

CIREDconnect

Building Global Partnerships in Research, Education, and Development

A periodic newsletter of the Center for International Research, Education, and Development

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The project will help to empower and train a highly-skilled, modern Afghan agricultural workforce that includes male and female actors.

CIRED receives award to improve agricultural education and research in Afghanistan

The U.S. Agency for International Development (USAID) has awarded Virginia Tech the Catalyzing Afghan Agricultural Innovation (CAAI) project, a five-year, \$8 million grant aimed at improving capacity in agricultural education and promoting new roles for educators and researchers by building relationships among them and with the private sector. Virginia Tech and its project partner Purdue University will technically backstop the project, through distance education and at sites in nearby countries. A U.S. based chief of party will lead an all-Afghan in-country team as part of the project.

“CAAI represents a unique opportunity to help re-develop the country,” says Van Crowder, CIRED executive director. “The decades of strife have had a particularly devastating effect on the rural population, which depends largely on agriculture for income and subsistence. The conflict has also greatly reduced the capacity of the agricultural education and research system to provide the human capital and technical solutions needed to revitalize the agricultural sector.”

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Catalyzing Afghan Agriculture Innovation (CAAI) - Cont.

The objectives of the project are to:

- Catalyze Afghan-led innovation in agriculture by empowering and training a highly skilled, modern Afghan agricultural workforce;
- Strengthen capacity of applied research and extension actors to identify, deploy, and facilitate use of innovative solutions to practical challenges identified by Afghan farmers and agribusiness; and
- Institutionalize coordination and effective information sharing among agricultural value chain stakeholders.

The project's approach tests a model for relationship building by establishing applied research programs focused on locally important crop value chains. CAAI will stimulate and sustain collaborations between members of the agricultural education and research system and private sector actors. The project will provide faculty members with the tools to recognize the demand for applied agricultural research and help universities to meet research demands. Locally led, interdisciplinary applied research and extension programs that provide innovations to improve value chains will be the result.

CAAI will also provide training and backstopping for universities to improve the quality and relevance of teaching. According to data from the Ministry of Higher Education, only 5 percent of university teachers have a Ph.D. The highest degree attainment is a bachelor degree for 58 percent of university teachers. Most faculty members need additional training to improve teaching and take on the non-traditional role of researcher.

Robust pathways for sustained in-service teacher training at high schools and agricultural institutes will help practical skills and agricultural innovation enter the classroom. CAAI will assist the National Agriculture Education College (NAEC) in developing new content for its existing in-service training program for high school teachers, emphasizing demonstration and practical skills.

NAEC has benefitted greatly from a project run by Wageningen University in the Netherlands. Wageningen began working in Afghanistan in 2009 to improve the quality of education at Agricultural High Schools and post-secondary Agricultural Institutes. The Dutch Agricultural Technical and Vocational Education and Training (ATVET) project helped establish the Kabul-based NAEC.

CAAI will support the "Education to Women" (Edu2Fem) pilot project, which originated under the Wageningen technical assistance. Edu2Fem will test innovative approaches to increase rural women's participation in formal agricultural high school education, including via distance learning.

Although the number of women students at agricultural institutes has increased with overall enrollment growth, female enrollment remains at approximately 5 percent. Moreover, female participation in agricultural technical education is concentrated in several provinces only, with the majority of schools having no female students. In part, these numbers reflect the conservative nature of much of Afghanistan, yet belie the importance of women in agriculture, and the existing demand for female agricultural education that remains unmet. Through the project, NAEC will address this gap by identifying and testing a scalable model for female education that will lead to greater female participation in agricultural education.

Message from CIRED Executive Director



Van Crowder, CIRED executive director, welcomed faculty, staff, and students to the launch ceremony.

On March 8, 2018, we celebrated the formal launch of the Center for International Research, Education, and Development (CIRED). It was a momentous day for all of us at CIRED and for our friends and colleagues across the campus and around the world.

Message from the Director - Cont.

The event was attended by Guru Ghosh, vice president for Outreach and International Affairs and Cyril Clarke, interim executive vice president and provost, as well as a large number of Virginia Tech faculty, staff, and students.

The occasion was even more commemorative, since March 8 also marked International Women's Day—a global day to celebrate the social, economic, cultural, and political achievements of women. Women entrepreneurs in Senegal that participated in the Education and Research in Agriculture project, shared their congratulatory remarks via a live feed during the launch. Since 2011, the project has facilitated technical trainings on food quality, hygiene, and safety that have impacted more than 10,000 women entrepreneurs.

