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Excellence in Higher Education for Liberian Development (EHELD) Final Performance Evaluation: Final Report

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EXCELLENCE IN HIGHER EDUCATION FOR LIBERIAN DEVELOPMENT FINAL PERFORMANCE EVALUATION

**A USAID/LIBERIA ACTIVITY ESTABLISHING
CENTERS OF EXCELLENCE IN TWO LIBERIAN UNIVERSITIES**

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ACRONYMS

CARI	Central Agriculture Research Institute
CASD	Center for Agriculture and Sustainable Development
CDCS	Country Development Cooperation Strategy
CF	Contract Faculty
CoE	Centers of Excellence
CU	Cuttington University
EG	Economic Growth
EHELD	Excellence in Higher Education for Liberian Development
EI	Entrepreneurship Institute
EMIS	Education Management Information System
FGD	Focus Group Discussion
FFS	Fee for Service
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GoL	Government of Liberia
IIU	Infrastructure Implementation Unit
KII	Key Informant Interview
LCHE	Liberian Commission on Higher Education
LEAG	Liberian Employers Action Group
LEAP	Liberia Engineering and Agriculture Pact
LF	Local Faculty
LOE	Level of Effort
LSA	Liberia Strategic Analysis
MOA	Ministry of Agriculture
MOE	Ministry of Education
MoPW	Ministry of Public Works
MOU	Memorandum of Understanding
NCHE	National Council on Higher Education
NGO	Non-governmental Organization
NRM	Natural Resource Management
PCV	Peace Corps Volunteer
PIDS	Performance Indicator Data System
PMP	Performance Management Plan

PS	Private Sector
PSS	Plant and Soil Sciences
RF	Returning Faculty
RTI	Research Triangle Institute
SHINE	Sustainable High Impact Infrastructure for Education and Agriculture
SI	Social Impact, Inc.
SOW	Statement of Work
STEM	Science, Technology, Engineering, and Math
UL	University of Liberia
ULCE	University of Liberia College of Engineering
USAID	United States Agency for International Development
VF	Visiting Faculty
VSLA	Village Savings and Loan Association

EXECUTIVE SUMMARY

EVALUATION PURPOSE AND EVALUATION QUESTIONS

The purpose of this evaluation is to provide an independent and in-depth examination of the efficacy of the Excellence in Higher Education for Liberian Development (EHELD) activity. The performance evaluation identified the project's major accomplishments, limitations and potential solutions, and constraints that affected activity implementation and effectiveness. This evaluation report discusses results and lessons learned from implementation, and provides recommendations for university partners and USAID going forward.

PROJECT BACKGROUND

EHELD is a \$22.6 million activity that was implemented by a consortium led by RTI, with Rutgers University, University of Michigan, North Carolina State University, and the Associates in Rural Development from February 2011 – September 2017.

EHELD's objective was to establish regionally recognized and competitive academic Centers of Excellence (CoEs) at the University of Liberia (UL) and Cuttington University (CU), to produce top-performing young Liberian graduates in two key sectors: engineering and agriculture, respectively. EHELD also promoted a pipeline of secondary school students to attract and prepare equal numbers of promising young Liberian women and men for these fields of study, and sought to network with the private sector and Government of Liberia (GoL) partners to facilitate financial and experiential opportunities.

EVALUATION QUESTIONS, DESIGN, METHODS AND LIMITATIONS

The methodology for this performance evaluation focused strongly on qualitative data, gathered through semi-structured key informant interviews (KIs) with 64 individuals. Respondents were identified through a process of purposive sampling, concentrating on university administration and faculty (24 KIs), contract faculty (CF) from consortium universities (10 KIs), and student beneficiaries (13 KIs). In addition, focus group discussions (FGDs) were facilitated with 56 university students and alumni. Focus groups included female-only, male-only, and mixed gender groups, and scholarship and non-scholarship beneficiaries. Each group numbered 8-10 respondents and engaged participants through interactive methodology to encourage active participation. Some quantitative data, largely output-level indicator data, was used to complement and provide a sense of scope for the qualitative inputs.

The methodology sought to incorporate both gender-sensitive and social-sensitive perspectives, through strategies such as organizing gender-segregated focus groups, and exploring social stratification between scholarship and non-scholarship students. Interview questions for all stakeholder groups also explored these dynamics directly, and data are disaggregated accordingly, as appropriate. While this strategy may not have eliminated all potential gender and social-based biases, the evaluation seeks to mitigate them to the greatest degree possible. Other potential limitations, including biased or skewed qualitative data, or inaccurate quantitative data, were recognized but not thought to be a determining factor in the quality of information presented, since the team worked to triangulate data among stakeholders to the greatest degree possible.

FINDINGS AND CONCLUSIONS

Effectiveness of EHELD: EHELD was successful in establishing CoEs at both universities, including:

updating curricula and developing specialized fields of study, upgrading laboratory equipment and resource rooms, providing scholarships to nearly 300 students and 22 faculty members to acquire degrees in target fields, and facilitating 29 CF to teach at the two colleges to enhance quality through provision of new classes and capacity building support for local faculty (LF). Through these achievements, the evaluation found strong evidence that the CoEs have achieved their goal of establishing reputations as the premier institutions in which to study target disciplines.

Unexpected Obstacles: One of the primary challenges of EHED was the complex relationship between the implementing partner (IP) and the other various stakeholders, including the two beneficiary universities, as well as the three US-based universities involved as consortium partners. The relatively fast pace of donor implementation as compared to the rhythm at which academic institutions are accustomed to operating meant that some EHED activities were implemented before the university had adjusted accordingly (e.g., curriculum updates, faculty training, equipment provision, etc.). In addition, many stakeholders felt that the IP had not been transparent and inclusive in its interactions with UL and CU, which limited the colleges' sense of ownership and buy-in for the project's activities, and may have affected overall sustainability.

