



USAID
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RENEWING INVESTMENT IN AGRICULTURAL EDUCATION AND TRAINING

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Renewing Investment in Agricultural Education and Training

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CONTENTS

Introduction.....	4
AET Opportunities	5
Work with institutions that have emerged in the absence of major international donors:	5
Engage a new generation of agricultural experts:.....	6
Diversify the agricultural education opportunities beyond degree programs at universities:.....	6
Creating an interdisciplinary understanding of agriculture:	6
Create and strengthen inter-institutional connections:.....	7
Large demand for university opportunities:.....	8
There have been significant improvements in technology:	8
PITFALLS.....	8
Move from a supply driven model to a demand driven model:	8
Develop an effective narrative:.....	8
Practical training:.....	9
Administration and policy issues:	9
Brain drain	9
Increasing the appeal of agriculture at the university level:	9
An aging expert base:	10
Avoid applying a one size fits all approach to AET, learn from past failed systems:.....	10
Areas of continued study.....	10
Women in agriculture:	10
Fragile state context:	10
Distance learning technologies:	11
Increased private sector involvement:	11
Environmental training and natural resources:	11
TABLES	
Systems and End-Users	7

INTRODUCTION

Over the past 20 years, agricultural development has been a relatively low priority for USAID and other international donors. Within the reduced funding for agriculture, investment in Agricultural Education and Training (AET) systems has been minimal, or perhaps negligible¹. This lack of support has constrained growth of AET institutions and programs, and, in some cases, has probably resulted in diminished capacity and decline of previously robust institutions. One contributing factor to the decline is the aging of AET staff and scientists trained from 1960-1980; the majority of these individuals are either now retired or will soon be retiring from their institutions. Thus, countries and institutions are losing a large segment of institutional memory and capacity in this field. In addition, limited donor interest and investment in agricultural education and training institutions, coupled in many cases with inadequate local funding for such programs, has resulted in few innovations in programs, institutions, and outreach. Many institutions are behind the times, inadequately addressing emerging issues in agriculture and rural development. There appears to remain an excessive focus on farm level production technology and supply of graduates oriented to public sector employment.

In 2010, USAID unveiled the Feed the Future Initiative which presented bold plans to meet the global questions of food security in an ever changing world. This initiative naturally looked to agriculture for much of the response to the difficult issues in assuring food security. Other initiatives relating to global climate change adaptation/mitigation and natural resource conservation also rely heavily on agricultural development. However, policy makers found themselves running up against the limitations resulting from past neglect of the sector. USAID and other donor staffing in agriculture has declined precipitously and, while now underway, rebuilding staff capacity will require considerable time and effort. And for both USAID and its implementing partners, current staff generally lack experience with institutional capacity building and strategic investments as were common in the past. This is particularly true for work on AET programs. The renewed attention to agriculture provides for, and demands, a serious look at past performance and analysis of lessons learned.

AET systems in USAID partner countries are important stakeholders and implementing partners for work on food security, climate change, food safety, and other issues. Trained personnel are needed at all levels to support a dynamic agricultural sector. Capacity needs go well beyond the need to train scientists and researchers. Agricultural education and training must prepare policy-makers, analysts, researchers, agribusiness entrepreneurs and staff, technicians, extension agents, agricultural finance officers, natural resource management specialists, and others. Some USAID country missions have found constraints to agribusiness development due to lack of trained technicians and have funded projects to address this constraint. While training is essential and overseas training is possible and desirable in some cases, relevance, cost and sustainability considerations suggest that in-country AET institutions must be able to provide AET training needs for the country.

¹ AET as used here refers to formal agricultural education and training. It includes tertiary education, vocational and technical training often at diploma and certificate levels, and secondary level training, such as vocational agriculture. “AET systems” refers to the complex of such programs and institutions within a country, recognizing that these are, or can be, related. This does not include extension services for farmers and others, though farmers would often be able to participate in formal vocational/technical training.

Though the last 20 years have seen diminished investment in AET institutions, historically, USAID invested heavily in capacity building of different systems around the world. Those investments provide practitioners with a wealth of insights on best practices and pitfalls to be avoided. The new interest in agriculture should provide the chance to modernize AET systems, institutions, and programs. The agricultural world has moved on from the supply driven systems of the past in which the public sector was expected to lead planning, provide services, and manage the economy. In the new context for agricultural development, AET institutions and programs must transform themselves into demand-driven, responsive and efficient support for commercial production for domestic and international markets.

