entrepreneurship education holds potential to, at least in part, help engage rural youth in agriculture. InnovATE has a study in progress for modeling regional support for entrepreneurship education at local technical and vocational education and training (TVET) institutions in Central America.

Pedagogy and Curriculum

Top take-aways from the February 17 Agriculture Sector Council webinar, *Building Linkages in Agricultural Education and Training through Systems Thinking*:

1. Agricultural Education and Training (AET) is a system with many complex pieces and linkages.
2. Only working with one piece of the system may not have the sustainable impacts you desire.
3. Investing in building the capacity of instructors is important.
4. Linking AET and extension is an important, but often neglected, linkage in the system.
5. All systemic changes must begin with a good understanding of the current situation and cultural context.

In the first half of Year 4, InnovATE allocated effort toward development of an integrated package of studies and reviews that highlight improvements to design of USAID’s AET projects. As part of the LEARN component, two data collection trips were completed for a case study in Central America; two good practice papers and two technical briefs were published. Project-specific adaptations involved refocusing our development of a community of practice. Our former efforts to garner support for InnovATE’s online community were redirected toward promoting AET through a collaboration with Agrilinks. InnovATE produced two introductory blog posts introducing AET’s importance for economic development, four posts in a blog series focused on identifying and eliminating gender barriers in AET and three posts emphasizing the relationship of pedagogy and curriculum in AET systems to their site.

In the DESIGN component, InnovATE began a response to a request for design support from the USAID/Cambodia mission. Preparations were also underway to host a design review workshop of current and recently completed AET projects in Q3. In the first half of Year 4, InnovATE published and circulated the first four discussion papers of the series addressing *Contemporary Challenges in Agricultural Education and Training*.

As part of InnovATE’s TRAIN activities, an AskAg online chat and an Agriculture Sector Council Seminar were hosted on Agrilinks. These events built on the dialogue of our Agrilinks blog series and attracted 210 participants. *Agriculture and Human Values*, the journal of the Agriculture, Food, and Human Values Society published an article examining issues that face students who wish to participate in AET with a focus on the perception of agriculture as a field by InnovATE authors at Penn State and the University of Florida.

Table 1. InnovATE Year 4 Activities by Theme

	Gender Challenges and Opportunities	Rural Workforce Development and Youth	Pedagogy and Curriculum
LEARN	Encouraging girls in higher education agricultural programs Supporting gender equity in agricultural education and training programs and institutions Gender thematic challenges and opportunities blogs	Business planning and entrepreneurship development in AET Incubating entrepreneurship skills and opportunities in agricultural secondary schools Youth and workforce development blogs	Revised curriculum and pedagogy for extension specialists Self-assessment and quality control for AET institutions Introducing the use of syllabi for student-centered learning Mainstreaming STEM pedagogy Pedagogy and curriculum blogs
		Building entrepreneurship skills and opportunities in AET curricula Case study on institutional models in Central America: FADCANIC/EARTH	
DESIGN	Project design support to USAID Missions/Bureaus Scoping synthesis Design review workshop of AET project leaders Concept note evaluation Survey of Mission AET monitoring and evaluation strategies		
TRAIN	Gender workshop lesson plans Gender teaching materials for tertiary agricultural education	Regional workshop on AET curriculum for workforce development and employers’ needs Online chat: ATVET for youth workforce development Seminar: ATVET for youth workforce development Agricultural Sector Council Webinar	Online chat: Pedagogy and curriculum Seminar: Pedagogy and curriculum Agricultural Sector Council Webinar Revised curriculum and pedagogy for extension specialists
	Spotlighting career opportunities along the agricultural value chain	Professional development for AET educators to introduce the idea of teaching for the value chains AET pedagogy to support entrepreneurship	

I. LEARN: AET system analysis and pilot projects

ACTIVITY 1: Gather information and creating AET knowledge

Review and summarize literature about AET topics

InnovATE continues to build an online AET bibliography of gray and peer-reviewed literature. In the first three years of the project, literature was collected for studies on mainstreaming gender in AET, AET professional development for educators, curriculum reform to support workforce development and employers' needs, programs to support rural workforce development, as well as post-conflict and regional security initiatives.

Data collection on institution building for home grown entrepreneurs

This task follows InnovATE scoping trips conducted in Years 2 and 3 in Nicaragua and Honduras. In October 2015 (Q1), Henry Quesada-Pineda and John Ignosh of Virginia Tech interviewed administrators, teachers, students, and alumni to document entrepreneurship education in the vocational training program at the Foundation for the Autonomy and Development of the Atlantic Coast of Nicaragua (FADCANIC) in Wawashang, Nicaragua. Visits to alumni were critical to verifying and quantifying the impact of the training program in developing successful home grown entrepreneurs.

In February 2016 (Q2), Quesada-Pineda and Ignosh conducted interviews with faculty members and administration at Escuela de Agricultura de la Región Tropical Húmeda (EARTH) University in Guacimo, Costa Rica to determine how EARTH University's strong agricultural program could be connected to local TVET programs in the region. EARTH University has a strong reputation for producing high performing entrepreneurs for the agricultural sector. FADCANIC is a local TVET institution serving as a model linkage to EARTH. It is hypothesized that EARTH University can be an excellent resource for the development of and support for such local TVET programs.