Curriculum Development: EHED's consortium members worked in close collaboration with all stakeholders to offer an updated, comprehensive, and specialized learning experience for students, including the development of three professional specializations at the Center for Agriculture and Sustainable Development (CASD) and integrating active learning approaches. By all accounts, curricula revision was an inclusive and productive exercise, which largely benefitted educational quality for all students at the colleges, although the universities recognize that the maintenance and refining of curricula will be an ongoing process. Students were very welcoming of the updated curricula and methodologies, although some felt that older LF were not as comfortable integrating them into the classroom.

Building Local Capacity: The provision of CF to support development of the CoEs was successful in building the capacity of LF. Data indicate that CF mentored LF (including the 22 returning faculty (RF) who EHED supported to earn graduate degrees outside Liberia), modeled best practices of classroom instruction, integrated new teaching methods, strengthened students' awareness of global technological advances and standards, and used active-learning strategies in the classroom. There was strong evidence that these methods have now been adopted and spread among LF, and of enduring connections between CF and LF colleagues. The primary challenge in the CF/LF relationship was some resentment on the part of LF about pay disparities between themselves and the CF, which in some cases limited LFs' buy-in for the mentoring process and thus the professional benefits gained.

Institutional Capacity Development: Through the provision of scholarships to LF to obtain graduate degrees abroad, EHED upgraded the percentage of CoE faculty with higher degrees from 70% to 89%. Coupled with the provision of CF to provide mentorship and introduce best practices to the colleges, and the establishment of well-equipped laboratories and resource rooms to support research, EHED made significant progress in enhancing the quality of education at the two colleges.

Pipeline Activities: EHED engaged nearly 5,000 students in short-term training programs (Summer Start; Fast Start; and Science, Technology, Engineering, and Mathematics [STEM]) to encourage young people to pursue careers in engineering and agriculture, and to support their development of key skills to succeed in these careers. The evaluation found that, in most cases, students had already shown an interest and aptitude in these fields before the training (which was why they were chosen to participate). There was strong evidence that many of the students had benefitted from these training opportunities, and that they had made an impact on student success. In addition, EHED engaged Peace Corps

volunteers (PCVs) to support the pipeline program, serving as instructors, assisting in the student selection process, and contextualizing the curricula to be more appropriate to local contexts and students' existing capacities.

Private Sector Engagement: EHELD reached out to the private sector (PS) through a variety of strategies, including an attempt to establish a Liberian Employers Action Group (LEAG) to serve as an advisory board for aligning higher education to the needs of the labor market. While LEAG was ultimately unsuccessful due to lack of PS engagement, EHELD did facilitate 162 internships with PS partners to support students' and graduates' entry into the job market.

Ultimately, EHELD found that working with smaller, more locally-based PS partners was the more successful approach, including a very successful partnership with the Central Agriculture Research Institute (CARI), which is profiled in a case study in Annex V. In addition, EHELD found it was more effective to adopt a cost-sharing model with the internship providers, with PS partners providing housing and EHELD covering transportation. PS partners paid stipends for about half the interns and EHELD paid for the other half.

Another successful strategy that EHELD adopted to reach PS partners was the establishment of internship coordinators at each college. The administration at CU found this role to be so instrumental in eliciting internship opportunities that they are exploring opportunities to institutionalize the position university-wide after EHELD funding ends.

GoL Engagement: One of EHELD's original implementation strategies was to engage and empower government leaders to play an active role in supporting the CoEs. The evaluation team found no evidence that this effort was successful. The GoL's structure is such that there is no governing body overseeing quality of higher education – the Ministry of Education (MoE) works only with primary and secondary schools and the National Council on Higher Education (NCHE) only provides accreditation. Therefore, EHELD did not have a clear governmental partner on this project. Some internships and sponsorships were facilitated with the Ministry of Agriculture and the Ministry of Public Works, but this was not systemic.

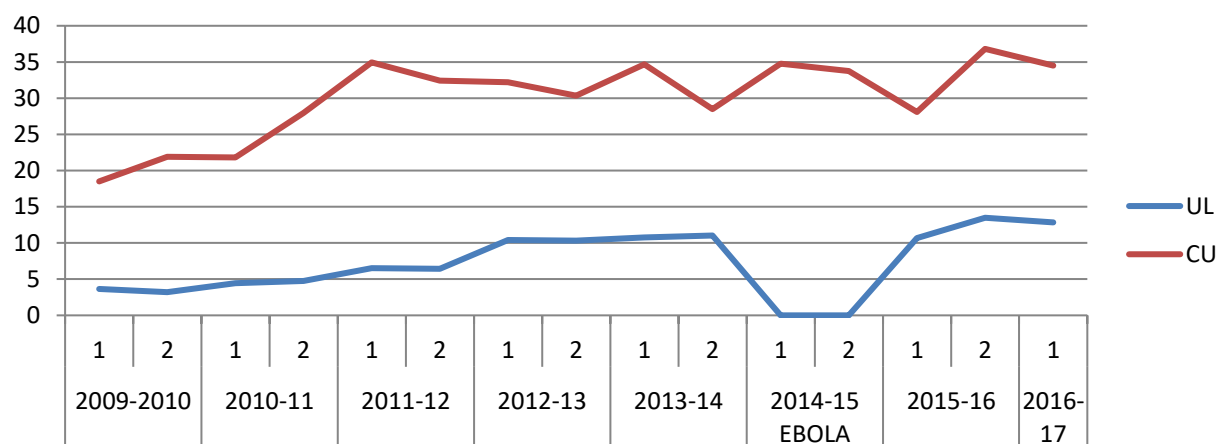
Sustainability: University faculty, administration, students, and alumni all show a very strong interest and commitment to developing and sustaining the CoEs at both institutions. EHELD staff worked in close collaboration with partners to develop strong sustainability plans that demonstrate potential for success if implemented in a timely manner and according to plan. Their strategy revolves primarily around a fee-for-service model of revenue generation, utilizing the upgraded research capacities and faculty qualifications to raise funds to sustain the colleges' assets, including laboratory and farming equipment and materials. Respondents most often expressed concern over the colleges' ability to maintain the very expensive internet connection without EHELD funding, and regret that the planned solar power installations were not implemented. They felt the latter asset was important in reducing costs of providing electricity, as well as sustaining sophisticated lab equipment that needs to be kept in a controlled environment.