National AET systems vary widely in capacity and outlook, but generally need to strengthen agribusiness, marketing and private sector aspects of their programs. Training relevant to off-farm elements of agricultural value chains, including agricultural policy, support services, and environmental and food safety issues is important in the long term. Expanding attention beyond the university setting and investing in other aspects of formal agricultural education may be better able to promote private enterprises growth and allow AET investments to be well positioned to make a meaningful contribution to economic growth and development.

To assist countries and USAID Missions to take advantage of the opportunity to reinvest in AET systems, while avoiding pitfalls of the past, USAID has contracted with Weidemann Associates, Inc. to review strategy options and issues for consideration in new investments in AET. The objective of this review is to identify key issues and opportunities needed to bring current AET systems up to the needed capacity. This should identify needs and opportunities for reforming and reinventing AET programs and institutions to reflect the current realities and to build a lasting infrastructure that will continue to operate after donor funding has ended.

Weidemann Associates is carrying out this review in a phased process. The first phase involved a comprehensive literature review by Dr. Bill Rivera. This phase reviewed a large sampling of available research and thinking on the field of AET. Dr. Rivera prepared two concept papers identifying AET topics on which there is considerable consensus and other topics needing further assessment. Emmy Simmons and Terry Hardt reviewed this work from the perspective of practitioners and summarized their conclusions on areas in need of additional discussion as well as identifying pitfalls to be avoided and opportunities that should be taken advantage of. This paper will first look at the opportunities identified in the preliminary research. Next the paper will look at some of the many pitfalls learned from previous AET work that should be avoided moving forward. Lastly the paper will give a brief explanation for some of the key areas that the preliminary research identified as requiring further research and study in a modern day context.

AET OPPORTUNITIES

Work with institutions that have emerged in the absence of major international donors:

Nearly all countries have established agricultural universities and/or other training institutions. Many have sound programs, despite challenges they face. Some need major reform and reinvestment. Even the

strongest may benefit from external support and linkages. New universities, many private, have emerged, and, while often struggling, have a market niche, flexibility and incentives to innovate. There are many institutions with which to work. In addition, several organizations have emerged to deal directly with Agricultural Education and Training at the local and regional level. Organizations such as the Regional University Forum for Capacity Building in Agriculture (RUFORUM) and the Forum for Agricultural Research in Africa (FARA) are two such examples of organizations that have taken up the mantle in moving forward with AET despite little funding and inattention from the rest of the world.

Engage a new generation of agricultural experts:

As mentioned previously, there has been little donor attention paid to agriculture in the developing world in the last twenty years. Since the 1980's funding for agriculture projects has been hard to come by from major international donors and as such there has been little human growth in this field. Many of the experts at the surviving agriculture institutions are now either retired or are nearing retirement. If immediate action is not taken, their extensive knowledge will be lost. However, this large gap in new experts to the field has the possibility of being a blessing in disguise. With renewed interest in agriculture this presents an opportunity to bring a new generation of bright and dedicated practitioners into the field who will bring an entirely different skill set and mentality to the table. If USAID is able to expand the understanding of what agriculture is, and move away from its perception of hard work toiling on a farm to cutting edge scientific research in state-of-the-art laboratories, or marketing and distribution of goods this will have greater appeal on today's technology-driven youth.

Diversify the agricultural education opportunities beyond degree programs at universities:

The new focus on agriculture sets the stage to move AET from university campuses and out to a broader client base to engage in broad support to sector institutions. It allows USAID to reassess its previous emphasis on university diploma and post graduate level AET work to include a more practical, applied approach to agricultural education. By supporting technical and vocational schools or centers for modern agriculture that attract both experienced and young farmers as well as other youth and those already employed in the sector, these centers can bring AET knowledge to a broader audience. Such centers would cater to the practical agricultural education needs of the sector—training technicians, entrepreneurs, and farmers. Such centers would provide a key instrument in fostering a partnership farming approach, connected especially to opportunities where factory type farming existed. This would allow the education to be demand-driven and let the trainees make themselves increasingly valuable to employers. In addition, by casting a wider net and giving more area specific training the AET efforts are enough to empower a worker to better their wage earning potential but not so great that the worker would be able to peddle the new knowledge elsewhere, as with past focus on PhD programs. This would keep the knowledge learned from the trainings at the local level where it can do the most good.