- [FADCANIC Center for Agricultural and Environmental Education and Center for Agroforestry Trip Report](#) (October 19-23, 2015)
- [Field Interviews with EARTH \(Escuela de Agricultura de la Región Tropical Húmeda\) University's Permanent Education Program](#) (February 23-26, 2016)

Thematic studies

Thematic studies analyze a particular AET system or cross-cutting theme, private sector based investment opportunity, or emerging educational innovation. Three thematic papers were in progress during Q2. A study on citizen security explores youth violence in Central America's Northern Triangle Countries (El Salvador, Guatemala, and Honduras) and its effect on education. It seeks to understand the drivers of youth violence, risk-factors to youth participation in violence, how youth violence is impacting development in the region, the interventions that are currently being used, and the interventions that are lacking. There is an emphasis on the relationship between education and violence, although the paper takes a comprehensive approach to the topic.

Studies on professional development for AET educators and a review of and synthesis of existing AET indicators are also in review.

Technical briefs and good practice papers

Technical briefs are condensed versions of thematic reports for a broader implementer audience. These documents are designed to guide and identify ways to improve AET capacity. Good practice papers seed innovation to a wide audience by tapping into the knowledge of AET practitioners, distilling their ideas, and publishing them in an easily accessible format.

Technical briefs and good practices papers produced during Q1/Q2 include:

- [Ensuring Education for the Girl Child: Best Practices in Menstrual Hygiene Management](#)
Nneoma Nwankwo, Virginia Tech

Due to the widespread lack of access to menstrual hygiene management (MHM) facilities, harmful cultural attitudes towards menstruation and the missing contextual knowledge required to manage menstruation properly, girls often find that their womanhood clashes with their education. This good practice paper defines the problem as a “body-school collision”. It introduces the I-3 approach – impart, invest and implement - to menstrual health management focused in sub-Saharan Africa. The reduction of menstrual-related absenteeism means that girls do not miss lessons, skills practice, or exams. By breaking down harmful socio-cultural norms about menstruation, girls are also less likely to be pulled out of school to be married. Therefore, they can complete school and gain the necessary qualifications for employment. When girls are qualified enough to either gain employment or own a business, they are more socially and economically empowered. The I-3 approach fosters an environment where school policies do not collide with girls’ bodies. Effective MHM eliminates menstruation as a stumbling block in the education and long term socio-economic empowerment of the girl child.

innovATE
Innovation for Agricultural Training and Education

FEED: FUTURE
by USAID, University of California, and Penn State

Ensuring Education for the Girl Child: Best Practices in Menstrual Hygiene Management
Nneoma Nwankwo, Virginia Tech

Body-School Collision
For thousands of girls in underserved areas of sub-Saharan Africa, the onset of menstruation makes schooling very difficult. In many cultures, it is a social taboo to discuss menstruation, and it is held as “dirty” or “a curse.” Upon entering womanhood, girls are often victimized by menstrual taboos, and some might be married off, as menstruation signifies the ability to bear a child.

Due to the widespread lack of access to menstrual hygiene management (MHM) facilities, harmful cultural attitudes towards menstruation and the missing contextual knowledge required to manage menstruation properly, girls often find that their womanhood clashes with their education—a concept known as the “body-school collision” (Sommer, 2010). Many schools in developing countries do not have proper facilities, and often times, do not have access to clean water. Furthermore, in classrooms, reproductive health topics including menstruation are often skipped over, robbing children of the necessary knowledge of proper menstrual care and reproductive health. MHM is a human rights issue—poor menstrual facilities fail to meet the needs of pubescent school girls and deprive them of education, hence, violating their human rights.

The I-3 Approach to MHM
The I-3 approach—impart, invest and implement—should be taken by leaders at all levels to greatly alleviate this issue. Figure 1 depicts this comprehensive approach.

Impart: Local and national leaders must mandate that reproductive health and menstrual hygiene topics be taught in schools. Teachers must be thoroughly trained to ensure that they provide the best information to pupils. This will ensure access to accurate information and break the shame and silence associated with periods. It will also break down harmful socio-cultural or religious norms. Local leaders should review schools’ curricula and survey students at the end of terms to ensure that this mandate is met.

EFFECTIVE MENSTRUAL HEALTH MANAGEMENT ELIMINATES MENSTRUATION AS A STUMBLING BLOCK IN THE EDUCATION AND LONG TERM SOCIO-ECONOMIC EMPOWERMENT OF THE GIRL CHILD.

Virginia Tech Penn State Tuskegee University UF University of Florida

- [Preparing Young Entrepreneurs in Sub-Saharan Africa: Middle-Level Tertiary Education](#)
Matt Baker, Texas Tech University

Middle-level tertiary education programs are ideal entrepreneur incubators. These institutions serve large numbers of diverse students who are benefiting from greater access to basic education at the diploma level. Entrepreneurship education is best taught through both practice and theory, in partnership with practicing entrepreneurs, and as a lifelong endeavor. This technical brief introduces approaches to entrepreneurship education delivery and provides recommendations for further research and program design. Recommendations include: conducting a mixed methods study to characterize existing programs, developing committed entrepreneurship education faculties, and creating an accreditation body to develop common program outcomes.