The evaluation team explored the question of which activities were most and least cost-effective. Investments to raise the capacity of the CoEs were cost effective, including lab equipment, resource rooms, and facilities upgrades. The scholarships (both student and faculty) had some merit, the student scholarships are not sustainable (enrollments have already started dropping as EHELD ends) and the faculty scholarships might have been designed in a more cost-effective manner (e.g., sending individuals to obtain higher degrees in West African universities rather than in the US).

Gender: Overall, EHELD achieved its goal of engaging females in engineering and agriculture fields, most especially through the provision of scholarships but also through building a pipeline of secondary students interested in engineering and agriculture fields.

EHELD awarded 41% of CASD scholarships to females, and 31% to University of Liberia College of Engineering (ULCE) female students. This strategy was successful in increasing female enrollment at both colleges, increasing UL's female enrollments from 4% to 13% of students, and at CU from 18% to 35% of students, as shown in the graphic below.

Graphic 1. Female Enrollments at ULCE and CASD during EHELD's lifecycle



In addition, CU female faculty rose from 9% to 25% and respondents provided anecdotal evidence that EHELD had changed the gender dynamic on campus, to provide a safer space for female students and staff, and opening a dialogue about issues such as sexual harassment on campus. CU has also added a minor in gender studies to the course offerings, which will certainly encourage the administration to strive for female faculty retention.

EHELD was successful at promoting greater female participation and a more inclusive environment for females at CASD. However, there was limited success in promoting female faculty for University of Liberia College of Engineering (ULCE) students. At the time of this evaluation, all ULCE faculty were males, limiting female students' access to support and role models within the college faculty. However, the university has recently undertaken steps to promote female leadership, and most ULCE administrators and faculty recognized the need to expand female faculty presence at the college.

EHELD's internship coordinators aimed to facilitate equal internship opportunities for females, but found it challenging to maintain the desired 50:50 gender split between internship opportunities. While the female internship participation rate is generally reflective of the program's gender composition, EHELD had fewer female students who qualified for an internship, so about one in four internships were filled by female beneficiaries. Overall, respondents reported that internship providers did not have specific gender requests, or requested female interns to maintain a gender balance in their own programs.

EVALUATION PURPOSE & EVALUATION QUESTIONS

EVALUATION PURPOSE

The purpose of this evaluation is to provide an independent and in-depth examination of the efficacy of the Excellence in Higher Education for Liberian Development (EHELD) activity. The evaluation identifies the project's major accomplishments, discusses performance limitations and identifies potential solutions, and examines constraints that affected activity implementation and effectiveness. Based on data gathered from qualitative research, complemented by quantitative measures gathered from key stakeholders, this performance evaluation identifies results and lessons learned from implementation, and provides recommendations for implementing partners and USAID going forward.

EVALUATION QUESTIONS

The evaluation questions for this performance evaluation include:

1. Project Performance:

- a) To what extent did the EHELD project meet its overall objectives and intermediate results? How effective were both the EHELD project's design and its implementation in identifying and responding to challenges in the Liberian higher education context?
- b) What, if any, were the unexpected obstacles in the universities', private sector or GoL response to the program?
- c) To what extent is the contract faculty building local faculty capacity to assume responsibility when the EHELD project ends successful?

2. Project Management and Implementation:

- a) How collaboratively, transparently, and effectively has EHELD engaged with University of Liberia and Cuttington University leadership and faculty?
- b) What approaches led to the most effective relationships with the private sector, both in general and through the Liberian Employers Action Group (LEAG)?
- c) How effectively has EHELD engaged the National Council on Higher Education (NCHE), Ministry of Agriculture, and Ministry of Public Works?
- d) What has been achieved through the consortium to date? What are the challenges and how should these be addressed?
- e) What was most successful about the revised curricula from the following perspectives?
 - University leadership and faculty
 - Private sector partners
 - Students
- f) What strategies were most effective at attracting high school students to pursue careers in engineering and agriculture?
- g) How effectively is EHELD addressing underlying institutional, policy and systemic weaknesses that impact capacity to deliver CoE?

3. Sustainability and Local Ownership: To what degree is there university ownership, leadership and accountability for providing quality education at the CoEs in Liberia?

- a) Will the (expected) results of EHELD be sustained?
- b) What (expected) results appear to be less sustainable and why?
- c) Is the program being implemented and managed in a cost-effective manner?
 - What are the estimated implementation costs of the major activities implemented under EHELD? Are the universities prepared to continue these activities?