The formation of CIRED marks Virginia Tech's continued commitment to being a global land-grant university. As a university-wide center, CIRED supports Virginia Tech's global mission by developing and implementing donor-funded international projects and activities that draw on the university's knowledge and apply it to improving livelihoods and living conditions in developing countries. This provides opportunities for faculty and students to become engaged in research, teaching, and development of solutions to problems beyond the boundaries of the university, Virginia, and the nation.

CIRED and its predecessors have brought in \$182 million in total project funding and \$15 million in returned overhead since 1993. The current CIRED project portfolio is approximately \$70 million. Through its projects, CIRED currently manages 37 sub-awards with partners and supports 77 graduate students globally. It has 39 academic partners in 17 countries.

Our programs and projects address the most significant challenges in the world today, including food security, human health, and environmental sustainability. Ultimately, CIRED's greatest impact is felt in the communities and countries where we work with a range of partners in collaborative ways that extend the spirit of Virginia Tech's motto – *Ut Prosim*, (That I may serve) to a global scale.

A brief history of CIRED

For nearly half a century, the Center for International Research, Education, and Development (CIRED) and its predecessor entities have provided innovative research and leadership solutions to ever-evolving global development challenges. In the 1960's, university faculty conducted agricultural development projects in Africa and Asia. In 1971, Virginia Tech President T. Marshall Hahn created the University Committee on International Programs (UCIP) to coordinate such work.

In 1975, the U.S. Congress passed Title XII of the Foreign Assistance Act, which mobilized the research, teaching, and extension expertise of U.S. land-grant institutions, and established the Board for International Food and Agricultural Development (BIFAD) to advise the United States Agency for International Development. Virginia Tech hosted BIFAD's first Conference on International Development with the National Association of State Universities and Land Grant Colleges. After the university received its first Title XII grant in 1978, it added a ground-breaking Women in World Development component to its work. The 1980s saw Virginia Tech President William Lavery named the chair of BIFAD, and UCIP consolidated international development projects into the Office of International Development (OID).

In 1991, OID became the Office of International Research and Development. The office's mandate was expanded in 2002, when it was renamed the Office of International Research, Education, and Development (OIRE). In 2018, OIRE became CIRED, a new center focused on continuing Virginia Tech's global legacy.



Ya Cor Ndione, associate national director; Rick Rudd, head of the Department of Agricultural, Leadership, and Community Education; Megan Kyles, USAID/Senegal agriculture/nutrition specialist; Tom Archibald, project director and assistant professor in the Department of Agricultural, Leadership, and Community Education; Kathleen Jamison, professor emeritus and extension specialist; Bineta Guisse, national director; Fatimata Kane, 4-H specialist; and Jeremy Johnson, state 4-H leader, Virginia 4-H, attend the program launch in Senegal.

CIREN launches \$4 million Youth in Agriculture project in Senegal

For more than a century, youth in 4-H clubs have pledged to make their communities, their countries and their world a better place.

Thanks to the shared visions of USAID, CIREN and Virginia Cooperative Extension, youth in Senegal can now join thousands of youth around the world in becoming positive agents of change in their communities, while gaining valuable skills in agriculture.

On May 22, 2018, CIREN officially launched its newest project, Feed the Future Senegal Jeunesse en Agriculture (Youth in Agriculture), at the Centre International de Conférences Abdou Diouf (CICAD) in Diamniadio, Senegal.

The five-year, \$4 million project will continue the work of the Education and Research in Agriculture (ERA) project by expanding 4-H clubs across Senegal and institutionalizing positive youth development nationally.

Hundreds of project partners and participants attended the event, including representatives from Virginia Tech, Virginia Cooperative Extension, USAID, the Ministry of Higher Education, Research and Innovation (MESRI), agricultural education training and research institutions, food producers, and various Senegalese non-profit organizations.

Professor Amadou Thierno Gaye, director of Research and Innovation at MESRI, applauded USAID and Virginia Tech for bringing the project to fruition.



Tom Archibald, project director and assistant professor in the Department of Agricultural, Leadership, and Community Education, thanks Amadou Thierno Gaye, director of Research and Innovation in Senegal's Ministry of Higher Education, Research, and Innovation, for supporting the Youth in Agriculture project.

Kitty Andang, USAID/Senegal deputy mission director, Thomas Archibald, project director and assistant professor, and Bineta Guisse, national director, also delivered remarks.