- [Engaging Rural Youth in Entrepreneurship through Extracurricular and Co-curricular Systems](#)
Seth Heinert and T. Grady Roberts, University of Florida

Rural youth around the world, aged 15-24, are a significant and growing portion of the population. However, youth engagement and interest in agriculture the world over has been low and there are many challenges and barriers to entry. In response, entrepreneurship education in agriculture for secondary

students may re-engage rural youth. Agricultural entrepreneurship education programs for rural youth are happening across the globe. Little has been written about how to equip teachers for this task. This technical brief presents a conceptual framework for rural agricultural entrepreneurship education programs and provides implications and recommendations for programming. Best practices in program design, curricula, and content should be more thoroughly researched for this unique group. Entrepreneurship education holds potential to, at least in part, help engage rural youth in agriculture.

- **Cooperative Learning** Matt Spindler, Virginia Tech

Cooperative learning is a successful teaching strategy in which small teams of students use a variety of learning activities to improve their understanding of a subject. Each member of a team is responsible not only for learning what is taught but also for helping teammates learn. This good practice paper highlights the five essential elements that make up successful cooperative learning. There is also an example of the good practice at work through a 2015 World Bank supported train-the-trainer institute and professional development program for AET instructors. Participants were given group learning tasks to be completed through applied problem, jig-saw, and peer editing strategies. In evaluations, participants said that by cooperating they were able to: a) learn an exceptional amount; b) achieve higher quality outputs and outcomes; and c) establish more robust collegial networks with other AET instructors.

Connect and collaborate with AET practitioners around the world

In Q2, InnovATE faculty members and staff participated in the 8th Annual Conference on Higher Education Pedagogy which focused on higher education teaching excellence and the scholarship of teaching and learning. The conference, hosted by the Center for Instructional Development and Educational Research (CIDER) at Virginia Tech, showcased the best pedagogical practice and research in higher education today. Sessions addressed disciplinary and interdisciplinary instructional strategies, outcomes, and research. The conference was an opportunity to demonstrate effective instructional practice and disseminate InnovATE research and hold discussion on working in an international development context aimed at improving the quality of higher education. InnovATE presented a practice session during the conference.

- **Using Place-based STEM Education for Preparing Teachers in Developing Countries**
George Glasson, Josiah Tlou and Johanna Cricenti, Virginia Tech

Assessment of Agricultural Education & Training (AET) Systems in Cambodia, 2013-2014

innovATE
Innovation for Agricultural Training and Education



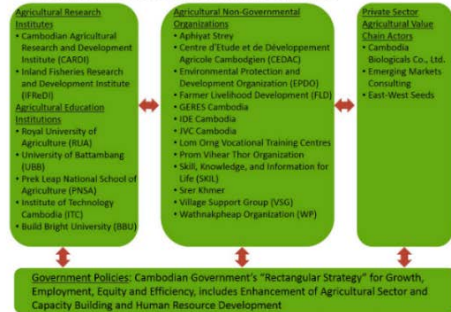
Cambodia & Agriculture

Agriculture Percentage of GDP: **30.4%** ■ Total Population 15.4 million



Sources: World Bank, 2014, <http://data.worldbank.org/>; National Institute of Statistics, Ministry of Planning, Cambodia, 2014, http://www.nis.gov.kh/niacs/ISCS/ISCS_2014_Report.pdf

Stakeholders in Cambodian AET System



The InnovATE project was made possible by the United States Agency for International Development and the generous support of the American people through USAID Cooperative Agreement No. AID-OAA-L-12-00002.

Strengths	Weaknesses
<ul style="list-style-type: none"> Leadership and interest in building AET capacity Government, administrators, faculty, students High rates of post-secondary enrollment and employment in agriculture 	<ul style="list-style-type: none"> Inadequate or inappropriate AET curricula Skills gaps across value chain Insufficient AET infrastructure Lack of diversification of levels and types of AET offerings
Opportunities	Threats
<ul style="list-style-type: none"> Strong growth potential for agriculture Political, demographic and technological trends Existing secondary & TVET curricula can include AET Life skills courses, short-course training Existing inter-institutional connections 	<ul style="list-style-type: none"> Variability in support for AET Government, donors Lack of interest in AET Youth, employers

Recommendations for Human & Institutional Capacity Development in AET

- Increase private sector involvement to make AET demand-driven and introduce entrepreneurship; link AET institutions with public & private sector employers
- Create & strengthen inter-institutional connections to collaborate on curriculum & close the skills gaps
- Partner with NGOs to leverage their experience for AET improvement
- Diversify AET opportunities beyond university degree programs
- Update curriculum & key resources & provide faculty development to include experiential education & critical thinking teaching methods
- Enhance English language capacity of faculty, staff and students
- Strengthen partnerships with governmental ministries which have similar goals
- Engage a new generation of agricultural professionals with a strategic plan to change youth perception of agriculture



InnovATE poster submitted to the Tropical Agriculture Platform (TAP) Meeting poster session held in Kigali, Rwanda on January 19, 2016. This space showcased original and innovative work related to capacity development for agricultural innovation systems to a wider group of participants including TAP partners.