- 4. Gender:** To what extent has the project integrated gender strategies and considerations into its activities? What interventions were most successful to increasing women's access to and participation at UL and CU?

PROJECT BACKGROUND

Excellence in Higher Education for Liberian Development (EHELD), is a \$22.6 million activity, implemented by a consortium led by RTI, with Rutgers University, University of Michigan (UMich), North Carolina State University (NCSU), and the Associates in Rural Development. The objective of EHELD is to establish regionally recognized and competitive academic Centers of Excellence (CoEs) at Cuttington University (CU) and the University of Liberia (UL) to produce top-performing young Liberian graduates in two critical development sectors—agriculture and engineering. EHELD runs from February 2011 to September 2017.

EHELD has promoted a pipeline of secondary school students to attract and prepare equal numbers of promising young Liberian women and men for these fields of study, and sought to network with private sector and Government of Liberia (GoL) partners to facilitate financial and experiential opportunities.

DESCRIPTION OF UL

UL is a publicly-funded university, with the main campus located in Monrovia. The institution opened in 1863 as Liberia College and became a university in 1951. Its current enrollment is approximately 20,000 undergraduate students over all campuses. UL has six colleges, three professional schools (including the law school and the medical school), three graduate programs, and five institutes focusing on topics such as research, population studies, conflict transformation, and Chinese studies.

The University is divided into three campuses. The main, original campus in downtown Monrovia, houses the law school, three graduate programs, the business college and the five institutes. The Fendall campus houses the College of Engineering, along with several other colleges, is located about 14 miles northwest of Monrovia. Student tuition costs are about \$75/semester.

DESCRIPTION OF CU

CU is a private, Episcopal university located in Bong County in central Liberia. It was founded in 1889 as Cuttington College and, as one of the first private colleges in sub-Saharan Africa, has a long reputation as an institution serving Liberia's elite; CU has approximately 2,000 undergraduate students.

Its only campus is located 120 miles from Monrovia, and houses eight colleges, including natural sciences, health sciences, education, theology, business and public administration, liberal arts and social sciences, as well as the newly created College of Agriculture and Sustainable Development (CASD). Student tuition costs are about \$1000/semester.

EVALUATION METHODS & LIMITATIONS

The evaluation team adopted a mixed methods approach with emphasis on qualitative interviews and focus groups with all stakeholder groups, complemented with quantitative output data. The implementation period evaluated is February 10, 2011 – May 31, 2017.

Quantitative Data. The quantitative processes included (i) examination of trends in available secondary performance indicator data; (ii) the collection of current enrollment, internship participation, program retention and completion trends and staffing information from the various CoEs; and (iii) the analysis of changes over time to inform the extent to which the program was effective in achieving its objectives.

Qualitative Data. The evaluation team facilitated key informant interviews (KII) with 64 individuals and engaged 56 university students and alumni in six focus groups discussions (FGDs). The interviews were semi-structured conversations based on interview guides (copies of the KII and FGD instruments are included in Annex III: Sources of Information). Interviews were largely conducted face-to-face, unless respondents were not located within a reasonable distance, in which case telephone interviews were conducted (primarily respondents located the US, including consortium members, contract faculty (CF), and Peace Corps volunteers (PCVs), as well as one PS respondent located in northern Liberia).

Respondents were gathered through a process of purposive sampling, which focused on engaging a variety of respondent groups and perspectives. In Annex II: Methodology and Data Limitations, Table I demonstrates the targeted and actual numbers of respondents reached. The evaluation team greatly exceeded its targets for the number of KIIs with UL and CU administration and faculty and consortium partners. However, respondents from private sector partners, USAID representatives, and university students/alumni were slightly under target due to lack of responsiveness or availability of respondents.

In the case of university students, this target was replaced with two additional focus groups. For high school students who participated in pipeline activities, two focus groups were planned, but the evaluation team found that potential respondents were scattered throughout the country, which made it a challenge to bring them together for a focus group. However, the team found that many of the university student/alumni respondents were also former pipeline participants who provided additional information on the pipeline program. Thus, the team conducted two KIIs with former pipeline participants.

Six focus groups were conducted (three at each university) and organized to provide various demographic compositions, including male-only, female-only, scholarship, and non-scholarship groups, as illustrated in Table 2 of Annex II: Methodology and Data Limitations.

Qualitative data was written up in the form of notes or transcripts, and analyzed using NVivo, an industry standard software tool that enabled the evaluation team to identify trends across respondent groups and draw evidence-based conclusions about the activity. A coding scheme was established by the team which identified information needed to respond to all key research questions to ensure that all essential research areas were analyzed through this process. The coding was done by the Team Leader, which limited the issue of inter-rater reliability, as only one individual coded all the qualitative data. From this point, qualitative and quantitative data were reviewed and synthesized into the final evaluation report.

Gender-Sensitive Perspective

The evaluation team included both female and male researchers, and a gender balance among respondents was sought and achieved in mixed-gender focus groups, with a slightly higher presence of females. In addition, the organization of male-only and female-only focus groups allowed the evaluation team to explore the unique experiences of each group, and to document the extent to which EHED has integrated gender equality and addressed gender-based issues within the program and the colleges. In addition, qualitative instruments for all stakeholder groups included questions to explore the gender dynamics of EHED and the operational environment. This evaluation report includes qualitative and quantitative data analysis disaggregated and reported by sex, where appropriate.

Social-Sensitive Perspective

In addition to issues of gender, the evaluation team considered issues of social demographics, and how they may have affected the outcomes of the activity and/or the evaluation findings, including: age, urban/rural environments, formal education status, enrollment and program completion status. This information is presented in the evaluation report where appropriate.