“This project fits squarely within the priorities of the Government of Senegal and of USAID, both of which realize the importance of engaging young people in positive youth development and agricultural entrepreneurship,” said Archibald.

Emceed by ERA staff – Pierre Diatta and Fatimata Kane – the ceremony was filled with engaging activities for guests, including icebreaker activities, video highlights, commemorative photos, and a “wall of fame,” a display in which participants wrote commemorative messages marking the occasion.

Dieynaba Badiane, youth entrepreneur, and Youth 4-H Leader and member Fatou Diouf, a student at the Institute for Advanced Agricultural and Rural Training in Bambey, spoke highly of the project's impact during the launch.

“We are proud to celebrate the launch of the project, because we remain convinced that a project cannot be more useful than one that serves humanity,” said Diouf. “This ambitious program, implemented by passionate and unselfish actors, is a model for the path to development.”

The project will also work with vocational training institutions to strengthen their connections to private-sector actors and markets, including the piloting of innovative approaches for creating entrepreneurship and income-generating opportunities for youth.

Following the ceremony, participants toured the Cité du Savoir (City of Knowledge), a new 34.5 acre project under construction 20 miles east of Dakar that will serve as an innovation hub for Senegalese researchers and the sub-region as part of the country's economic emergence.

During the pilot phase of the project under ERA, the Youth in Agriculture program reached approximately 600 youth. During the next five years, the program is projected to reach 22,000 youth with at least 60 percent female participation in eight regions.

In addition to local staff in the project management unit, others attending from Virginia Tech included: Rick Rudd, department head, of Agricultural, Leadership, and Community Education, Ozzie Abaye, professor in the Department of Crop and Soil Environmental Sciences, Kathleen Jamison, professor emeritus and Virginia State 4-H extension specialist, and Jeremy Johnson, state 4-H leader.





Following the launch ceremony, VT staff joined Senegalese youth, USAID representatives, and Government of Senegal leaders for a tour of the Cité du Savoir (City of Knowledge), an innovation hub for Senegalese researchers, under construction in Senegal's newest city, Diamniadio.



In 2015, the 4-H Senegal Positive Youth Development was launched under the Education and Research in Agriculture project. Nearly 600 Senegalese youth joined 4-H clubs in Senegal within the first two years.

CIREd marks the end of ERA project in Senegal with symposium on agriculture innovation

It is said that all good things must come to an end. Yet, one ground-breaking project in Senegal is leaving a lasting impact on the country's agricultural future.

After eight years of strengthening education, training, and research in agriculture in Senegal, the USAID Education and Research in Agriculture (ERA) project, managed by CIREd, culminated in a three-day symposium on the theme "Innovations for Impact."

On June 28-30, 2018, hundreds of project participants and partners gathered on the shores of the Atlantic Ocean at Place du Souvenir in Dakar, Senegal, to share and celebrate the results of the ERA project. Participants representing several governmental ministries, agricultural institutions, and partner organizations participated in plenary sessions, breakout discussions, and product exhibitions that highlighted the outcomes of ERA programs and activities.

Lisa Franchett, USAID mission director, and Mary Teuw Niane, minister of Higher Education, Research and Innovation, applauded ERA staff on the project's accomplishments during the opening ceremony.

"ERA has brought freshness into the conceptualization and implementation of agricultural training, education, research and innovation policies and programs," said Minister Niane. "Inspired by proven standards, including the U.S. Land Grant System, ERA has supported us in building human and institutional capacity in these areas."

Larry Vaughan, CIREd director for program development, Tom Thompson, associate dean and director of global programs in the College of Agriculture and Life Sciences, and Tom Archibald, former ERA chief of party and assistant professor in Agricultural, Leadership and Community Education, travelled to Senegal to join current Chief of Party Demba Mbaye and local ERA staff in celebrating the project achievements.

"The project created real dialogue within the entire agricultural value chain," said Mbaye. "From university classrooms and research laboratories to farming fields and processing workshops—right down to the consumer table—the intertwining of the worlds of research and practice has been fundamental to the project's success."

Since 2011, the ERA project has strengthened human and institutional capacity in agricultural education, training, and research (AETR) institutions in order to help those institutions better serve the needs of the Senegalese public and private sectors. Key accomplishments have included: study tours to the US; syllabi development workshops; trainings in pedagogy and curriculum; experiential learning activities; Bourses d'Excellence scholarship program; new and improved farming technologies; public-private partnerships between women's food processing groups and universities; and Senegal's first 4-H Positive Youth Development program.