ACTIVITY 2: Engage with a global audience and make AET knowledge accessible

In Year 4, InnovATE is collaborating with the Knowledge Driven Agricultural Development project (KDDAD), to utilize their Agrilinks site as a central platform to reach the donor and development community. As a high traffic site, Agrilinks is a major pathway for engaging with USAID and providing high visibility to resources and announcements that appear on the site.

In October 2015, our collaboration began with a blog series introducing AET's importance for economic development. Links and descriptions for these posts are included below:

- Ending Poverty and Hunger through Strengthening Agricultural Education and Training**
Merrie Winfrey, Virginia Tech

This post is the first in a series highlighting the significance of AET for stimulating and sustaining the growth of value chains. The agriculture sector is often the backbone of developing economies. AET systems have not adapted their curricula to employment opportunities resulting in a limited supply of properly trained agricultural professionals in developing economies. This post promotes local Human and Institution Capacity Development (HICD) as key for eliminating these workforce skills gaps.
- Agricultural Education and Training Must Be Local and Demand-Driven**
Merrie Winfrey, Virginia Tech

Participants in the global agricultural supply chain must be active learners and adaptive workers to keep up with market changes. AET institutions are responsible for assisting in this adaptation. Often, there is a mismatch between the demand for workers and the availability of trained personnel. A local, demand-driven approach to institutional capacity development bridges the gap between the supply of trained workers and professionals and market demand. This approach should be long-term and local, so that it will populate the economy with properly trained personnel in a sustained fashion as the market shifts. Demand-driven training prepares graduates for available jobs and ensures employer satisfaction with potential candidates. This post also presents a plan of action to improve local, demand-driven development based on InnovATE's "learn, design, train" approach.

In December and January, 2016, InnovATE produced another blog series focused on identifying and eliminating gender barriers in AET. By examining gender-specific barriers to women’s participation in AET programs and institutions in countries around the world, InnovATE charted pathways to success for women’s participation in agricultural education.

- [Empowering Women for Success in Agriculture](#) Paige Castellanos, Penn State University
The fact that women make up an estimated 43 percent of the agricultural workforce worldwide but generally lack access to agricultural education must change. This post presents the overarching analysis about “why” and “how” women’s participation in AET must be strengthened. The post presents characteristics of successful women in agriculture, which generally falls into these categories: family support, awareness of agricultural careers, and individual determination and confidence. The trick is encouraging the development of these characteristics. Clearly, gender equity is a complex problem that requires an integrated approach. Some concrete steps to breaking down the existing barriers for girls in agriculture are:
 - Creating awareness about agricultural careers through mentorships and career counseling;
 - Developing gender-sensitive curricula; and
 - Investing in improved infrastructure that recognizes gender differences and that allows girls to be inspired and to actively engage with global agricultural issues.
- [Starting Point for Addressing Infrastructure-Related Safety Concerns for Women in Agriculture Education and Training](#) Paige Castellanos, Penn State University
Safety concerns at educational institutes can limit women’s participation, yet there are simple, low-cost solutions to building the infrastructure to overcome them. From better lighting to policy change, small fixes can make a big difference in empowering women in agriculture. Recognition of the infrastructure-related issues and a policy audit provide a starting point for improving the conditions that will allow more women to engage in agricultural work. By providing increased opportunity, we are developing high quality workers and scholars that will be dedicated to global issues such as hunger and poverty.
- [Breaking Barriers to Girls’ Education: Menstrual Hygiene Management](#)
Nneoma Nwankwo, Virginia Tech
Menstrual hygiene management (MHM) helps girls and women overcome the hindrance menstruation can pose to their education and overall economic opportunity. MHM also helps practitioners “break the silence” when facing menstruation as a constraint to women and girls’ participation in education. Governments, NGOs and individuals must begin to view MHM as a human rights issue, as it can directly or indirectly hinder a girl’s access to education. When the issue is examined from this perspective, leaders at all levels can address it systematically through the I-3 approach:
 - **Impart:** Ensuring that proper menstrual hygiene practices are taught in schools and are promoted in community settings
 - **Invest:** Ensuring that leaders allocate the appropriate funds to provide safe sanitation infrastructure while investing in social businesses that provide environmentally sustainable low-cost pads
 - **Implement:** Creating laws to protect women from harmful socio-cultural myths surrounding menstruation and prioritizing MHM in the community

- [Changing the Perception of Agriculture for More Women’s Participation](#)

Paige Castellanos, Penn State University

What can we do to encourage girls to participate in agricultural education and training? InnovATE talked to women and girls in agriculture about their challenges and some of the constraints they face as women in agriculture. One major step can be to create awareness about all agricultural careers in the value chain. Breaking down negative perceptions of agriculture and sharing information about the value and impact of agricultural jobs and opportunities can inspire youth. InnovATE research indicates that supportive family members or role models who have worked in agriculture-related jobs open girls’ minds about their own futures in the sector. Tangible actions to target girls’ participation include:

- Utilizing parents and creating stronger linkages between families and schools to facilitate the support network girls need to decide to study agriculture
- Providing mentors and networking opportunities
- Having educational institutions highlight the diverse professions in agriculture
- Offering secondary-level career counseling about scholarship opportunities, application procedures and sources of university-level support

Changing perceptions of agriculture that are rooted in history is a long-term proposition. It takes a concerted, coordinated effort on the part of institutions and industry.



