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USAID/HAITI/HAUP-CEMARCH-2023 FINAL REPORT



Left: A student from AUV taking chlorophyll meter readings to evaluate the effect of cover crops on corn yield. Right: Students with the certificates of completion for a beekeeping course, UNDH.

Activity Title: Haiti Agricultural University Partnership (HAUP): Center for Mitigation, Adaptation, and Resilience to Climate-Change in Haiti (CEMARCH)

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ACRONYMS

ATP	Agriculture Technology Park
AUC	American University of the Caribbean (Les Cayes)
BFS/ARP	Bureau of Food Security / Agricultural Research and Policy
CE	Center of Excellence
CEMARCH	Center of Excellence on Mitigation, Adaptation, and Resilience to Climate-Change in Haiti
CHCL	Campus Henri Christophe de Limonade (UEH) (Cap Haitian)
COP	Community of Practice
CLA	Collaborating, Learning, and Adapting
CLAS	Collaborating, Learning, Adapting and Sharing
CRDD	Rural Sustainable Development Centre
CSA	Climate Smart Agriculture
FAMV	Faculté d’Agronomie et de Médecine Vétérinaire (Port-au-Prince)
FTF	Feed the Future
FTFMS	Feed the Future Monitoring System
FY	Fiscal Year
GFSS	Global Food Security Strategy
HAU	Haitian Agriculture Universities
HG	Haiti Government
IEE	Initial Environmental Evaluation
IL	Feed the Future Innovation Lab
KSU	Kansas State University
M&E	Monitoring and Evaluation
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development
MEL	Monitoring, Evaluation, and Learning
MELP	Monitoring, Evaluation, Learning, and Plan
MS	Masters of Science
NARS	National Agricultural Research Systems
MENFP	Haitian Ministry of National Education and Vocational Training
NGO	Non-Governmental Organizations
NORD	Université Chrétienne du Nord d’Haïti (UCNH) (Cap Haitian)
PIRS	Performance Indicator Reference Sheet
PITT	Performance Indicator Tracking Table
PMP	Performance Management Plan
PPP	Public Private Partnerships
PPR	Performance Plan and Report
RF	Results Framework
SIIL	Sustainable Intensification Innovation Lab
TA	Technical Assistance
T&I	Technology and Innovation
ToC	Theory of Change
ToT	Training of Trainers
UNDH	University Notre Dame of Haiti (Les Cayes)
UniQ	University Quisqueya (Port-au-Prince)
USAID	United States Agency for International Development
USG	United States Government

A. Project Description

Background

The Haiti Agricultural University Partnership (HAUP): Center for Mitigation, Adaptation, and Resilience to Climate-Change in Haiti (CEMARCH) initiative was developed to provide training for agricultural professionals and others involved in agriculture, and to train new individuals in agricultural practices. This training will produce agricultural professionals better able to adapt to Haitian crop and animal production systems in a changing climate. They will also be able to understand the role climate plays on Haitian soil resources, water supplies, and their interaction. This will be accomplished through three Objectives: 1) curriculum development through funded BS scholarships, MS degrees, and short term learning opportunities, 2) research and extension growth, and revenue generation, via agricultural technology parks (to include laboratories or other facilities), and, 3) partnerships with agricultural organizations who have an in-country mission to combat climate change and improve the lives of Haitians via novel and improved crop and animal production systems. Project partners are Kansas State University-Sustainable Intensification Innovation Lab (SIIL), the University of Quisqueya, Faculté d'Agronomie et de Médecine Vétérinaire (FAMV), Campus Henri Christophe de Limonade (UEH) (CHCL), Université Chrétienne du Nord d'Haïti (UCNH) (NORD), American University of the Caribbean (AUC), and the University Notre Dame of Haiti (UNDH). These universities represent the south, north and west departments of Haiti.

By focusing on Haitian institutions, CEMARCH provides needed assistance to a consortium of universities, research institutions, governmental and non-governmental organizations (NGO) and the private sector to develop a network of mutual support and exchange programs. The anchor university (University of Quisqueya) leads a consortium of Haitian Agricultural Universities (HAUs) and their associated research institutions to collectively address agricultural challenges such as climate mitigation, adaptation, resilience and producing nutritious and safe food, while sustaining natural resources (Climate Smart Agriculture, CSA). The center (CEMARCH– Center for Mitigation, Adaptation, and Resilience to Climate-Change in Haiti) focuses on building institutional and human capacity (through both short-term certifications and long-term degrees) so that Haiti is able to identify and seek solutions to its agricultural problems.

Objectives

The overall objective of the Haiti Agricultural University Partnership (HAUP) is to build the institutional and human capacity in the agriculture sector to advance agriculture-led inclusive economic growth in a changing climate. Specifically, the project will:

1. Increase institutional and human capacity and social capital of local universities to better meet the demands of the agricultural economy and workforce needs. This includes curriculum development, training opportunities for young Haitian professionals (long-term and short-term certifications) and capacity building opportunities for Haitian faculty with enhanced research, education, outreach, and leadership skills.
2. Strengthen the capacity of local universities to provide research and extension services to farmers and the private sector that have the potential to generate revenue.
3. Create linkages between universities, research centers and producers to ensure that targeted smallholder farmers have access to adapted technologies to increase food security. This is

occurring through the establishment of technology parks to showcase high-potential CSA technologies, and implementation of strategies to sustainably intensify smallholder production systems.

B. Summary and Key Achievement Highlights (also in French as Annex 6) - max 2 pages

Bulleted list of Key Achievement Highlights:

Objective 1 – Increasing human and institutional capacity:

- Four of six universities have completed and are operating virtual classrooms, and they are now being used for teaching, workshops and training. The installation of these virtual classrooms allows students from all over Haiti to have education from universities across the country. This provides a wider range of educational material to students and others taking various courses.
- Across all six universities, 104 students are benefitting for CEMARCH scholarships, as they pursue various agricultural degrees at their universities. Every university has increased enrolled numbers of students in the agricultural sciences. These students are taking classes and participating in various CEMARCH-ATP research projects. Having the economic support of these scholarships is direct capacity building for student learning and their future career development, as the students can remain enrolled in school without worry about payment for that education.
- FAMV has interviewed and accepted 15 students into their Agroecology MS program. These students were selected from applicants for every CEMARCH university. This program will provide an in-Haiti quality MS degree for students, allowing them to then move into careers in agricultural management, hopefully in Haiti. The program starts in November, 2023.



Left: Students at UNDH participating in a beekeeping certificate course, June 2-4, 2023. Part of this course was taught using the virtual classroom, as shown.

Right: Students at CHCL-Limonade studying proper soil-mix preparation and seeding of plants. June 3, 2023



Objective 2. Strengthen the capacity of local universities to provide research and extension service:

- Significant improvements to infrastructure have been made, and in 2022-2023 facilities are beginning to be used for research and extension activities. For example, both AUC and UNDH have repaired and stocked fishponds that were damaged and inoperable, following the 2021 earthquake. Research projects at the fishponds will vary with each university but include feed strategies (new sources of feed), species selection (tilapia versus other species), and pond management (pond fertilization, etc). Additionally, CHCL, UCNH and FAMV are all rebuilding and renovating greenhouses, animal pens, and other facilities at both the ATPs and universities. Specific examples of this include new irrigation at FAMV, renovated and newly covered greenhouses at UCNH, rebuilt housing for goats and poultry at CHCL, and improved animal pens at AUC. These infrastructure improvements allow program development and teaching for local citizens, and (in some cases) the possibility of sustainability through revenue generation. To date, a total of 174 farmers have attended field days or workshops arranged by CEMARCH universities.