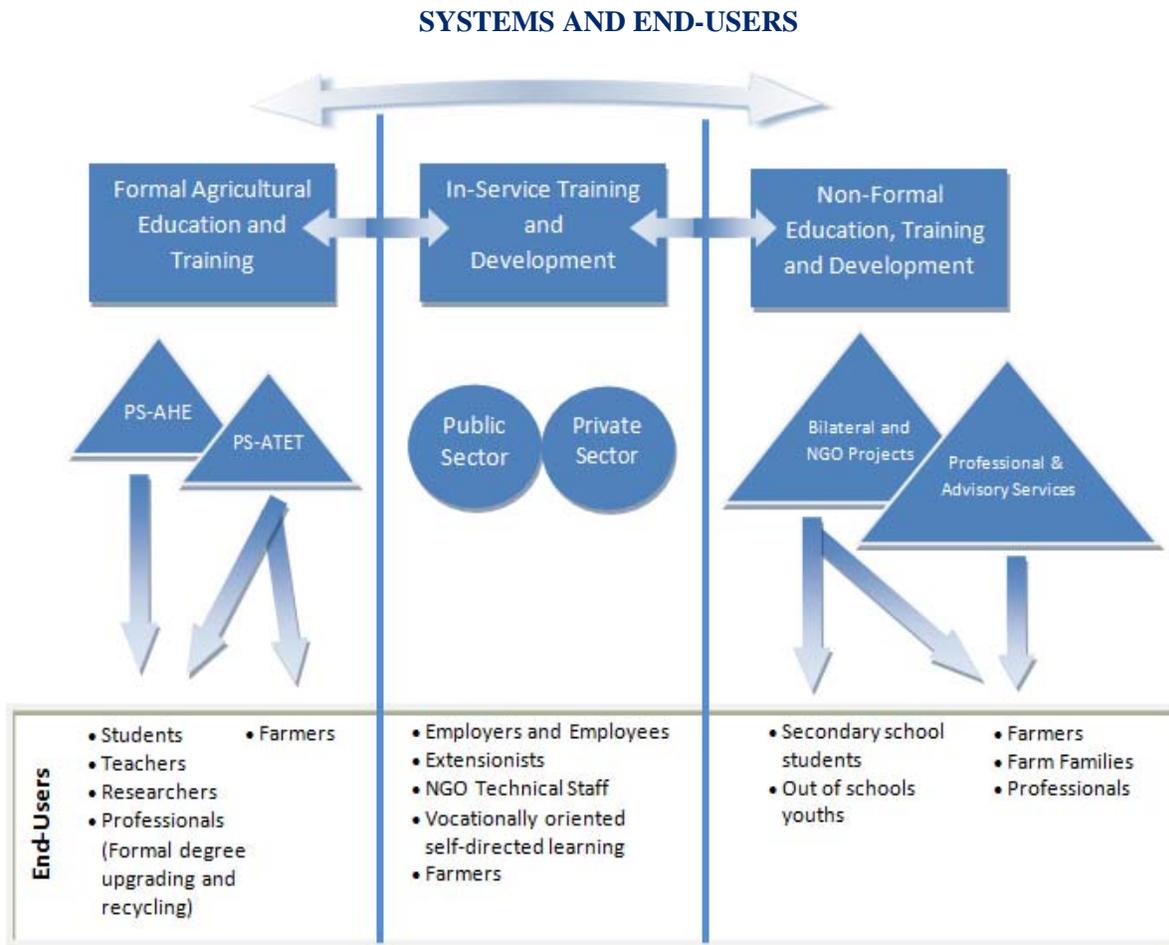
Creating an interdisciplinary understanding of agriculture:

One of the problems facing agriculture in the developing world today is that of perception. It is often perceived by policy makers, the younger generation and even some of the technicians in the field as consisting of hard labor in the fields. This is a misconception that must be remedied in order to bring new

ideas into the field and a younger generation. This can easily be done focusing on the many other concepts that fall under the agriculture umbrella. USAID can push to develop interdisciplinary curriculum for agriculture students that focuses not only on the more traditional aspects of farming but also business development, marketing, non-profit management, environmental concerns, bio-engineering and other technological aspects. By broadening the understanding of what agriculture is USAID can open up avenues of research and understanding that will strengthen AET institutions in the developing world and help them to be more sustainable in the long run.