In February, our Agrilinks collaboration emphasized the relationship of pedagogy and curriculum in AET systems. The posts in this series were written by Grady Roberts of the University of Florida.

- [The Difference Between Agricultural Education and Extension, and Why It Matters](#)

How do education and training fit into and work together in the holistic AET system? Extension is vital part of a nation's AET system. To make sustainable improvements to the agricultural value chain, we must address the whole system. **Education** is usually referring to formal education institutions delivering a planned curriculum leading to a degree, diploma, or certificate before entering the workforce. **Extension** is usually referring to planned educational programs designed to meet the needs of people in the workforce. They are both part of the AET system. If we only address extension, we are only addressing one part of the system. Sustainable, transformative change in agriculture requires both human and institutional capacity development in the whole AET system.

- [Connecting Theoretical and Practical Instruction: A Critical Agricultural Education and Training Linkage](#)

This post features the San Francisco Agriculture School in Cerrito, Paraguay as an example of overcoming financial and pedagogic barriers to instructional quality. When Fundación Paraguaya took over the school in 2002, it was poorly funded with government subsidies that barely covered staff salaries. Facilities were in disrepair and students graduated with few practical skills and fewer economic prospects. However, with the implementation of the new entrepreneurial, revenue-generating curriculum, the school was able to generate enough annual income to cover operating costs within five years. The school is a fully self-sustaining institution with a highly relevant, marketable and hands-on entrepreneurial agricultural curriculum.

- [EARTH University: A Model for Agricultural Education and Training Linkages](#)

Successful AET institutions approach their missions from a systems perspective by building a variety of linkages. EARTH University of Costa Rica is a prime example of success for its tried-and-true method for developing sustainable solutions to practical problems. The curriculum at EARTH is based on the principles of experiential learning and student-centered learning. There is a deliberate and coordinated linkage between what is taught in the classroom and what is applied in the teaching farm and local community. EARTH's curriculum and programs are designed to meet emerging workforce and community needs. This post details linkages that help distinguish and sustain the success of the university.



ACTIVITY 3: Transition AET community of practice (CoP) to Agrilinks community

In Q1 of Year 4, we closed the InnovATE CoP platform and began implementing our Agrilinks strategy to cultivate connections with a wider AET audience. We also completed our conversion of the InnovATE website to WordPress ensuring a smooth transition of the web-based discussions and resources, and expansion of user participation opportunities.

Early in the project, we developed an AET Community of Practice through the online Jive platform. This site allowed users to access resources, participate in discussions, share and view training events and read articles. In Year 4, InnovATE transitioned efforts away from recruitment of membership on the InnovATE Community supported by the Jive platform. Our revised strategy focuses on engaging stakeholders through existing web networks such as Agrilinks.

II. DESIGN: Technical support and design

ACTIVITY 4: Respond to mission-requested services

InnovATE provides guidance at the request of USAID missions for AET investments and is prepared to design and implement statements of work (SOW). InnovATE began a response to a request from the USAID/Cambodia mission in this reporting period.

This winter, InnovATE began a systematic review of the current Country Development Cooperation Strategy (CDCS) and Feed the Future (FTF) Strategy documents for USAID missions. This task will analyze objectives and priorities of USAID missions, focusing on where AET systems strengthening is in alignment with current strategies. This task also allows us to find good examples in practice, follow up with the USAID missions in countries where InnovATE conducted AET assessments early in the project, and identify gaps that could be addressed by HICD investments.

ACTIVITY 5: Build project design capacity for missions

Host a design review workshop for AET project leaders

In Year 4, InnovATE will host a design review workshop uniting project implementers involved in current or recently completed AET institution building projects to examine the challenges faced, success stories and lessons learned. What have we learned from these experiences that can inform future project design? While the workshop will take place in the second half of Year 4 (June 8-10, 2016), significant planning and preparation occurred in the first two quarters.

The design review will focus on the processes through which that success emerges and transformation occurs. The workshop will document the tacit knowledge of implementers to support recommendations for good design in capacity building projects. Session topics include:

- Challenges from the perspectives of U.S. project leaders and international institutional representatives;
- Building trust and partnerships;
- Agricultural education and training system-wide considerations;
- Curriculum development and pedagogical reform; and,
- Governance and leadership

This workshop will investigate USAID investments, promote interaction among selected AET project implementers, and elicit the tacit knowledge developed based on shared experiences. Output from the workshop will document the impact of AET investments and lessons learned from each of the projects, as well as system policies and institutional design recommendations for future investments in this area.