Left – the renovated
fishpond at UNDH,
and, right,
renovated livestock
housing for goat
research at CHCL-
Limonade.



Objective 3. Create linkages between universities, research centers and producers to ensure that targeted smallholder farmers have access to adapted technologies to increase food security.

- Almost all of the CEMARCH universities have created active partnerships with NGOs or other commercial entities. Of special importance are partnerships with other Haitian institutions that have a long history of service to Haitian growers, enabling CEMARCH to better educate growers about new technologies. Specific examples include partnerships with MFK (Meds and Foods for Kids) (CHCL and UCNH), Acceso (Quisqueya), ORE- Organization for the Rehabilitation of the Environment (AUC), and the bioenergy company Cosmos Solutions (AUC). Details on the activities with each of these groups can be found later in this report (page 19).
- The ATPs are starting to offer training and extension programs for area farmers, with most designed to help growers improve crop production and develop climate smart practices. This is an important implementation because it is a direct link to capacity building with Haitian growers. Examples of this include recent trainings on cover crops in corn production, and best methods for banana plant reproduction via stem fragmentation.



Training and extension opportunities for farmers: Left – banana propagation (UCNH), and, Middle and right - cover crops for corn with farmer attendees (AUC)

C. Activity Implementation Progress – 4-10 pages

Quarter 4 Achievements (2023):

Since the Quarter 4 report is merged in the annual report, here is a section that specifically outline Quarter 4 activities (July 1 to Sept 30, 2023), by Objective:

Objective 1 – Increasing human and institutional capacity:

In Quarter 4 two more universities (CHCL-Limonade and UCNH) hosted their ATP openings. These were large and celebratory affairs, with citizens from the area and other dignitaries invited for the openings and tours of the research areas. These openings position each ATP to become a resource center for agricultural research and extension activities for area growers, showcasing developed technologies.



Dr. Vara Prasad, Project Director of SIIL, Kansas State, speaks at the UCNH ATP opening.



A banner in Cap Haitian announcing the opening of the CHCL-Limonade ATP.

Also, in this quarter one MS degree was fully developed and advertised, and FAMV began the process of interviewing candidates from all the universities for this program. Continued unrest led to CEMARCH developing a contingency plan, and when enrollment starts in November, 2023 it is likely that the cohort of MS students will stay at their home schools, conducting research at that location, with courses supplied using the virtual classrooms. The FAMV MS program is in Agroecology, and as such courses will focus on soil and water science, crop production, and other areas of field and crop management. These courses will be supported by basic coursework in statistics, plant physiology and soils. One course (Soil Fertility) is already developed and has been offered to the universities for use. With the exception of Quisqueya three students have been selected for the MS program at FAMV, from each of the other universities (AUC, UCNH, Notre Dame and CHCL). Thus, 12 students from each of the four CEMARCH universities, with an additional 3 from FAMV.

The MS program will contribute to the overall success of CEMARCH because it is helping to produce trained graduate students who will (hopefully) stay to teach at their home university, or move into roles in the Haitian agricultural sector. Retainment of faculty at Haitian universities is an issue, and these graduates should help to ease that problem.

Completed in this fourth quarter, four of six universities now have fully developed virtual classrooms, with a fifth university (FAMV) in the process of constructing that classroom. These classrooms now have the capability to deliver educational content (be it courses or extension training) to Haitians across the country. This will ensure that educational initiatives can continue even if security issues prevent travel. Specifics about each are provided here:

Table 1. Details for each installed virtual classroom. Each classroom has servicing and repair visits guaranteed for one year.

Partners	Virtual classroom size	Quantity of computers	Others materials
Universite Notre Dame d'Haiti (UNDH/UDERS-Cayes)	125 m2	11(10 laptops + 1 PC)	Projector, Digital Whiteboard, Camera, Laptop Tables, Surveillance Cameras, Internet System, Student Chairs, Air Conditioner.
Universite Chretienne du Nord d'Haiti (UCNH)	100 m2	10 laptops	Projector, Digital Whiteboard, Camera, Laptop Tables, Surveillance Cameras, Internet System, Student Chairs, Air Conditioner.
Campus Henry Christophe de Limonade (CHCL-UEH)	130 m2	14 PCs	Projector, Digital Whiteboard, Camera, Laptop Tables, Surveillance Cameras, Internet System, Student Chairs, Air Conditioner.
American University of the Caribbean (AUC)	110 m2	10 laptops	Projector, numeric board, computer tables and shelves

Objective 2. Strengthen the capacity of local universities to provide research and extension service:

Universities are beginning to implement research and extension plans and studies at their ATPs, with a significant increase in such projects in Quarter 4. CEMARCH is strengthening research and extension capacity by: 1) providing initial funding so that faculty can develop and teach short-courses (examples given here), 2) developing the virtual classrooms for innovative teaching, and, 3) providing expertise and advice for research and demonstration projects at each ATP. Recent examples include a training held for students at UCNH. Hosted by CEMARCH PI Dr. Robert Brunet, the topic was 'Banana Diseases and Pest Control Management Conference'. This was taught both live, and using the CEMARCH virtual classroom. Other activities in Quarter 4 include farmer activities at AUC with a cover crop course, and apiculture and seedling preparation classes at Notre Dame. These courses were more extension-based in their presentations, but they also provide training for students, some of whom will conduct research in these areas.

Objective 3. Create linkages between universities, research centers and producers to ensure that targeted smallholder farmers have access to adapted technologies to increase food security.

In Quarter 4, a first scientific conference was held at CHCL-Limonade, and CEMARCH was a participant in the activity. Titled 'Institute for the Sustainable Development of the Regions (IDDR)' the meeting was held on Sept 27th at CHCL (with a virtual option as well), and featured presentations by various groups, including The Water Resilience Centre, The Centre for Social Innovation (CIS), The Centre for Gender Integration (CIG), The Centre d'Appui aux Politiques Publiques (CAPP), The Centre for Technological Innovation (CIT), and CEMARCH. The overall objective of this conference was to further partnerships to : 1) strengthen capacities, knowledge and skills in Haiti, 2) learn which interventions work quickly and can be replicated, and, 3) carry out actions aimed at informing and raising awareness, training, and facilitating projects for

citizens. This achievement will enable CEMARCH to collaborate more fully with multiple organizations and universities. It also was our first scientific conference in Haiti in which CEMARCH participated.



Screen shot of the publicity given to the first scientific meeting of the Institute for Sustainable Regional Development, in which CEMARCH is a partner.