Create and strengthen inter-institutional connections:

As partially touched on already, the new emphasis by USAID and other international donors on agriculture provides the opportunity to create and strengthen inter-institutional connections. As illustrated in the table created by Bill Rivera, effective AET works through all private, public, university and NGO institutions to build capacity and sustainability. Currently the opportunity exists to connect with several previously mentioned organizations that have been doing exemplary work, which could provide models and be strengthened with USAID assistance.



Large demand for university opportunities:

After several decades of emphasis on primary education throughout Africa, the number of people wanting to continue their educations to the university level has grown dramatically. However since a majority of the educational funds have gone to the primary level of education there has been little expansion of the countries' aging university systems. This presents an opportunity for USAID to invest in local universities and reach a new generation. By incorporating several of the previously mentioned opportunities, USAID can make a significant impact on agricultural efforts in the Continent for generations to come.

There have been significant improvements in technology:

In the last twenty years since USAID and other international donors have moved away from support of agriculture. At the same time, significant advances in technology present new opportunities. Advances in bio-engineering have resulted in hardier and more resistant crops. The increased access to the internet has opened up opportunities and access to populations that were previously underserved and had to rely on photocopies of sometimes outdated textbooks that professors brought back with them from their own studies in foreign countries. There are countless new possibilities for agriculture because of scientific advancements over the last twenty years that are now available.

PITFALLS

Move from a supply driven model to a demand driven model:

One of the most valuable opportunities that has presented itself with the resurgence of interest in AET is to move the emphasis in AET from being supply driven to demand driven. Previously AET efforts were designed to provide the government and the public sector with workers. Agriculture students were often taught by professors that got their educations in western countries but whom had done very little research in their own countries often leading to incongruities with the skills being offered by the agricultural technicians and the needs of the farmers they were attempting to help. However, this area can be remedied by more closely linking AET efforts with companies and sectors that require agricultural experts. By going straight to the future employer and determining what skills they are searching for in future job candidates AET institutions are able to better prepare their students for finding good paying jobs once they leave school. By combining this coordinated effort between AET institutions and the private sector along with a new emphasis on the interdisciplinary nature of agriculture, students will be prepared to make a lasting impact for themselves, their families and their communities.

Develop an effective narrative:

The crisis in effective education is not very visible. This is not to say that it does not have grave consequences but it does not share the same glitz and glamour that developing illicit crops or political strife have. Because ineffective educational institutions garner so little attention it is important to present the narrative of the issue in a convincing way. This narrative needs to be clear and consistent and it must

lay out the many opportunities being lost and myriad of negative externalities related to a poor education system.

Practical training:

Sound investments in AET programs depend on training being practical and relevant. This has been a challenge in the past. It presents a dilemma in that AET education needs to be made more attractive by emphasizing the “modern” employment opportunities that do not involve low pay and drudgery, while adequately prepared graduates should understand and be qualified in practical aspects of agricultural production and rural economic and social systems. Programs may benefit from drawing enrollees from rural areas. Improved technical and vocational training programs might prepare students for more academic programs. But, it seems that many countries have neglected investment in such programs.

Administration and policy issues:

Serious policy constraints affect many universities. Political pressures require increased enrolments and low tuition and fees. Maintaining program quality is challenging. Tradition and institutional cultures make change difficult.

Brain drain

Brain drain is a constant problem facing all aspects of development economics. It is multiplied however in AET. Firstly, AET has the problem that in developing countries most of the students that make it to the university level are from the cities and urban areas and have very little experience with agriculture. Thus, those that do receive an agricultural education often attempt to leverage their education into bigger and better opportunities outside of agriculture or outside of their country. We can see the manifestation of this by the fact that currently, the largest influx of immigrants to the US with a Ph.D. comes from Africa, not Asia, Europe or Latin America. The brain drain dilemma is compounded with agriculture because the small portion of students with an agriculture background that do make it to university level often have little interest in returning to the underdeveloped rural portions of the country to practice and disseminate their knowledge to the wider communities. So we see that the rural areas are being left devoid of their brightest minds which are being attracted to the urban centers, and the urban centers are being decapitated of some of their brightest minds by the west.