ACTIVITY 6: Provide technical assistance to mission project design

In order to provide technical assistance to missions, InnovATE encourages open dialogue with USAID missions on continued capacity development and support.

Investigate HICD assessment challenges

In Year 3, a sub-committee was formed to review AET assessment tools, examine conceptual models for AET assessment, and align them with monitoring and evaluation indicators. The purpose was to gather information on best practices for AET assessment and evaluation from the perspective of USAID mission

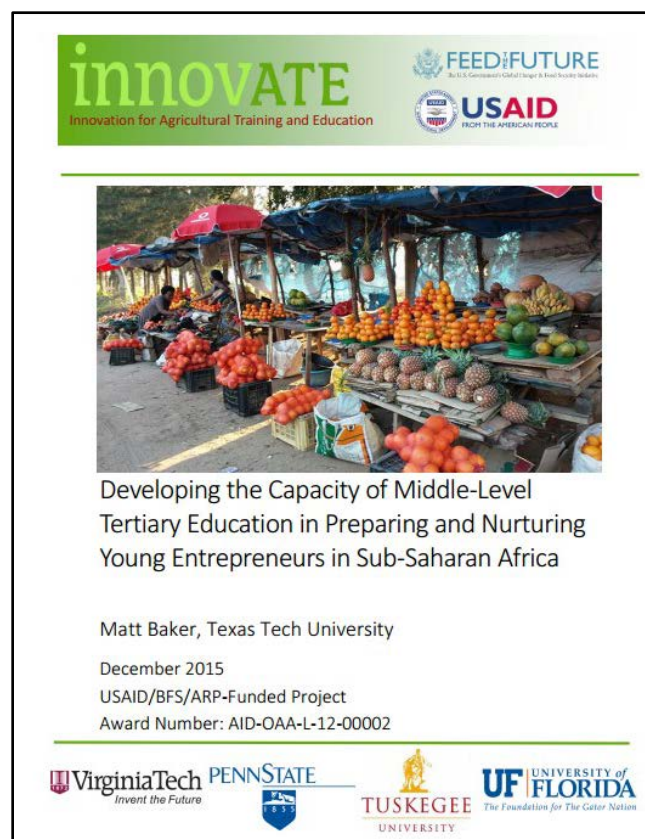
staff. Investigators solicited information from USAID missions about relevant indicators for USAID HICD projects focused on AET and rural workforce development to identify gaps and needs for AET assessment. InnovATE completed telephone surveys with representatives from five Missions (Senegal, Egypt, Tanzania, Guinea and Cambodia) and with the Connecting the Mekong through Education and Training (COMET) project. A thematic study and good practice paper on AET assessment indicators furthers this work. The study identifies and reviews existing tools, including many developed by other USAID funded projects, to inform the development of InnovATE’s toolkit. A draft report is in progress; the evaluation questions used for the interviews are included in Appendix B.

Evaluate CFCN for AET design opportunities

At the end of Year 2, InnovATE issued a Call for Concept Notes (CFCN) to develop discussion papers that address *Contemporary Challenges in Agricultural Education and Training*. These are literature reviews exploring ideas and approaches to AET system challenges. The call supported InnovATE’s work to compile and disseminate good ideas on building the capacity of AET institutions. In the first half of Year 4, InnovATE published and circulated the first four of these reviews:

- *Developing the Capacity of Middle-Level Tertiary Education in Preparing and Nurturing Young Entrepreneurs in Sub-Saharan Africa* Matt Baker, Texas Tech University

This review addresses the gap, based upon the literature, between current entrepreneurship education (EE) programs offered in middle-level tertiary institutions in Sub-Saharan Africa and ideal programs. The author provided background on middle-level tertiary institutions in Sub-Saharan Africa, as well as on EE theory, delivery models, and ideological approaches. Diploma-granting colleges are the forgotten sector in the literature, but serve as a critical bridge between secondary education and university programs as well as a supportive link to TVET institutions. EE programming continues to resonate with policy makers, regional leaders, and students, holding promise for future economic prosperity to countries with high unemployment.



- *How Competent Are Agricultural Extension Agents and Extension Educators In Nepal?* Murari Suvedi and Ramjee Ghimire, Michigan State University

Changing local and global contexts demand competent human resources in agricultural extension services. Extension professionals should possess core competencies such as knowledge, skills, attitudes and behaviors that help them attain excellence in their professions. Training and education have significant impact on workers’ core competencies. Therefore, agricultural educators have to be competent in teaching the core competencies that students of extension and advisory services need. Studies about

core competencies of extension professionals and agricultural educators in Nepal are lacking. This review explored theories on core competencies and, core competency studies. It proposes core competencies that agricultural extension services in Nepal may find useful.

- *Review of Research and Practice for Youth Engagement in Agricultural Education and Training Systems* Sarah Eissler and Mark Brennan, The Pennsylvania State University

The youth crisis has recently received much attention from the global community, particularly in how it intersects with the future of agriculture. As the demand for sustainable agricultural production increases, in conjunction with high rates of rural youth unemployment and vulnerability to high risk behaviors, the youth crisis requires proactive responses. Agricultural education and training systems have a unique opportunity to re-engage youth in the agricultural sector.