Also in Quarter 4, two additional agreements were formalized between NGOs or commercial partners. These were between MFK (Medicine and Food for Kids) and CHCL-Limonade and UCNH. Focused on peanuts, the partnership will include training for BS students and short courses for area farmers. These activities directly fit the Feed the Future mandate for activities to improve livelihoods and reduce hunger. Specific objectives are: 1) Disseminate information about aflatoxin in peanuts and other crops grown in Haiti; to train students from UCNH and CHCL-UEH on ways to manage aflatoxin from the farm to consumer with food safety as the major consideration, 2) Ensure in the immediate future, students will be able to disseminate the findings and train others in the communities about aflatoxins and peanut production management (training the trainers model), 3) Participate in the MFK laboratory testing for aflatoxin, understand and be able to perform quality tests (aflatoxin and moisture) on contaminated peanuts, and 4) Learn how to train farmers on peanut best management practices through the established MFK farmer training and champions program. These collaborations will build university capacity because they will train students in agronomic practices (practical skill training), and it will enable the universities to continue to work with peanut growers in their regions.

Such agreements contribute to the overall Objective of CEMARCH to create linkages between universities (such as the one above between CHCL and UCNH) and partners, providing farmers and others with specific agricultural training. Linkages with groups such as MFK are especially beneficial, as this 20-year old group has a well-established presence in Haiti, which will add to program sustainability.

Key annual (2023) achievements, by Objective:

Objective 1: *Curriculum development, training opportunities for young Haitian professionals (long-term and short-term certifications) and capacity building opportunities for Haitian faculty with enhanced research, education, outreach, and leadership skills. This includes the BS and MS degrees.*

The first cohort of BS students were enrolled at every university in 2023. Table 2 (below) indicates the various numbers, by university. For this Table we are using the following definitions: New = the individual received U.S. Government-supported long-term training for the first time during the reporting year, and Continuing = the individual received U.S. Government-supported long-term training in the previous year and continued to receive it in the reporting year. For this report all students will be classed as 'New'.

Table 2. Numbers of undergraduate CEMARCH scholarship students enrolled at CEMARCH universities, their gender, and enrollment status, Fall semester, 2022.

University	Female	Male	New	Continuing*	TOTAL
	Number in Each Category				
AUC	6	9	15	0	15
CHCL	10	20	30	0	30
Quisqueya	3	2	5	0	5
FAMV	7	7	14	0	14
UNDH	8	12	20	0	20
UCNH	8	12	20	0	20
TOTAL	42	62	104	0	104

These scholarships are a key achievement for each student, as they allow them to attend a Haitian ag university without worry about payment for their education. It also places them into a curriculum track that will provide internships, practical training and the opportunity for career placement. For CEMARCH, it allows us to develop trained agricultural professionals for Haitian ag universities, the ag private sector, and other Haitian agencies that may employ such graduates. They also may serve as a source of future students for the MS programs that are also a part of CEMARCH.

The virtual classrooms and their development and value for CEMARCH were discussed previously in the Q4 achievements, and so they will not be repeated here. Similarly, since the selection of candidates for FAMV occurred in Q4 that achievement was also discussed there.

Objective 2: *Strengthen the capacity of local universities to provide research and extension services to farmers and the private sector that have the potential to generate revenue.*

In this funding year various universities are getting their research and extension activities up and working, and some are generating revenue. CEMARCH staff and Anchor University staff are working with each university to develop specific research and extension goals for each university. Not occurring in Q4, but a recent (Oct, 2023) meeting was held for each university to present research goals and plans, and this was used as a template for the future workplan. These plans, in combination with improved facilities (both field and lab, all outlined elsewhere) will help each university develop research and extension agendas, which will then be used to drive farmer engagement.

Likely the most successful example of that is the sales center at AUC, which generates revenue from its' vegetable and honeybee facilities. By May, 2023, the first harvest of honey was sold at the Mini-Sale Shop, earning a total of twenty thousand (20,000.00) gourdes (140.00 USD) from the harvest of less than 10% of the hives. These activities contribute to the overall objective by creating such revenue, but the beekeeping is also used in extension and teaching activities. Both AUC and UNDH hosted beekeeping workshops in this year, with certificates provided at the conclusion of the courses.



Attendees at the UNDH beekeeping short course, June, 2023.

At UCNH, students (5th year BS students) are studying yield of Chili pepper (*Capsicum annum*) as affected by mulch type (mulching with white plastic or dry straw), and peppers will be sold for revenue generation. They are also examining the adaptability of the Congo pea (*Cajanus cajan* L.) under both ridge and flat tillage. Finally, UCNH has a large area of southern pea which will be used as fodder for their animal production areas. These activities all represent the connections of the project: research to study new production techniques, with that research done by students, and products grown sold or used in revenue generating enterprises.

UCNH student presenting his pepper mulch research to visitors, October, 2023.



Despite significant safety issues at their campus FAMV is also proceeding with research and extension projects. These are: feeding strategies for rabbits and goats using plantain, hoopvine and banana leaves. This project is supervised by a PhD student, with participation by 4 of the scholarship BS students. The goal of this project is to increase the availability of local feed for rabbits and goats in small farms, helping to ensure sustainability for these farmers. Revenue is generated by rabbit processing.

A separate project at FAMV evaluates gravity-fed irrigation practices on plantain (*Musa paradisiaca*) yield. This project is intended to improve farmer income and food security through the development of production techniques likely to provide better productivity of plantain-based cropping systems. Two CEMARCH BS scholarship students are working on this project. This project is possible because CEMARCH funds allowed the installation of a proper irrigation system.



Installation of the new irrigation system at the ATP at FAMV.

The final two projects underway at FAMV are: 1) use of prickly pear (*Opuntia ficus indica*) as food resources and raw materials in the agri-food industry. Prickly pear is being explored both as a human and animal food. Its' drought tolerance and wide range of adaptation could be a tool to help to counteract the effects of climate change. Five scholarship BS students are involved with this project.

And last is a study which evaluates the impacts of climate change on water resources in the Fer-à-Cheval River watershed, Center Department. This study will evaluate the availability of surface and underground water as affected by climate change using modeling. The work will utilize the installed GIS facility, part of the education component of CEMARCH, at FAMV. The to-be-developed GIS modeling course will also be used for this project. Although these projects have not yet provided data they are motioned here as they are examples of the capacity building going on at FAMV, and reflect the infrastructure improvements through the installation of the GIS facility, to be completed in November, 2023.

Agroforestry is a focus at CHCL, and they have installed research plots with coffee and cocoa as the understory crop, with leguminous trees as the overstory crop. The intent of this study is to examine the impact of the legume tree crop on N supply and functioning in the coffee and cocoa production. To protected research they have fenced in 10,000 square meters of land, which will enable them to do field research without free-ranging animal feeding, which is a continual issue. There is already an established peanut trial at this location, evaluating planting dates for best methods to avoid drought effects, and ensure quality peanut production.

Peanut date-of-planting study at CHCL
ATP, October, 2023.



Activities at Quisqueya have been slower to begin, but with the recent signing of a research/extension agreement with Acceso progress is now being made. There are four distinct projects being conducted: 1) characterization of soils of the area, with results eventually used to generate a soil map for use with a hand held cell phone application, 2) the 'Protein of the Future' project, exploring the use of jatropha as animal feed for poultry and fish, 3) the 'Innovation in Extension' project, which seeks to develop an entire package of services (seed, variety selection, planting aid, and other crop management advice) for climate-sensitive management of crops for Haitian farmers, and, 4) continued long-term peanut work, examining new cultivars for disease resistance in a Haitian climate.



Peanut research from Quisqueya
University being conducted with
partner Acceso.