One of the main accomplishments of the ERA project was the passage of Law n°18/2014, which calls for universities to commit to a higher level of engagement with the community outside of the formal classroom. ERA helped to inspire the new law that added community outreach as a university mission (service à la communauté).

In addition, ERA has helped to formalize inclusive agriculture policies such as the Cadre de Genre, a methodological guide that enables research professors and extension centers to strengthen the integration of gender in their pedagogical approaches, strategic documents, and work environments.

Making a difference in Senegal

More than 10,000 Women entrepreneurs impacted by trainings in food security

155 Scholarships awarded to Senegalese students to study in the U.S. and in Senegal as part of the Bourses d'Excellence flagship initiative

20,304 Students using improved and standardized syllabi

1,143 Syllabi developed

832 AETR professors trained in syllabus development/curriculum design

101 Food products approved for commercialization

87 Students participating in private sector internships

More than 5,000 Producers trained in agricultural productivity

1,735 Farmers and others who have applied new and improved technologies or management practices

120 AETR members trained in administration, finance or monitoring and evaluation



The president of four women's platforms, representing thousands of women food processors in each region in Senegal, arrive for the three-day symposium.



Tom Thompson, associate dean and director of Global Programs in the College of Agriculture and Life Sciences, and Elhadji Gningue, local project staff member, exchange greetings on the final day of the symposium.

Former project staff members, Assa Bayalara (right) and Nd'ye Fatou Seck (second from right), visit the stands of women entrepreneurs who specialize in value-added processing of local fruits and cereals.



Former visiting scholar earns national recognition for his research on pest management

A tiny pest called the millet head miner has been wreaking havoc on pearl millet, a staple crop in the West African nation of Niger. Yet, Laouali Amadou, a researcher from Niger who studied at Virginia Tech, has been on a mission to stop the pest in its tracks, and he has received top honors for his research.

The Board for International Food and Agricultural Development (BIFAD), a presidentially appointed federal advisory committee, awarded Amadou the BIFAD Award for Scientific Excellence in a Feed the Future Innovation Lab. Amadou was one of three recipients of the award that is designed to recognize individual student researchers and/or a team of researchers for significant achievements originating from work performed through USAID's Feed the Future Innovation Labs.

Amadou, who is earning his doctorate in entomology at the University of Maradi in southern Niger, studied at Virginia Tech in 2015 under Muni Muniappan, director of the Integrated Pest Management Innovation Lab.

In a country that relies heavily on agricultural productivity, the millet head miner is having a big impact. Approximately 80 percent of Niger's 20 million people are engaged in crop cultivation or animal husbandry, and the millet head miner can cause up to 85 percent crop loss.

"We have already seen an increase in the number of farmers using parasites that can attack the millet head miner," said Amadou.

Amadou's research, funded by the Feed the Future Innovation Lab for Collaborative Research on Sorghum and Millet, focused on rearing larval parasitoids that attack the head miner while it is still in its undeveloped feeding stage.

Scientists also tested ways to use egg parasitoids for biological control, including developing a cottage industry in Niger to grow and sell the larval parasitoids.



John Bowman (left), agreement officer representative for the Integrated Pest Management Innovation Lab, joins Muni Muniappan, director of the Integrated Pest Management Innovation Lab, (right) in congratulating Laouali Amadou (center) on receiving the BIFAD Award for Scientific Excellence for students working in a Feed the Future Innovation Lab. Amadou has been mentored by Muniappan through the Integrated Pest Management Innovation Lab, over the past three years on biological controls for pest management.

"I had an amazing feeling when I received the message that I won the distinguished BIFAD award," said Amadou. "The award certainly adds value to my research. In fact, many farmers are adopting biological controls as a viable means to control the head miner population."

Amadou noted that eight cottage industries have already begun growing and selling the parasitoids to local farmers and agricultural groups. "Parasitoid producers have already seen an increase in the demand for these biological agents that can help save much of the pearl millet crop," said Amadou.

Muniappan continues to mentor Amadou, especially with the writing and publication of his thesis. Upon graduation, Amadou will become only the eighth entomologist in Niger.

The Board for International Food and Agricultural Development (BIFAD) was established by Title XII of the Foreign Assistance Act. The Board and Title XII recognize the critical role of U.S. land-grant institutions in agricultural development, domestically and abroad, and support their representation in USAID development programs.