Youth issues should be prioritized in policy and strategy development. Research, programming and policy development should solicit and integrate youth's voice, perceptions, desires and needs. Data disaggregated by gender, locality and region must be collected to better understand the current environment to tailor best practices.

- *Engaging Rural Youth in Entrepreneurship through Extracurricular and Co-curricular Systems* Seth Heinert and T. Grady Roberts, University of Florida

Generally, rural youth have been uninterested in careers related to agriculture or persisting in rural areas, may have aspirations for becoming an entrepreneur, and may have different aspirations than their urban or non-agriculture counterparts. Several studies indicated youth form opinions about careers at an early age, so making positive impressions about entrepreneurship in agriculture should happen when they are relatively young. Teachers' abilities and willingness to teach entrepreneurship concepts is influenced by their personal backgrounds. Many nations are emphasizing results-driven entrepreneurship education.

III. TRAIN: Direct investment in Human Capital Development

ACTIVITY 7: Plan and conduct thematic workshops

Agriculture Sector Council Seminar/Webinars and moderated online chats

This activity builds on the dialogue of our Agrilinks blog series (Activity 2). Our Agrilinks collaboration continued in February with two online, interactive sessions about pedagogy and curriculum in agricultural education and training series.

The Agriculture Sector Council is Agrilinks' regular monthly seminar series. Online chats, called AskAg, are timed to precede seminars by one week, and serve as an opportunity to begin topic-relevant discussions and promote seminar attendance. Our Ask Ag About online chat occurred on February 10, [Interactions between Agricultural Education and Extension](#). It featured a panel of agricultural education and extension experts fielding questions and comments from the Agrilinks audience regarding the critical linkage between education and extension in agriculture. The panelists were:

- **Ntam Baharanyi**, Agricultural Economics and Assistant Extension Administrator at Tuskegee University.
- **Gary Briers**, Texas A&M's Department of Agricultural Leadership, Education, and Communications and Senior Scientist at the Norman E. Borlaug Institute for International Agriculture
- **Hlami Ngwenya**, Global Forum Rural Advisory Service (GFRAS) and Senior Lecturer at the University of Free State.
- **Grady Roberts**, Executive Director for the Global Education Lab at the University of Florida
- **Rick Rudd**, Head of the Department of Agricultural, Leadership and Community Education at Virginia Tech.

The chat broke Agrilinks record for number of comments, 162 from forty participants.

The February 17 Agriculture Sector Council webinar, [Building Linkages in Agricultural Education and Training through Systems Thinking](#), wrapped up the InnovATE pedagogy and curriculum series. This seminar promoted the application of systems thinking to agricultural education and training for sustainable agricultural development. By understand the entire AET systems and the connections within them, practitioners can account for modifying factors and better influence agricultural education outcomes. The webinar was introduced by InnovATE's AOR Clara Cohen. Presenters were:

- **Grady Roberts**, Executive Director for the Global Education Lab at the University of Florida
- **Wayne Ganpat**, Head of the Department of Agriculture and Economics and Senior Lecturer in



Agricultural Extension and Communications at the University of the West Indies

- **Seth Heinert**, Board of Directors, Indigenous Education Foundation of Tanzania, Liaison to Youth Board and Youth Network

AET systems include formal education (primary, secondary, tertiary and vocational/technical institutions) as well as non-formal education (extension and workforce development) and informal education (on-the-job training and day-to-day self-learning). This seminar discussed five AET linkages and demonstrated how they can be built into projects. These connections include those between:

- Theory and practical instruction
- Curriculum and workforce/industry demands
- Educational institutions at different levels
- Different management systems such as governmental, NGO and parochial
- AET and extension systems

Presenters showcased successful examples of AET systems in practice and discussed how they are developed. The seminar was attended by 18 people in Washington D.C. An additional 152 people joined online from 39 countries. The top five take-aways from the presentation were:

1. AET is a system with many complex pieces and linkages.
2. Only working with one piece of the system may not have the sustainable impacts you desire.
3. Investing in building the capacity of instructors is important.
4. Linking AET and extension is an important, but often neglected, linkage in the system.
5. All systemic changes must begin with a good understanding of the current situation and cultural context.

Host trainings and develop materials

InnovATE is developing materials to support short- and long-term training for the three thematic areas. The gender team at Penn State submitted a proposal to conduct a train-the-trainers session on gender and career opportunities along the agricultural value chain training modules at the Global Youth Economic Opportunities Summit in September 2016 sponsored by Making Cents International.

ACTIVITY 8: Revise strategy to complete AET training modules

There are no new training modules to report in Q1/Q2.



ACTIVITY 9: Produce a database of agricultural training opportunities

In the initial years of the project, the consortium began gathering information on worldwide training programs related to building AET capacity and compiling information into an online database housed in our Community of Practice, which was housed on a Jive platform. With the transition away from the Community of Practice, the database has been relocated to a Moodle platform. Access is maintained through the improved InnovATE WordPress website. However, this adjustment is a short-term fix tied to the life of the project. We are still investigating possibilities for a permanent home after the project, if interest in the database warrants.