Objective 3: *Create linkages between universities, research centers and producers to ensure that targeted smallholder farmers have access to adapted technologies to increase food security in the Resilience Focus Zones. This will be accomplished through the establishment of technology parks to showcase high-potential CSA technologies and strategies to sustainably intensify smallholder production systems.*

It should be noted that there is some overlap with Objective 2, and some of the details provided in Objective 2 (for various projects) would fit under this Objective as well. Partnerships formed and activities conducted for research and extension, and revenue generation, often take place at the various university ATPs. We will not discuss projects already mentioned in this report in this section. Instead, we will focus on other projects, short courses and extension activities taking place at the ATPs not discussed previously.

In 2022 to 2023 the following extension activities or other events occurred at each university (in addition to others discussed previously in Objective 2):

- At AUC, trainings were held for 24 farmers to demonstrate and explain the use of cover crops for corn production. This training focused on intercropping with the green manure crop *Canavalia ensiformis*. This project has also been used for undergraduate BS research projects. Three training sessions have been held on waste management, using by products for biofertilizer and biogas production (31 attendees). A beekeeping workshop was also held, with a focus on detection and control of varroa mite in bee colonies (38 attendees).



Left, farmers attending the cover crop-corn workshop at AUC, and, right, student explaining the trial to farmers.

- At CHCL, 46 farmers from the North and Northeast departments attended a workshop held to discuss agroecology and conservation agriculture. Such activities are a continued focus of the CHCL ATP, with an emphasis on conservation in drought-affected areas, too. On the animal side, CHCL has renovated and improved housing for goats, rabbits and poultry, and is examining the zootechnical performance of traditional goat species when crossed with improved breeds. For chickens, they have already raised several crops, with the birds used in student training courses to demonstrate best management in feeding and housing for broilers.
- University of Notre Dame has numerous crop studies in place, and they have hosted a farmer training on nursery techniques for plant production (32 participants). This short course focused on production of nursery plants and trees, with a focus on their use for soil protection. Additional cropping work that has been installed includes pineapples and papaya, both a part of agroforestry studies. The fishponds damaged in the earthquake have been completely rebuilt, and tilapia installed.
- The University of Quisqueya has not yet held trainings or other extension activities, as their desired location at Mirebalais has been destabilized by some recent gang activity. However, research is ongoing at the site, and work with soil characterization, peanut variety evaluations, and jatropha selections for animal feed are progressing.



Student (MS) at Quisqueya University performing soil texture analyses as a part of work to describe the soils of the region.

- FAMV hosted several trainings and extension activities including technical training for 30 farmers that covered the newly installed irrigation system, and use of improved animal genetics for breeding. They also gave a short-course in on-site water management, attended by students, farmers and technical staff, and another short course that covered best methods for composting

Attendees at the farmers technical training, FAMV.



- UCNH recently completed a training on diseases of banana (14 students), a training that was both live and virtual, using their installed virtual laboratory for part of the teaching. They also held a short course for area farmers (20 attendees) in the FIP technique (called Miniset), where the creation of new banana seedlings from stem fragments is taught. This is a vegetative propagation method that results in vegetative plant material that is clean of diseases or other pathogens. This technique was repeated with yam and other tuber crops, using a similar technique called PIF.



Left – Area farmers learning clean vegetative reproduction of banana for seedling production (Miniset). Right – UCNH students learning how to propagate tuber crops (PIF).

D. Collaboration and Synergistic Results (1 to 2 pages)

Partnerships are outlined in this Table, with the university, partner and planned or completed activities listed. At this time only partnerships that have a signed agreement in place are included in this list.

University	Partner – Description of that Partner	Activities Planned
AUC	ORE – Organization for the Rehabilitation of the Environment	Avocado characterization, Corn breeding and corn seed production Plant propagation/Tissue culture la renovation. To date, equipment has been purchased for the tissue culture work in avocado.
AUC	Cosmos Solutions	Organic Waste Management, Biogas, Biofertilizer – have conducted two different workshops in biogas production and waste management – 31 attendees for the August (biogas) workshop and 29 for the July (waste cycling and management) workshop.
Quisqueya University	Acceso	Work is underway with studies on proteins of the future (jatropha), peanut breeding trials, and innovation in Extension services.
CHCL-Limonade	CRDD of Terrier-Rouge	The CRDD will serve as a research demonstration site, and CHCL will also work with the CRDD for program development with students at the Ag Technology school (high school) next to the CRDD. Only the agreement has been signed at this time, and a proposal for work projects has been submitted.
CHCL-Limonade	MFK (Medicine and Food for Kids)	Will collaborate with MFK (and UCNH) for work with farmer groups on best agronomic practices to conserve soil

		moisture and prevent soil erosion in peanut production. MFK will work with students on aflatoxin detection methods, and other training to demonstrate how to reduce aflatoxin in peanut. Representatives from MFL attended the recent (Sept 17) meeting on 'Institute for the Sustainable Development of the Regions (IDDR)'
UCNH	Centre de formation en aménagement intégré des mornes (CEFAIM)	Will partner with UCNH for research and extension projects in watershed management and conservation. This agreement has been signed.
UCNH	MFK (Medicine and Food for Kids)	Will collaborate with MFK (and CHCL) for work with farmer groups on best agronomic practices to conserve soil moisture and prevent soil erosion in peanut production. This agreement has been signed.
Notre Dame (UNDH)	ORE	Will work with ORE and local farmers on beekeeping courses and nursery plant production. ORE assisted with a April 2023 (Q3, 20 farmers) beekeeping short course, and with a May, 2023 (Q3, 7 students) nursery production shortcourse.
FAMV	Centre Haitien pour la Promotion de l'Agriculture et la Protection de l'Environnement (CEHPAPE) / Ing-Agr Jean-Camille BISSERETH	Will work with FAMV on a variety of projects, including production of biofertilizers and biopesticides (rapid compost in 15 days and nutrient solution, entomopathogenic microorganisms, microorganisms acting as biofertilizers) Production of edible mushrooms production of black soldier fly larvae (having 45 to 65% unicellular proteins) as a substitute for soy flour in the diet of monogastrics. The first compost workshop was held in Q4, with 30 farmers in attendance.
FAMV	Lèt agogo - a program that supports production and processing of farmer's milk. Also supports the farmer in technical improvement for enhanced milk production.	Improvement of the milk processing plant on the FAMV campus in order to increase its capacity for teaching, research, extension, and innovation. This agreement has been signed, with no projects as yet.

E. Continuous Learning and Adaptation, and Implementation Challenges (1-2 pages)

Key challenges or problems encountered during the 2023 year were as follows: 1) safety issues in Haiti that prevented travel to locations in Port au Prince, and prevented those two universities in Port au Prince from hosting their ATP openings, and 2) continual communication issues with the Head (University Dean) of the Anchor University. Travel to Les Cayes is also aggravated (for US staff) because one must fly through Port au Prince to get to Les Cayes, and that is a safety issue. Overall, however, things are greatly improved since the fall of 2022/winter 2023 and travel throughout Haiti, to the various universities is occurring.

Adaptations are as follows. First, a safety and security plan for the Anchor University staff was created, and approved by USAID. This plan moved to a 'work at home' strategy for the Anchor University staff, with adjustments made as safety improves. Second, with the virtual classrooms up and functioning many trainings and meetings can now be accomplished virtually. Third, participation in the weekly safety meetings has provided guidance for best travel methods, and in the coming year we will plan a trip to Port au Prince (to Quisqueya and FAMV). Last, as students begin their MS degrees (at FAMV) in November, 2023 the first semesters of those degrees will be virtual, with students remaining at their home institution to begin the graduate degrees. If safety improves students can move to FAMV (or Quisqueya, once that program opens) if they choose. However, planning and virtual classroom developments has resulted in degrees for which coursework can be 100% virtual, if needed.