CONSTRAINTS AND LIMITATIONS

The evaluation team acknowledges that there may have been potential constraints in undertaking this evaluation, including limited, outdated, or inaccurate data; biased or non-representative respondents; overstated needs, or analytical errors. Although there is no direct evidence that these issues have affected the validity and reliability of the evaluation data, potential constraints and mitigation strategies are presented in Table 3 of Annex II: Methodology and Data Limitations.

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

FINDINGS

I. PROJECT PERFORMANCE

- a. **To what extent did the EHELD project meet its overall objectives and intermediate results? How effective were both the EHELD project's design and its implementation in identifying and responding to challenges in the Liberian higher education context?**

EHELD was successful in establishing CoEs at both universities. Accomplishments included an updated curriculum, upgraded laboratory equipment and resource rooms, scholarships for nearly 300 students and 22 faculty members to acquire degrees in the target fields. In addition, EHELD facilitated 29 CF to teach at the two colleges to enhance quality through provision of new classes and capacity building support for local faculty (LF).

Through these achievements, the evaluation team found strong evidence that CoEs had achieved their goal of establishing a reputation as the premier institutions to study the target disciplines. Stakeholders called the colleges the “best” places to study their discipline “in the nation.” Students in focus groups shared anecdotes that students from other colleges within the school, as well as other universities and academic institutions in Liberia, are coming to the CoEs to utilize their resources. They are known as the elite institutions within their relative fields. Respondents also indicated that research institutions like CARI are coming to CU and major private companies are coming to UL to use lab equipment and resources that are not available to them elsewhere.

Regarding program design, respondents had conflicting viewpoints about the merits of including more or fewer schools in the project design. Some respondents felt that more universities should have been included or different types of educational institutions targeted, such as community colleges, and benefits should be distributed in a competitive manner, to motivate schools to excel in their development.

Other respondents felt that concentrating efforts on a single school would be the most effective and efficient use of project resources. The choice not to establish a CoE of agriculture at UL did limit the activity's impact – the Agriculture College is directly across from the Engineering College, and if EHELD had elected to establish CoEs at both colleges, there would have been increased opportunities for collaboration between the colleges and more potential leveraging of infrastructure upgrades such as laboratories, resource rooms, additional classrooms, and housing for visiting faculty, which could be used by both CoEs without requiring the project to negotiate two university bureaucracies.

The choice to implement at CU, an elite institution with very expensive tuition, affects sustainability because once EHELD stops funding student scholarships, there will be fewer students who can afford to pay the tuition at CASD (current CASD enrollments have already begun to decrease as EHELD comes to an end). Most of the scholarship student respondents indicated that tuition at CU would have been out of their reach without the EHELD scholarship. Conversely, tuition at UL is much more affordable so if USAID had built a CoE in agriculture there, it would be more sustainable in attracting student enrollments after the project's lifecycle ends.

b. What, if any, were the unexpected obstacles in the universities', private sector or GoL response to the program?

Universities: The relatively fast pace of donor-funded project implementation, compared to the rhythm at which academic institutions like universities are accustomed to operating, meant that some EHELD activities were implemented before the university had adjusted accordingly. For example, there was a mismatch between the number of trained faculty available to teach in the plant and soil sciences department (PSS) versus in the Natural Resource Management (NRM) department at CU (i.e., an overabundance of PSS instructors compared to no NRM instructors).

In addition, there were complementary activities planned by other USAID offices that have not yet started due to internal delays, which would have enhanced EHELD's impact. Specifically, the Economic Growth Office's Sustainable High Impact Infrastructure for Education and Agriculture (SHINE) project is still planning to renovate the library and construct five housing units for visiting faculty at CU, and to rehabilitate UL's engineering building facilities. Delays in implementing these two activities limited EHELD's impact, as the CoEs would have benefitted from the enhanced facilities if these activities had been implemented before or during EHELD's implementation.

Finally, some challenges in the dynamic between university and college administrations (e.g., reluctance to grant autonomy to the CASD to control their own finances and raise funds independently) caused delays in implementation. These delays not only affected EHELD's ability to implement activities on time and to enhance faculty ability to manage them, they may have affected the overall sustainability as these elements are just being implemented in the final year of the activity and have not been fully tested.

Private Sector: While EHELD tried to establish strong private sector (PS) partnerships, the success and impact of this was limited due to a general lack of engagement on the part of the PS in supporting activities such as curriculum development and short course facilitation. This not only limited EHELD's ability to engage PS in aligning curriculum to employers' needs, but may also have limited the sustainability of the internship program after EHELD funding ends. Please see Section 2b (page 13-15) for a full analysis of private sector engagement.

Government of Liberia: The evaluation team contacted five GoL representatives from various ministries, and each respondent said they were aware of EHELD but had no involvement in the activity. The NCHE is the governing body for higher education, but its role is only to provide accreditation, so there is no governmental oversight in ensuring higher education quality in Liberia. The MoE has no jurisdiction over higher education; their involvement ends at the secondary level. One of their staff reported previously working for CU and having some involvement in curriculum development, but not in an official capacity. There were some internships provided by GoL entities, including a Ministry of Public Works partnership with Alliance Construction through a World Bank funded project that yielded 5-6 internships; the evaluation team did not find conclusive evidence of other strong ministry engagement in EHELD's development or implementation.

c. To what extent is the contract faculty building local faculty capacity to assume responsibility when the EHELD project ends successful?