Increasing the appeal of agriculture at the university level:

An issue that goes hand in hand with the previous pitfall that needs to be overcome is increasing the desirability of studying agriculture. Currently, the perception of agriculture is not very high and it holds little appeal for new students. Many of the students in agriculture programs are there because they were not able to get in to the field of study that they wanted and agriculture was all that was open to them. As such, if these students are offered the opportunity to enter their desired field they quickly do so. This leaves the field of agriculture with students that are not motivated and have very little actual interest in the field. This can be combated by reshaping the perception of agriculture from backbreaking labor to embracing the entire range of technical and economic issues and skills required.

An aging expert base:

AET is currently experiencing diminishing local human capital brought on largely by the fact that the experts in the field are getting older and retiring and there is no new generation to take their place. This is perhaps one of the most pressing needs that must be remedied immediately. This can be done by incorporating some of the earlier mentioned suggestions for broadening the appeal of agriculture to the next generation.

Avoid applying a one size fits all approach to AET, learn from past failed systems:

Though the last twenty years has seen a dearth of innovation and attention paid to the field of agriculture and AET, prior to that there was a wealth of research and experiments that can be drawn on for lessons learned. There has been a panoply of systems that have come and gone with varying levels of success and applicability across the world. Though certain systems such as the Land Grant Model have entertained success in Brazil and India, it has failed to take root in much of the rest of the world. There needs to be a comprehensive study of the many methods in AET that have come and gone. Such a study can identify strengths and weaknesses, and identify conditions for success and failure. Assuring a better understanding for prior efforts will help USAID avoid repeating unproductive approaches and instead build on a solid foundation that was laid before.

AREAS OF CONTINUED STUDY

Women in agriculture:

In much of the developing world agriculture is an industry heavily dominated by women, yet women are in very few positions of influence. Women are underrepresented in marketing, off-farm processing, transportation and wholesaling leaving women at a strategic disadvantage. Also, a large portion of the students that do study agriculture are males. A more equitable gender balance has to be achieved to fully address the problems facing AET.

Fragile state context:

One of the most crucial contexts for AET is that of fragile states. Fragile states often have a minimal skilled work force and rely heavily on low skill employment such as agriculture. This is particularly true in post-conflict settings where few of the ex-combatants have any meaningful measure of formal skills or education beyond fighting. For these ex-fighters agriculture is often the only livelihood available to them after they put down their weapons. However, if they are unsuccessful at farming there is a high likelihood that they would consider returning to their weapons. It is for this reason that further work needs to be done on AET at the grassroots level to directly benefit high risk populations. This is an area that USAID has the opportunity to take the lead on considering its continuing involvement in fragile states such as the Sudan, Haiti, Iraq, Afghanistan and Kosovo.

Distance learning technologies:

Advances in ICT technologies can be harnessed in order to bring more cutting edge and effective AET to local populations through distance learning. More research needs to be done on this field in order to effectively study the best ways to bring quality AET efforts to remote populations that most need assistance.

Increased private sector involvement:

The preliminary research points to this one issue as being the most essential piece of the AET puzzle moving forward. Through increased connections with the private sector AET can move from its supply driven model to a more viable demand driven model. The private sector will be crucial in dictating what skills the market is looking for and what knowledge will be adequately reimbursed. Increased involvement of the private sector will help bring an entrepreneurial side to AET that will help to attract younger generations to the field which will help to solve the issue of the aging expert base. Private sector participation also helps speak to the sustainability of the USAID efforts. If private sector is involved then the AET projects will have an independent source of funding other than the international donors whose funding is always tentative at best. Private sector involvement is the key to moving forward with the new focus on agriculture and as such deserves and requires much more research and study into the most effective uses possible.

Environmental training and natural resources:

There have been increased levels of awareness of how agriculture and agricultural practices can have a negative effect on the environment. Beyond clear cutting forests and other precious environments, agriculture also needs to examine its approaches to pesticides, irrigation and the long term effect of genetically modified organisms. Having greater understanding into the environmental impacts of agriculture will ultimately assist in the long term sustainability of the USAID AET projects.