Implementation challenges have largely been overcome. The sole university that appears to have issues with implementation is Quisqueya, and we are working through that with a series of timelines and set start dates (for example, they must have MS students selected by the end of November, 2023). If Quisqueya cannot deliver implementation in the 2023-2024 year we will reassign budget funds to other universities, and FAMV will supervise additional graduate students. However, the situation does seem to be improving, and the PI is being more responsive.

Overall, our greatest weakness is *documentation* of implementation. Despite numerous meetings, calls and emails, universities are simply failing to provide correct documentation for all their events. This includes signed attendance sheets, copies of programs or materials used, and photographic documentation. Proper data collection – including gender, role/position/job of the attendees, age and other such critical information is often missing, or an attempt is made to collect the data after the event. The six universities simply do not realize how important this information is to USAID and KSU, and we continue to work with them to impart this. Resolution will occur through the hiring of a MEL specialist who will be Haitian and who will reside in Haiti. This will be a great help to our current MEL/Communications staff member who simply has far too much to do. The new MEL staff member will travel to each university at least once a month, and collect detailed information about activities at each university. They will be the lead for collection of all MEL data, and will create the storage and reporting sites so that the data is correctly stored, sorted and analyzed.

Actual or Anticipated Impacts to Activity Results: At this time, we do not anticipate any long-term actual impacts to our activities. Despite the continued challenges of working in Haiti the universities are getting it done, and progress is being made.

Issues Related to Budget and/or Expenditures, or Staffing: No issues at this time. Two small issues are being rectified: 1) we need to get the plates for the two vehicles that were transferred to this project from USAID (all paperwork in finally completed and approved), and, 2) KSU needs to follow-up and make sure that the COP contract for 2023-2024 will be approved and signed by all concerned parties. The 2022-

2023 contract ended on Sept 30th and the new one is not yet completed. There are sufficient funds to hire the additional MEL staff member, as described previously in this section.

F. Planned Activities, by Objective (1-2 pages)

Objective 1. Increase institutional and human capacity and social capital of local universities to better meet the demands of the agricultural economy and workforce needs. This includes curriculum development, training opportunities for young Haitian professionals (long-term and short-term certifications) and capacity building opportunities for Haitian faculty with enhanced research, education, outreach, and leadership skills.

- Complete and offer at least one virtual class per university, with an emphasis on those for the MS degrees. These classes would then be available to every university, via the virtual classrooms. Completed by February, 2024.
- Each university will offer at least two short-term trainings or workshops in areas of their choosing, but all will center on some type of best practice for Haitian agriculture in a changing climate.
- The first cohort of MS students (15 students) will enroll at FAMV in November, 2023. Some type of opening celebration (virtual or live, depending on safety) will occur by April, 2024. The second cohort will start at Quisqueya in January, 2024.
- The Haitian Cop and Soil Science Society will be inaugurated by December, 2023, with the first set of officers selected from Haitian crop and soil science professionals. The first meeting of the Society will be held in late spring, 2024.
- By December 2023 two of four trips will be planned for Haitian professionals to travel to the US, for week long (approximately) learning opportunities. The remaining two trips will be planned by February, 2024. The trips will occur some time between April and August, 2024. Trips will be: 1) fish health and fishpond management (likely to Auburn University), 2) soil testing and interpretation/lab tours (like to the University of Georgia), 3) IPM methods for banana diseases (University of Florida), and, 4) beekeeping and hive management (location TBD).
- At least three universities will have improved virtual libraries, with greater access to scientific materials, by September, 2024.

Objective 2. Strengthen the capacity of local universities to provide research and extension services to farmers and the private sector that have the potential to generate revenue.

- The remaining two universities will officially open their ATPs (with an event) by February, 2024.
- Each university will offer at least two extension events in areas of their choosing, but all will center on some type of best practice for Haitian agriculture in a changing climate.
- Two more universities will have developed a process or harvested material that can be used to help provide revenue generation.
- Each university will have at least 3 research projects (on-going or installed in 2023-2024) that showcases a new or innovate climate mitigation practice for Haitian growers.
- Every university will have correct signage (following all branding/marketing as outlined in that plan) in place at ATPs and any other CEMARCH facilities (virtual classrooms, etc) by January, 2024.

Objective 3. Create linkages between universities, research centers and producers to ensure that targeted smallholder farmers have access to adapted technologies to increase food security in the Resilience Focus Zones. This will be accomplished through the establishment of technology parks to

showcase high-potential CSA technologies and strategies to sustainably intensify smallholder production systems.

- If the universities only have one identified outside partner they should identify, develop research/extension plans with and sign agreement paperwork with that partner by April, 2024.
- Every university should work to further identify partners that represent women and youth as a significant part of their leadership and/or membership.
- Each university will offer at least two events specifically for farmers in areas of their choosing, but all will center on some type of best practice for Haitian agriculture in a changing climate.
- By December 2023 every university will have written their sustainability plan.

G. Annexes

I. Annex 1 - Indicator Table

The table of indicators has been developed and approved from USAID-Haiti. For this Yearly indicators that apply to all of 2023 are included. Indicator targets will be provided in a simplified table using a color scheme highlighting indicators in **red** if target is not met or on track, **yellow** to signal that it is in danger of not being met, and **green** for indicators met. In addition, explanations will be provided for why targets exceeded and/or targets were unmet.

For size, this Table starts on the following page.

Annex I – Indicator Table

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
1.1 Number of institutions collaborated with HAUPs due to CE MARCH involvement	Improved collaboration between local institutions	Performance / Custom	Type of application: Memorandum of Understanding (MoU). Each university will have one.	Reported annually	Number	COMPLETED – MOUs are on file.
1.2 Indicator EG.3.2-2 Number of individuals who have received USG supported degree-granting agricultural sector productivity or food security training	Improved degree-attainment for agricultural and technical students	Performance / Standard	Activity training records for short courses, trainings or other shorter-term education than the BS or MS degrees. Signed agreements by the BS and MS scholarship students, available on file.	Reported annually	Number	In total 105 BS students are enrolled at the 6 universities that are a part of CEMARCH. Interviews for the MS program at FAMV are completed, and 15 students enroll in that program in November, 2023.
1.3 Indicator EG.3.2 Number of individuals participating in USG food security short-term training programs	Improved knowledge around topics of food security	Performance / Standard	Enrollment numbers for each short course, training module, or other educational program (not to include academic coursework, which is counted above in 1.2.	Reported annually	Number	Five of our six universities have hosted a training, workshop or field day. They have all included a wide range of participants including farmers, students, local citizens and government representatives.