Over the lifespan of the project, 29 CF with experience in various agricultural and engineering disciplines were brought to Liberia through the consortium (16 to CU and 13 to UL) to promote enhanced learning opportunities and mentor local staff to the CoEs. The CF taught regular classes to students, facilitated short-term training courses for LF and were instrumental in guiding the curriculum review process. Most of these CF came from Rutgers University (26 of the 29) with one from NCSU and two from UMich.

Qualitative data captured through interviews and focus groups indicated that CF had a positive impact on the development of CoEs overall. There was strong evidence that CF mentored returning faculty (RF), modeled best practices of instruction (the use of syllabi, overhead projectors, lab activities), integrated new teaching methods, strengthened students' awareness of global technological advances and standards, and used active-learning strategies to bridge the gap between theoretical and applied learning. Students described CF as excellent teachers who modeled good classroom behavior and were student-centered in their approach. The CF were viewed as specialists in their fields of study who brought new teaching methods and engaged students in practical learning activities. At CU, through suggestions in the curriculum revision process, the CF played a pivotal role in transforming the agriculture program from offering one degree in General Agriculture to three areas of specialization. As the LF were more used to teaching General Agriculture classes, the CF were initially responsible for teaching most of the core courses in the revised curriculum.

There was a difference in the relationship between LF and RF. LF who remained at the CoE throughout the project lifespan were generally older and had spent a significant portion of their professional lives teaching at the school. Conversely, RF who benefitted from EHELD graduate level scholarships outside of Liberia were mostly young, recent graduates of the universities. Some of the experienced faculty who remained at the CoE felt that they had given their careers to the institutions and were now being overlooked in the selection process for advanced training. This situation created some challenges in the project implementation process that EHELD tried to mitigate through the provision of short-term professional development courses.



EHELD faculty member implements applied learning methods

RF had a stronger working relationship with the CF. There was evidence of CF mentoring all LF, but especially RF. Through these connections, some RF now have enduring connections with colleagues outside of Liberia, which could be further developed to support the CoEs. The research team also found some indications of multiplier effects: LF who were mentored have now assumed roles that were filled by CF. For example, at CU, a CF developed the internship course, co-taught the course with a LF for two semesters and allowed that LF to teach the course in the third semester with mentoring support. That LF is now the instructor for the course. At UL, the current lab technicians were all taught and mentored by CF.

The use of CF had benefits but there were also a few drawbacks to this strategy. To attract qualified and high-standard faculty from outside Liberia, EHELD offered competitive wages based on international standards and commensurate with what these faculty may have been earning in their home countries. Given the low salary structures at CU and UL, CF were earning roughly 4-5 times as much as the LF, which created a perception of inequality as some LF felt they were being paid significantly lower salaries than CF to do the same job.

As a result, some of the LF were more focused on the financial benefits and less on the professional benefits they could gain. This situation led to low attendance and participation in many of the professional development courses that were offered for LF enrichment. Evidence suggests that some LF

find it difficult to integrate the best practice teaching methodologies and lab activities brought by the CF into their regular routine because they have not fully developed a level of comfort and are nervous about making errors in front of their students. Students reported the need for more training for the lab technicians who have been hired to take over from the CF. There was an overall sense that respondents would have preferred to use local researchers and experts as LF rather than bringing in outsiders, although respondents also acknowledged there were benefits to having international support.

A second drawback was the perception that qualified Liberians were excluded from being selected as CF even though the project was intended to benefit Liberia. Conditions for being selected as a CF included: the applicant must have earned their masters' or doctorate degree from outside of Liberia, and must not be living and/or working in Liberia at the time of hire. The project hired a few CF who were living and working in Liberia at their time of hire but no Liberian citizen who resided in the country was recruited as a CF. This situation created a level of resentment among some of the LF who were trained abroad. Using local experts would have helped to alleviate some of these issues.

A third challenge of using CF is that it raised the expectation of higher salary among RF. Some of the RF now see themselves as being just as qualified as the CF and have the expectation that they should be paid higher wages. Salary limitations at each institution may make it challenging for the universities to retain the EHEDL-trained faculty once the contract period prescribed in the agreement for sponsorship expires. Their enhanced capacity through the acquisition of a higher degree may make them more competitive for higher-paying positions elsewhere. Respondents had many concerns about retaining RF and its potential impact on the sustainability of the CoEs. In anticipation of this challenge, EHEDL has supported the universities to institute potential revenue generating activities through FFS, a part of which may be used to supplement faculty salaries, to retain trained instructors at the CoEs.

2. PROJECT MANAGEMENT AND IMPLEMENTATION

a) How collaboratively, transparently, and effectively has EHEDL engaged with University of Liberia and Cuttington University leadership and faculty?

Some aspects of EHEDL's engagement with university administrators and faculty resulted in a collaborative, transparent and effective partnership. According to respondents, EHEDL met on a regular basis with the university faculty and administration, and prepared specialized quarterly reports to inform universities on EHEDL's progress. University authorities were actively engaged in the identification and selection of faculty members to be trained abroad. Deans and CoE faculty participated in the selection of materials for the resource rooms, classes, and labs. Faculty and administrators were also part of the selection committees to identify EHEDL scholarship beneficiaries. CF, LF, and RF were all involved in all stages of the curriculum development and review processes. While the initial curriculum may have been developed in the US, faculty had discussions and worked individually and collaboratively to adapt the curriculum to the local context, which respondents felt was a key element in its success.