InnovATE/Armenia, ICARE welcomes new leadership

Since 2014, CIRED has managed the InnovATE-Armenia project, a \$2.5 million, USAID funded project that promotes economic growth by assisting the development of a workforce trained to increase the competitiveness of Armenia's agriculture sector. CIRED Associate Director Angela Neilan leads the project. Our Armenian partner is the International Center for Agribusiness Research and Education (ICARE) Agribusiness Teaching Center. The goal is to support ICARE/ATC to become a sustainable and modern center of excellence for teaching, outreach, and research for Armenia and the region.

On July 31, 2018, Dr. Vardan Urutyan, ICARE director, was elected the Interim Rector of the Armenian National Agrarian University at the ANAU Board of Trustees. This marks a new era in developing agrarian education in Armenia. On September 2, 2018, the ICARE Board announced Dr. Arthur Grigoryan as the new ICARE director. Arthur, who previously led ICARE's program development efforts, brings many years of programmatic excellence, experience, and professional skills to this position. We look forward to working with him on the continued successful implementation of the project. Vardan and ANAU will, of course, continue to collaborate closely with ICARE and be an important CIRED partner.

A 2017 external review of ICARE's Master of Agribusiness Program identified some outstanding aspects of the MAB program. The report evaluated the curriculum of the MAB as strong and achieving its goal of providing professional readiness to its students.

The review also found evidence of very strong business connections and ICARE's excellent career support to students. The review was led by Dr. Victoria Salin, chair of Intercollegiate Faculty of Agribusiness, Department of Agricultural Economics, Texas A&M University, and included Dr. Annette Levi, head of the Department of Agricultural Business, California State University-Fresno.

Van Crowder, CIRED executive director, participated in the review and Angela Neilan, along with ICARE faculty and staff, did an excellent job organizing the review.



Angela Neilan and Van Crowder visit a fish farm in Ararat Valley that is part of a grant to ICARE for fish farming intensification and sustainability.

InnovATE/Armenia, ICARE welcomes new leadership - Cont.



ICARE's wine lab features the latest analytic equipment for students in the EVN wine business academy.

During 2018, much of the project's efforts have focused on ICARE's business plan and helping to build capacity at ICARE to increase revenue, including through grants, endowments, student sponsorships, and facilities support, with the goal of ensuring financial sustainability. This effort has been led by project consultant David King, who has extensive resource mobilization experience. The ICARE 2017 Annual Report reflects its accomplishments attracting external funding, which in addition to the USAID grant, includes funding from the German Agency for International Development (GIZ) and the Vine and Wine Foundation of Armenia, among others.

A major ICARE success has been the EVN Wine Academy. The academy offers study programs to prospective and practicing wine entrepreneurs, students, and wine enthusiasts. The academy's wine chemistry lab functions as a student learning lab and also directly serves the rapidly growing Armenian wine industry. In 2017, the lab collaborated with 20 wineries and analyzed more than 350 samples.

Armenia has very ancient winemaking roots, probably the oldest in the world. In 2011, archaeologists announced the discovery of the world's oldest-known winery, a cave located in Areni consisting of a shallow basin to press grapes, a vat for storage, and fermentation jars. The cave winery dates to about 4000 BC – 900 years before the earliest comparable wine remains found in Egyptian tombs. According to an ICARE 2018 study, "wine tourism is now on its uplift, creating a unique market niche which can further boost both the tourism sector and the wine industry in Armenia."

IPM Innovation Lab holds annual technical advisory committee meeting in Cambodia

From May 28 to May 30, the Feed the Future Innovation Lab for Integrated Pest Management met for an annual Technical Advisory Committee (TAC) meeting in Phnom Penh, Cambodia. During the first and second day, principal investigators and collaborators of each of the Innovation Lab's eight projects presented on the progress, updates, and impact of their ongoing work in Africa and East Asia. Project successes include, but are not limited to, rodent management in the fields of Cambodia, the modeling and tracking of invasive species movement in Nepal, and the decreasing incidence of plant disease using the beneficial fungus *Trichoderma* in East Africa. After presentations, the meeting participants traveled to Thom Village in Prey Veng province to visit the Ecologically-based Participatory IPM Packages for Rice in Cambodia (EPIC) demonstrations, where trials and trainings of IPM technologies are currently taking place. Farmers from across the community attended the visit, with an overwhelming attendance by female farmers interested in learning more about IPM technologies.

Following Prey Veng, the TAC meeting members travelled to the Royal University of Agriculture (RUA), where IPM trials are performed by students with major success.