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
1.4 Number of trainings/lecture series facilitated by CEMARCH for students and staff capacity building	Improved technical knowledge for university members	Performance / Custom	Numbers of developed short courses, training modules, or other educational programs (not to include academic coursework, which is counted above in 1.2).	Reported quarterly	Number	Five of our six universities have hosted a training, workshop or field day. They have all included a wide range of participants including farmers, students, local citizens and government representatives.
1.5 Indicator CBLD-9 Percent of USG-assisted organizations with improved performance	Improved organizational capacity	Performance / Standard	Implementing partners that have been allocated USG funding to work with local organizations to strengthen their organizational capacity for increased performance.	Reported annually	Percent	Every university has improved their capacity, when compared to that documented in the baseline report. The baseline report indicates that universities did not have virtual classrooms, nor did they have functioning agricultural technical parks (ATP) with irrigation, constructed plant growth facilities, or animal pens. Land was available, but it was not well developed for research and extension projects. Additionally, each university added a technical staff person with the skill set to

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
						manage the ATP. Examples of this capacity building also included virtual classrooms, with four of the six universities having and operable virtual classroom, and in several cases courses (described elsewhere) offered as distance options. Additional capacity building has occurred through the financial side, as every university has learned to manage their CEMARCH funding, and in most cases a financial staff member has been added to the university staff. Anchor university and KSU training has enable those staff members to manage their budget, prepare quarterly reports, and purchase supplies (and sometimes equipment) as needed.

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
2.1 Number of institutions collaborated with HAUPs due to CEMARCH involvement that results in revenue generation.	Improved sustainability of the program through program-generated income	Performance / Custom	Type of application: Memorandum of Understanding (MoU).	Reported annually and semi-annually	Number	Every university now has at least one documented partner (most have two). Most either have a revenue generating operation in place (ex: funds from sale of honey or animals), or plans are in place to do this.
2.2 Number of scientific conference hosted and/or co-hosted by CEMARCH	Improved capacity building and collaborations	Performance / Custom	Numbers of attendees at conferences, and overall numbers of conferences, data obtained from the organizers.	Reported quarterly	Number	On Sept 27th 2023 a scientific conference was held at CHCL-Limonade. Titled 'Institute for the Sustainable Development of the Regions (IDDR)' the meeting featured presentations by representatives of partner groups, including The Water Resilience Centre, The Centre for Social Innovation (CIS), The Centre for Gender Integration (CIG), The Centre d'Appui aux Politiques Publiques (CAPP), The Centre for Technological Innovation (CIT), and CEMARCH. The overall objective of this conference was to

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
						further partnerships to : 1) strengthen our capacities, knowledge and skills, 2) Learn which interventions work quickly and can be replicated, and, 3) carry out actions aimed at informing and raising awareness, training, and facilitating projects for citizens. In this coming year the Haitian Crop and Soil Science Society will be formed, with a first meeting planned for summer of 2024.
2.3 Number of facilities developed and/or improved for value-added services.	Improved means of production for farmers' agricultural products	Performance / Custom	Number of viable commercial entities, reported by the associated university, and supplemental information from CEMARCH/USAID.	Reported quarterly	Number	A substantial number of facilities have been improved or created, including virtual classrooms, installed irrigation/water wells, purchase of needed tractors, tillage equipment and generators, and improvement/renovation of animal pens and

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
						ponds. Four of six ATPs hosted openings, and all ATPs are functioning.
2.4 Number of partner institutions providing services for revenue generation, (e.g., Soils Testing Lab, improved plant genetics, marketing)	Improved specialization of knowledge between institutions and partnerships	Performance / Custom	The universities, their partners, and supplemental information from CEMARCH.	Reported quarterly	Number	One university partner is generating revenue (AUC) from their market stand, while four others have projects underway that will contribute revenue. This will occur through the sale of animals, animal products, nursery plants, and vegetables. One university (Notre Dame) has been approached about providing its' virtual classroom for others to use, as a fee-based service.
3.1 Number of established Agricultural Technology Parks (ATPs)	Improved access to agricultural extension knowledge for the region	Performance / Custom	Number of ATPs, as provided by the participating universities/CEMARCH.	Reported quarterly	Number	Every university has a working ATP, with four of six having hosted a 'grand opening' event.

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
3.2 Number of farmers with access to improved technologies made available by an NGO, private sector development, or through CEMARCH ATPs	Improved accessibility to novel technologies for local farmers	Performance / Custom	Number of farmers utilizing a developed technology. This could include downloads, soil samples run/analyzed, or number of times a web site is accessed.	Reported quarterly	Number	Every university (except Quisqueya) has hosted at least one field day or short course for area growers, with education provided on areas such as improved crop production techniques, or varietal improvement. Best management techniques for irrigation and animal management have also been offered as short courses. Numbers of farmers are documented in the IPTT Table.
3.3 Number of farmers with access to extension services through visits to and use of information supplied by the CEMARCH Agricultural Technology Parks (ATPs)	Improved accessibility to research parks for local farmers	Performance / Custom	Number of farmers who utilize extension information from private extension services.	Reported quarterly	Number	Every university (except Quisqueya) has hosted at least one field day or short course for area growers, with education provided on areas such as improved crop production techniques, or varietal improvement. Best management techniques for irrigation and animal management have also been offered as short courses. Numbers

Indicator	Result Measured by Indicator	Type of Indicator	Data Source	Frequency	Unit of Measure	Progress to Date/Plans
						are documented in the IPTT.
3.4 Number of extension materials produced by CEMARCH	Improved methods of disseminating information	Performance / Custom	Numbers of created publications, by type, and accompanying download/use statistics.	Reported quarterly	Number	Universities are offering extension-based short courses and trainings (ex: a banana disease workshop) but CEMARCH staff needs to better work with each university to then create extension materials (handouts, information sheets, web sites of information). This is a key area to improve in 2023-2024.
3.5 Number of entities conducting research and/or demonstrations in agricultural technology parks	Improved collaboration between local farming research institutions	Performance / Custom	Numbers of students, university faculty, extension personnel, others (private sector).	Reported quarterly	Number	Every ATP is conducting research, some with area partners. Students are heavily involved in most projects.

II. Annex 2 – Budget and Financials for Quarter 4 and for the Year (2022)

Quarter 4 Simple Budget Table

CEMARCH: AD9982						
Quarterly Report						
July 1, 2023 - Sept 30, 2023						
Cost Category	Budget Received	Prior Expenses	Current Expenses	Cumulative Expenses	Budget Remaining	
a. Personnel	275,065.00	101,999.98	25,566.30	127,566.28	147,498.72	
b. Fringe Benefits	88,021.00	18,806.72	6,132.45	24,939.17	63,081.83	
c. Travel	60,516.00	18,414.08	5,734.87	24,148.95	36,367.05	
d. Equipment	-	-		-	-	
e. Supplies	16,500.00	2,814.69	10,778.23	13,592.92	2,907.08	
f. Contractual	3,773,256.00	822,016.44	820,648.24	1,642,664.68	2,130,591.32	
g. Construction	-	-		-	-	
h. Other Direct Costs	-	-	-	-	-	
i. Total Direct Charges	4,213,358.00	964,051.91	868,860.09	1,832,912.00	2,380,446.00	
j. Indirect Charges	286,642.00	114,521.91	19,954.76	134,476.67	152,165.33	
k. Fee-Profit	-	-	-	-	-	
I. TOTALS	4,500,000.00	1,078,573.82	888,814.85	1,967,388.67	2,532,611.33	
Cost Share	358,020.00	144,932.57	35,294.81	180,227.38	177,792.62	

Annual Simple Budget Table (2022)