ACTIVITY 10: Publish and disseminate results of prior studies

InnovATE posts all project publications through the InnovATE website and shares its work in the Agrilinks library. Additionally, InnovATE adds to the AET scholarship through the peer-reviewed journal publications. In Q2, an article submitted by Kristal Jones, (PSU) Rebecca J. Williams, (UF) and Thomas B. Gill, (PSU) was published in the **Agriculture and Human Values** journal of the Agriculture, Food, and Human Values Society. This article looks at issues that face students who wish to participate in AET with a focus on the perception of agriculture as a field. The paper uses data from students hailing from Honduras, Haiti, Bangladesh, and Nepal.

[“If you study, the last thing you want to be is working under the sun:” An analysis of perceptions of agricultural education and occupations in four countries](#)

IV. Administrative Tasks

ACTIVITIES 11-13: Administrative tasks

Reporting

All partners submitted quarterly financial and program reports for Q1 & Q2 in Year 4. This semi-annual report was compiled with contribution from all partners.

Plan and conduct two meetings of the Program Advisory Council (PAC)

Planning was underway to hold a PAC meeting on April 6, 2016 at the Kellogg Conference Center at Gallaudet University in Washington D.C.

Partners meeting

Planning was underway for InnovATE to hold the Year 4 Annual Partners meeting on June 6-7, 2016 at Mountain Lake Lodge in Pembroke, VA. The objective is to commence planning for Year 5 and report recent progress.

Administration

In Q1, Larry Vaughan was approved as the InnovATE project director at Virginia Tech. Penn State recruited Patricia Neiner and Anouk Patel to provide expertise and support for InnovATE's work in the Gender in AET theme.

Appendix A: Year 4 Completed Activities by Theme Q1-Q2

Completed in Q1-Q2	Gender Challenges and Opportunities	Rural Workforce Development and Youth	Pedagogy and Curriculum
LEARN	<ul style="list-style-type: none"> ➤ Ending Poverty and Hunger through Strengthening Agricultural Education and Training ➤ Agricultural Education and Training Must Be Local and Demand-Driven 		
	<ul style="list-style-type: none"> ➤ Ensuring Education for the Girl Child: Best Practices in Menstrual Hygiene Management • Gender blogs ➤ Empowering Women for Success in Agriculture ➤ Starting Point for Addressing Infrastructure-Related Safety Concerns for Women in Agriculture Education and Training ➤ Breaking Barriers to Girls' Education: Menstrual Hygiene Management ➤ Changing the Perception of Agriculture for More Women's Participation 	<ul style="list-style-type: none"> ➤ Brief: Engaging Rural Youth in Entrepreneurship through Extracurricular and Co-curricular Systems ➤ Article: "If you study, the last thing you want to be is working under the sun:" an analysis of perceptions of agricultural education and occupations in four countries 	<ul style="list-style-type: none"> ➤ Cooperative Learning • Pedagogy and curriculum blogs ➤ The Difference Between Agricultural Education and Extension, and Why It Matters ➤ Connecting Theoretical and Practical Instruction: A Critical Agricultural Education and Training Linkage ➤ EARTH University: A Model for Agricultural Education and Training Linkages
DESIGN	<ul style="list-style-type: none"> ➤ Support to USAID Mission/Bureau AET design: (Cambodia, Malawi?, CDCS Analysis) ➤ Evaluate Concept Notes for AET design opportunities <ul style="list-style-type: none"> ➤ Developing the Capacity of Middle-Level Tertiary Education in Preparing and Nurturing Young Entrepreneurs in Sub-Saharan Africa ➤ How Competent Are Agricultural Extension Agents and Extension Educators In Nepal? ➤ Review of Research and Practice for Youth Engagement in Agricultural Education and Training Systems ➤ Engaging Rural Youth in Entrepreneurship through Extracurricular and Co-curricular Systems 		
TRAIN			<ul style="list-style-type: none"> ➤ Online Chat: Ask Ag About... Interactions between Agricultural Education and Extension ➤ Webinar: Building Linkages in Agricultural Education and Training through Systems Thinking

Appendix B: Evaluation Questions for USAID Mission Staff



1. What prompted your Mission's investment in AET?
2. What specific indicators/tools have you used to monitor progress and evaluate outcomes of AET programs/projects? Were these indicators/tools useful in documenting the impact of AET programs/projects?
3. What evaluation measures were used to follow-up with program participants to track longer-term outcomes? For example, pre-/post tests, follow-up interviews, gathering on-site data, etc.
4. How has your theory of change been validated based on the impacts?
5. Can you provide examples of AET projects/programs that included successful M & E?
6. What challenges have you experienced in evaluating AET projects/programs? Briefly describe.
7. In your opinion, what is needed in order to conduct more effective evaluations of AET projects?
8. Is there anyone else who has been actively involved in AET evaluation that you think we should talk to?