However, there was a consensus among university staff about the lack of transparency from EHEDL when it came to financial matters. University officials indicated that not having access to financial information made it challenging for them to prioritize requests. They stated that the project routinely purchased materials without their input and they were not given any information about cost. As an example, administrators at the CASD stated that they were not aware of the cost of farm animals that were purchased by EHEDL and therefore will not be able to determine if future sales would result in a profit or a loss. Without such information, they cannot plan for future revenue generation activities and support sustainable decision-making. Thus, they felt disenfranchised from the management of their project.

This perceived lack of transparency among the ULCE and CASD faculty and staff has been well-documented in reports such as the midterm evaluation. There is evidence that current RTI management did make changes to improve the information sharing processes, which mitigated the issue to some extent. However, the perception that universities did not have enough say in financial decision making still lingers: respondents felt that these efforts did not go far enough to alleviate their concerns about how the money was spent, and it was too late to involve them in key decision-making processes.

In addition, some administrators saw the CoE concept as a foreign ideology, and felt they were not actively engaged in all stages of the project's planning and implementation. International universities that formed part of the consortium acknowledged that insufficient information-sharing created trust issues and posed occasional challenges during the project implementation. While there was progress made in bridging the information gap, because of administrative changes in the EHED staff and frequent meetings with universities authorities, the initial mistakes created a negative perception that lingered throughout the project lifespan.

University administrators also felt blindsided by the recent decision to scrap the solar power installation. This decision was due to a cut in USAID funds, but some university representatives felt they were not included in the decision-making process and thus were not engaged as full partners in funding allocation. Universities would have preferred to be consulted about the decision and may have elected to cut funding in other areas that were not felt to be as crucial to sustainability of EHED's investment.

Also, EHED had measurable targets that had to be met within a specified timeframe but their implementation timeline was not always in sync with the pace of the cumbersome and often lengthy decision-making processes that are inherent in a higher education environment. This caused some level of frustration on both sides.

b) What approaches led to the most effective relationships with the private sector, both in general and through the LEAG?

EHED explored a variety of approaches to engage the PS in EHED's work, and experienced some challenges in that regard. Initially, EHED attempted to establish the LEAG secretariat with representatives from the Ministry of Agriculture, potential employers in target sectors, and EHED staff. Their mission was to serve as the advisory board, which would promote sustainability of the CoEs, link employers and universities together for activities such as curricula development and applied learning opportunities for students, and advise EHED about government policy. However, after various attempts to facilitate meetings with LEAG members saw no progress, EHED decided at the end of 2015 to refocus PS engagement efforts into building stronger direct partnerships with smaller PS institutions to facilitate internships and establish closer working relationships that will be leveraged in the FFS model to promote sustainability of EHED's investment. This is described in more detail in Section 2g (Pages 18-19) below.

Regarding establishing internships, EHED has built and implemented a successful model overall, including providing capacity development and mentoring for internship coordinators, supporting the colleges to include internships as a requirement for graduation, and implementing a training program to build interns' workforce readiness skills before they start the internship. In the 2015-16 academic year, EHED facilitated 162 internships; Table I below provides more detail on the number of internships facilitated per college, the percentage of females, and details about internship providers for each institution.

Table 1. EHELD Internship Profiles

School	# of Internships	% Female	# of Providers	Key Providers
University of Liberia	58	19%	15	Alliance Construction/MoPW (11); ArcelorMittal (7); GIZ (7); APM Terminals (5); Bea Mountain (5)
Cuttington University	104	26%	18	CARI (46 + 6 UL); MoA Bassa (9); CWAP Saclapea (6); Aaron Marshall Farms (6)

Overall, the quantitative measures of engagement and qualitative evidence from respondents indicate that EHELD's most successful PS partnership was with CARI (based on the number of internships provided, the extent of the collaboration between organizations, etc.). This example demonstrates a model for partnering with a localized mid-sized organization with which the college has a cross-over of interests and a potential for growth opportunities on both sides. The CARI/CASD Case Study in Annex V provides more detail on this partnership.

Conversely, EHELD struggled to engage larger PS partners, like Arcelor Mittal, in regular activities. EHELD made strong efforts to include PS inputs on curriculum development, teaching of short courses, and facilitating internship opportunities for students, but found that PS partners were often unresponsive. In cases when PS representatives did participate in meetings and events, there was minimal demonstration of a desire to establish true sustained partnerships. Larger companies may have more resources to bring, but the strength of these partnerships was more dependent on fluctuations in the global market – when market prices were high, the large international companies have more resources to contribute and vice versa. Thus, respondents felt that partnering with smaller, local institutions did offer the CoEs more opportunities for cross-over, collaboration, and a mutually beneficial extension of each other. In the later stages of implementation, EHELD has also had some success in engaging PS partners in FFS activities, which is a promising strategy to generate revenues to sustain the CoEs after USAID funding ends.

Internships

To upgrade the internship program, EHELD trained internship coordinators for each college, who facilitated partnerships with the private sector and provided training for students and alumni before they started the internship. This was a very effective model, to the degree that CU's administration is considering institutionalizing the position, to make internships standard practice throughout the university.

Originally, EHELD planned to find internship providers willing to pay stipends for students' time. However, EHELD ultimately elected to pay about half of stipends from project funds, with the rest paid by internship providers. EHELD also facilitated much of the transportation costs, with employers providing lodging for interns in about two-thirds of the reported cases. This approach enabled the project to reach its internship targets.

At the time of writing this report, EHELD was conducting a tracer study with alumni to determine a current employment rate, but students' and alumni's feedback indicated that finding a job is extremely challenging for young graduates. The universities do not provide any comprehensive support to match graduates to opportunities in the labor market, nor do they see it as their responsibility to facilitate

these linkages. Rather, they feel it is the responsibility of the graduates to seek employment for themselves, or for the employers to approach them with any potential openings to be filled.