CEMARCH: AD9982						
Annual Report						
October 1, 2022 - September 30, 2023						
Cost Category	Budget Received	Prior Expenses	Current Expenses	Cumulative Expenses	Budget Remaining	
a. Personnel	275,065.00	45,000.00	82,566.28	127,566.28	147,498.72	
b. Fringe Benefits	88,021.00	7,500.91	17,438.26	24,939.17	63,081.83	
c. Travel	60,516.00	10,621.02	13,527.93	24,148.95	36,367.05	
d. Equipment	-	-	-	-	-	
e. Supplies	16,500.00	-	12,884.80	12,884.80	3,615.20	
f. Contractual	3,773,256.00	6,102.60	1,637,270.20	1,643,372.80	2,129,883.20	
g. Construction	-	-	-	-	-	
h. Other Direct Costs	-	-	-	-	-	
i. Total Direct Charges	4,213,358.00	69,224.53	1,763,687.47	1,832,912.00	2,380,446.00	
j. Indirect Charges	286,642.00	24,228.49	110,248.18	134,476.67	152,165.33	
k. Fee-Profit	-	-	-	-	-	
I. TOTALS	4,500,000.00	93,453.02	1,873,935.65	1,967,388.67	2,532,611.33	
Cost Share	358,020.00	54,452.00	125,775.38	180,227.38	177,792.62	

III. Annex 3 - Communications and Success Stories

A success story about the beehives at AUC is attached. A second success story, about the virtual classrooms, has also been written, and it is working its way through the USAID editorial process. Additional communications during this time include press releases (in French, Creole and English), Twitter posts, Facebook video recordings (by the universities) and other press materials.



Beekeeping Brings Bonuses for Haitians

Farmers in the southern sector of Haiti are always alert for ways to improve their livelihood and money-making ability. With that in mind, the American University of the Caribbean (AUC) School of Agriculture and Environmental Science in Les Cayes (working in the Sud Department) decided to engage in beekeeping research and extension projects, hosting workshops and seminars to teach the local population about beekeeping. Bees are a profitable venture, because they can be used for honey, royal jelly, and wax, and the bees themselves are productive pollinators of flowers and crops.

The beekeeping work at AUC actually began in 2017, but the earthquake of August 2021 greatly affected the colonies, and populations dropped to fewer than ten colonies). But, with the financial support of the new USAID/Haiti project Haiti Agricultural University Partnership – Center for Mitigation, Adaptation, and Resilience to Climate-Change in Haiti (HAUP-CEMARCH), the bees are back. In January 2023, the Agricultural Technology Park (ATP) that is a part of HAUP-CEMARCH, AUC was able to hire Pierre Enock Philemon, a beekeeping specialist who has also become the ATP manager. Said Mr. Philemon: “I am always happy to share my knowledge in beekeeping with others. The AUC-ATP gives me the opportunity to share not only with students, but also with beekeepers in the whole southern peninsula of Haiti. Indeed, most of my joy comes from the fact that I get all the necessary tools I need, thanks to the support provided by USAID-Feed the Future Through the CEMARCH Project.”

In only five months, with Philemon’s leadership, the beekeeping team has completely reorganized the site, acquired new equipment and tools, and began construction of a honey house to better organize and manage the production of honey and other products. They renovated the hives, worked to create short beekeeping courses for students and others, and developed ways to use the honey as a revenue stream. The number of colonies has already increased by more than 100%, reaching 23 as the team aims to have a minimum of 50 healthy colonies by the end of this year.

In addition to improving the space and increasing production, marketing has also improved with better packaging and selling of the bee products at the counter of the newly-built Mini-Sale Shop located at the main entrance of the ATP. This is another objective of HAUP-CEMARCH – to develop revenue for the partner universities, ensuring sustainability for future educational activities.

In May, 2023, the first harvest of honey was sold at the Mini-Sale Shop, earning a total of twenty thousand (20,000.00) gourdes (140.00 USD) from the harvest of less than 10% of the hives. This initial sale shows the promise of honey as a cash generating activity, as demand for good quality, multi flower honey is very high. Still, for now the AUC team is mainly focused on creating new colonies instead of harvesting.



The beekeeping project is also an important part of extension and outreach in the area. Another part of HAUP-CEMARCH is undergraduate and graduate education, and extension workshops for the citizens in the southern region. The hives have already been used in undergraduate classes, and students are engaged in caring for the bees. Lourna Viarlie Augustave, senior student in the College of Agriculture and Environmental Sciences who attended the beekeeping class said: "I have developed a kind of love for Beekeeping and see in this enterprise an economic gateway for myself and my family".

Through the support of USAID and the HAUP-CEMARCH project, AUC aims to make beekeeping an important part of the AUC-ATP. The activity meets all of the project objectives, as it demonstrates profitability and revenue generation, services to the community through education and extension, and environmental stewardship of pollinators in a changing climate. The worker bees of Haiti will be a great asset to the southern sector, and to improved agricultural resilience for Haiti.



Figure 1. (Top, previous page) The beekeeping area prior to renovation and expansion as a part of the CEMARCH initiative. (Bottom, previous page) The beekeeping area following cleaning and expansion, May, 2023. Photo credit: AUC.



Figure 2. An undergraduate class session showing beehive management. American University of the Caribbean, Les Cayes. Photo credit: AUC.



Figure 3. Lourna Viarlie Augustave working with the bees under the supervision of Pierre Enock.

Partenariat Universitaire Agricole Haïtien : Centre d'Atténuation, d'Adaptation et de Résilience au Changement Climatique en Haïti (HAUP-CEMARCH)

COMMUNIQUÉ DE PRESSE / HAUP-CEMARCH

L'Initiative Haïtienne à travers le Laboratoire d'Innovation pour l'Intensification Durable (SIIL) de Feed the Future annonce la sélection des premiers étudiants boursiers en collaboration avec des partenaires universitaires en Haïti

Le projet HAUP-CEMARCH est un investissement à long terme de l'USAID pour promouvoir la croissance économique résiliente dans le secteur agricole en Haïti. Il a pour objectif de renforcer les institutions haïtiennes et d'appuyer les professionnels du secteur agricole à développer des solutions innovantes et durables pour améliorer la productivité agricole et la résilience des communautés rurales.

Le programme HAUP-CEMARCH donne des bourses d'études essentiellement aux étudiants haïtiens via ses six partenaires. Le but de ce projet est de créer un Parc Technologique Agricole (PTA) en Haïti, par des Haïtiens, pour des Haïtiens. "Nous sommes ravis que ce programme ait commencé et avance, car il renforce la capacité des jeunes en agriculture, ce qui est crucial pour le développement économique et social d'Haïti. Nous remercions vivement l'USAID de soutenir cette importante initiative en Haïti", déclare Véra Prasad, Directeur du SIIL, Professeur d'agronomie et professeur d'agronomie R.O. Kasse et K-Stat. Ce projet est une initiative très importante pour le développement économique et social d'Haïti, et il est essentiel que les partenaires publics et privés continuent à travailler ensemble pour assurer son succès et sa durabilité.

Le projet HAUP-CEMARCH s'inscrit dans l'objectif global d'accroître la capacité institutionnelle et humaine et le capital social des universités locales pour mieux répondre aux demandes de la communauté agricole et des besoins en termes de main-d'œuvre. Cette initiative est dirigée par le Laboratoire d'Innovation pour l'Intensification Durable (SIIL) du Feed the Future de Kansas State University (KSU) et financée par l'Agence Américaine pour le Développement International (USAID) dans le cadre du programme "Feed the Future".