Attending the meeting from Virginia Tech was IPM Innovation Lab Director Muni Muniappan, George Norton, professor, Department of Agriculture and Applied Economics, Amer Fayad, associate director, IPM Innovation Lab, Van Crowder, executive director, CIRED, and Sara Hendery, IPM Innovation Lab communications coordinator.

Director Muni Muniappan and Communications Coordinator Sara Hendery traveled to Vietnam after the meeting to review progress on the IPM for Exportable Fruit Crops in Vietnam project, which targets four major economically vital crops: dragon fruit, mango, longan, and lychee. A major highlight from the implementing team on the ground, the Southern Horticultural Research Institute (SOFRI), was dragon fruit sleeving, a technology that has undergone a range of changes and innovations to efficiently protect the fruit from pests.

The Technical Advisory Committee, Innovation Lab team, and collaborators from the IPM project in Phnom Penh, gather at the Dara Airport Hotel in Cambodia for an annual meeting.



CIREd to work on improving agricultural training in Guatemala



ENCA students participate in a crop production course in preparation for their field lab.

Working with John Ignosh, advanced extension specialist, Department of Biological Systems Engineering and Virginia Cooperative Extension, and Henry Quesada, associate professor, Department of Sustainable Biomaterials, College of Natural Resources and Environment, CIREd successfully participated in a proposal to the Millennium Challenge Corporation (MCC) in Guatemala to strengthen agricultural technical and vocational education and training (ATVET) at the Escuela Nacional Central de Agricultura (ENCA). ENCA, a public school that offers secondary degrees in agriculture and forestry, is expected to play a major role in improving the agricultural workforce. MCC is an independent U.S. government foreign aid agency.

The \$1.2 million, 2-year project will be led by GOPA Consultants, a private consulting company based in Germany that currently works with MCC-Guatemala on improving education and training. The other consortium partner is EARTH University in Costa Rica.

Nearly 70 percent of the population in Guatemala lives in poverty, many of whom work in agriculture.

About 30 percent of Guatemalan youth work in the agriculture sector, but lack basic agricultural skills as well as the knowledge needed to be gainfully employed. The project will focus on improving linkages between the agro-forestry curricula and employment opportunities. Additionally, the project will strengthen teaching at ENCA.

To gather information for the proposal, Ignosh and Julieta Mazzola, a professor at EARTH University, carried out a scoping mission to ENCA where they met with staff to learn about ENCA's strengths, and challenges for future growth.

One of the goals is to reposition the school to be a more effective provider of education and training for the agricultural sector.

The strategies include: updating administrative policies and curriculum design to better prepare ENCA for academic standardization and regional/international certifications; and equipping ENCA to meet the needs of students with diverse economic and cultural backgrounds.

CIREd to work on improving agricultural training in Guatemala - Cont.

During discussions, school leaders identified technical expertise as an institutional strength, but also expressed the need to improve capacity in pedagogy. They communicated their interests in teacher professional development, including postgraduate education with emphasis on pedagogy and learning processes.

John Ignosh served as an agroforestry extensionist with the U.S. Peace Corps in Guatemala from 2002-04. Henry Quesada, who is an extension specialist supporting renewable-based industries in Virginia and internationally, collaborated with Ignosh and EARTH University to conduct field interviews in Central America to identify opportunities to strengthen ATVET systems.

In 2016, with support from the USAID InnovATE project managed by CIREd, Ignosh and Quesada conducted a study on how countries carry out their ATVET programs. They found that having more accessible and useful ATVET programs that teach sustainable agricultural practices are important goals for many countries.

However, they also showed that ATVET programs are largely outdated, under-resourced, and not relevant to the economic and environmental challenges of countries in the region.

This results in producers practicing agriculture and forestry methods that are not productive or sustainable, leading to the degradation of natural resources, as well as graduates that are not equipped with adequate skills to meet current and future sector needs.

In April 2017, InnovATE convened a workshop on Opportunities for a Teacher Certificate Program in ATVET in Central America at EARTH University. The workshop sought to determine if a regional certification program would be attractive to ATVET stakeholders in the region. Forty-two representatives from Guatemala, El Salvador, Honduras, Nicaragua, Costa Rica, and the United States participated, including ATVET teachers and directors, policy makers from ministries of education and agriculture, industry representatives, NGOs, and donor agency representatives. The participants overwhelmingly endorsed the idea of a regional teacher certificate program. While the MCC-Guatemala project does not include a regional certificate program, it does position CIREd and its partners to address the ATVET challenges at ENCA, which may lead to future opportunities to develop such a program.

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