Le 10 août 2023

CEMARCH press release about the first cohort of BS scholarship students.

Newsletter from AUC with articles about CEMARCH:

<file:///C:/Users/Beth%20Guertal/Desktop/AUC%20Magazine,%20XI%20e%CC%81dition.pdf>

Articles in the Haitian Press about CEMARCH:

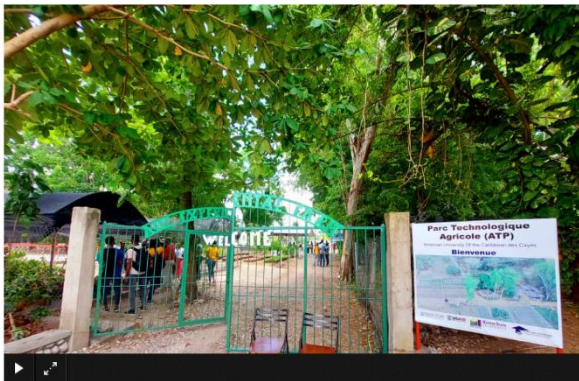
ACTUALITES / NATIONAL

Lancement du parc technologique agricole de l'AUC aux Cayes

L'Université américaine des Caraïbes (AUC) a procédé au lancement du premier Parc technologique agricole (ATP) de la péninsule du Sud, le lundi 1er mai 2023, au local de l'université à Charpentier, aux Cayes.



Par Jordany Junior Verdieu
09 mai 2023 | Lecture : 2 min



Link here: <https://lenouvelliste.com/article/242206/lancement-du-parc-technologique-agricole-de-lauc-aux-cayes>

An additional article link here: <https://lenouvelliste.com/article/243525/lusaid-et-luniversite-du-kansas-lancent-des-parcs-technologiques-agricoles-dans-le-nord>

IV. Annex 4 - Environmental Mitigation and Monitoring Report, if applicable

Nothing added for this Yearly Report (2023). A completed IEE exist at the Mission, and it will likely suffice for this project. It has been recently noted that we may need some additional training to fully cover the IEE, such as proper pesticide use and storage or other special applications within the ATP or a diagnostic laboratory (MSDS sheets, chemical disposal and storage). In this 2023-2024 we will assay that need, and conduct training as needed for the ATP and/or laboratory managers.

V. Annex 5 - Quarterly Shock Response Contingency Planning Report, if applicable

Nothing added for this Yearly Report (2023).

VI. Annex 6 - Summary of Key Achievements Highlights in French – this is an exact translation of Section B of this report.

Liste des principales réalisations du projet HAUP-CEMARCH pour la période juillet-septembre 2023 :

Objectif 1 - Renforcer les capacités humaines et institutionnelles :

- Quatre des six universités ont achevé et mis en service des salles de classe virtuelles qui sont désormais utilisées pour l'enseignement, les ateliers et la formation. L'installation de ces salles de classe virtuelles permet aux étudiants de partout dans le pays de bénéficier d'un enseignement dispensé par ces universités partenaires. Les étudiants et les autres personnes qui suivent certains cours disposent ainsi d'un plus large éventail de matériel pédagogique.
- Dans les six universités, 104 étudiants bénéficient des bourses d'études offertes par CEMARCH, alors qu'ils poursuivent des études agricoles dans leurs universités respectives. Chaque université a augmenté le nombre d'étudiants inscrits en sciences agricoles. Ces étudiants suivent des cours et participent à divers projets de recherche dans les parcs technologiques agricoles (ATP) de CEMARCH. Ce soutien économique via ces bourses constitue un renforcement direct des capacités, car les étudiants peuvent rester inscrits à l'université sans avoir à se soucier du paiement de leur éducation.
- La FAMV a interviewé et accepté 15 étudiants dans son programme de maîtrise en agroécologie Ces étudiants ont été sélectionnés parmi les candidats de chaque institution universitaire partenaire du CEMARCH. Ce programme fournira un diplôme de master de qualité en Haïti pour les étudiants en leur permettant ensuite de faire carrière dans la gestion agricole, si possible en Haïti. Le programme débutera en novembre 2023.



À gauche : Étudiants boursiers de l'UNDH participant à un cours de certificat d'apiculture, du 2 au 4 juin 2023. Une partie de ce cours a été dispensée à l'aide de la classe virtuelle, comme indiqué.

A droite : Les étudiants boursiers du CHCL-Limonade étudient la préparation d'un mélange de terre adéquat et l'ensemencement de plantes. 3 juin 2023



Objectif 2. Renforcer la capacité des universités locales à fournir des services de recherche et de vulgarisation :

- Des améliorations significatives ont été apportées aux infrastructures et, en 2022-2023, les installations commencent à être utilisées pour des activités de recherche et de vulgarisation. Par exemple, l'AUC et l'UNDH ont réparé et approvisionné des étangs en poissons qui avaient été endommagés et rendus inutilisables à la suite du tremblement de terre de 2021. En outre, le CHCL, l'UCNH et la FAMV sont tous en train de reconstruire et de rénover des serres, des enclos pour animaux et d'autres installations dans les ATP et les universités. Ces améliorations en termes d'infrastructure permettent le développement de programmes et l'enseignement pour les citoyens locaux, et (dans certains cas) la possibilité d'une durabilité par la génération de revenus.



À gauche, l'étang à poissons rénové à l'UNDH et, à droite, les bâtiments d'élevage

Objectif 3. Créer des liens entre les universités, les centres de recherche et les producteurs afin de garantir que les petits exploitants ciblés aient accès à des technologies adaptées pour accroître la sécurité alimentaire.

- Presque toutes les universités du CEMARCH ont créé des partenariats actifs avec des ONG ou d'autres entités locales. Les partenariats avec d'autres institutions ou organisations haïtiennes qui ont une longue histoire de service aux cultivateurs haïtiens sont particulièrement importants, car ils

permettent au CEMARCH de mieux former les cultivateurs aux nouvelles technologies. Des exemples spécifiques incluent des partenariats avec MFK (Meds and Foods for Kids) et le Centre Rural de Développement Durable (CRDD) (CHCL /UCNH), Acceso (Quisqueya), ORE - Organisation pour la Réhabilitation de l'Environnement (AUC), et la Société de Bioénergie Cosmos Solutions (AUC).

- Les ATP commencent à proposer des programmes de formation et de vulgarisation aux agriculteurs de la région, la plupart d'entre eux étant conçus pour les aider à améliorer la production agricole et à développer des pratiques intelligentes face au climat. Il s'agit d'une mise en œuvre importante, car elle constitue un lien direct avec le renforcement des capacités des cultivateurs haïtiens. Parmi les exemples, on peut citer les formations récentes sur les cultures de couverture dans la production de maïs et les techniques et méthodes de reproduction des bananiers par la fragmentation des tiges.



Possibilités de formation et de vulgarisation pour les agriculteurs : À gauche - propagation de la banane (UCNH), et au milieu et à droite - cultures de couverture pour le maïs avec la participation des agriculteurs (AUC).

VII. Annex 7 - Additional Documents

1. Nothing added for the Yearly Report (2023).