The evaluation team did reach out to several key PS partners, including CARL, Aaron Marshall Farms, and ArcelorMittal, to gather their feedback about the overall experience of partnering with EHED. While the internship providers did feel that it was a good experience for the students, their primary issue was that EHED did not allow enough time to set up internships from the PS partners' perspective. They wanted at least three months' notice to plan for the interns' arrival.

c) How effectively has EHED engaged the National Council on Higher Education (NCHE), Ministry of Agriculture, and Ministry of Public Works?

The evaluation team discovered very limited engagement between EHED and government ministries. This was due to a combination of factors including: the GoL administrative structure for education not providing an official HE counterpart, a lack of ongoing interest from government ministries, and some degree of discouragement from RTI after initial efforts did not yield the desired result.

The NCHE attended the EHED launch ceremony but did not maintain an ongoing interest in the project. As the NCHE is limited in quality control oversight, they maintain little ongoing connection with higher education institutions after accreditation is granted. Thus, there was not a clear governmental partner with which to engage.

There was no official interaction between EHED and the MoE, because the MoE's jurisdiction extends only to secondary level. While one of the Ministry officials was involved with the EHED curriculum development process, this was done as an employee of CU. Though the Ministry has no sustained interaction with universities in Liberia, they could have been engaged in curriculum development and expansion of scope for STEM among secondary students. The evaluation team found no evidence of this engagement. Additionally, except for an initial meeting with the MoA, there was no evidence of ongoing relationship with the institution.

There were small-scale instances of EHED interns working in ministry internships, including six EHED interns hosted by the MoPW. This relationship was facilitated as part of the World Bank sponsored Urban Rural Infrastructure Project with their Infrastructure Implementation Unit (IIU). There is an ongoing relationship between the IIU and the CoE, including planned lab materials provision, and EHED reported that they have supported the CoEs to establish relationships with governmental partners for FFS provision and other activities.

d) What has been achieved through the consortium to date? What are the challenges and how should these be addressed?

RTI sought partnerships with NCSU, Rutgers University, and UMich to assist in the implementation of EHED. The Consortium partners were responsible for curriculum revision, training, faculty development, facilitating and supervising CF, providing visiting faculty (VF), and designing the laboratories. NCSU was responsible for the CU animal science curriculum and for agronomy and soil science courses. Rutgers took the leading role in creating the CoE, managing the NRM Departments, and providing assistance to the PSS curriculum. Rutgers also helped to establish new minors, including gender studies at CASD, and assisted with field research and the greenhouse.

At UL, Rutgers played the leading role in creating the CoE and was responsible for civil and mechanical engineering curricula. UMich provided oversight for electrical engineering curriculum and was also responsible for the development and implementation of the pipeline program that provided academic enrichment for high school and beginning level college students. Along with overall project management,

RTI provided oversight for student activities, including scholarship management and the internship process.

There was evidence to suggest that the consortium partners played a pivotal role in the curriculum development process through the provision of qualified CF and VF who helped transform the CoEs by providing mentorship and sharing best practices with LF. Working with the UL and CU, the consortium transformed and diversified the curricula and facilitated pipeline classes to promote students' selection of majors in agriculture and engineering. The consortium provided oversight for the training of 22 Liberian faculty at universities in the US and across Africa. The US universities also provided short-term professional development courses for LF. The partners estimate that they spent about \$250,000 of their own money to support work for the CoEs. For example, the consortium provided training costs for faculty members from UL to pursue graduate degrees in management (funding for the EHEDL scholarships covered training only in agriculture and engineering).

Consortium partners and RTI were not always in sync regarding the pace of implementation and implementation ideology. For example, consortium partners felt that the farms at the CASD should be operational and generating income before the project ends as this could assist with sustainability. While the farm is currently operational, it does not appear that this goal of income generation will be achieved before EHEDL ends. Consortium partners also stated that RTI did not encourage and support direct communication between the American and Liberian universities. The partners felt that this lack of direct communication minimized the quality of relationship that could have been developed between the universities. Moreover, the partners felt that it would have been advantageous for the project administrative staff to have embedded themselves within the Liberian universities administrative structures so that they could model positive administrative and fiscal behaviors to spur positive change. It is uncertain how the current outcome could have been influenced if universities, rather than a development organization, had been selected to lead the implementation of EHEDL.

e) What was most successful about the revised curricula from the following perspectives? (1) University leadership and faculty; (2) Private sector partners; (3) Students

The new curricula offer an updated, comprehensive and specialized learning experience for students, including the inclusion of three professional areas of specialization at CASD: animal science & health, plant and soil sciences, and NRM. New courses were developed to support these specializations, especially NRM. UL revised their curriculum twice: the first time was in 2012, which is currently in use, and the second was the 2017 updated curriculum, which was not yet implemented at the time of this report, but which includes additions of new courses like MATLAB to strengthen students' math skills, and C++ to strengthen students' skills in computer software.

Universities have a strong sense of ownership of the curricula. As one teacher explained it, "*EHEDL doesn't have a curriculum; instead it is the college that has the curricula.*" Faculty reported that the curricula were modernized and localized to fit the Liberian context, and they felt its development was inclusive. The provision of laboratory equipment and its integration into the classroom experience was thought to be a positive addition, although some stakeholders reported that its integration into classrooms, especially by older instructors, was still in process.

All stakeholders that were engaged in the review process reported that it was a very inclusive process of development and vetting, with engagement at all levels. Overall the universities were happy with the review process, but stressed that efforts must be made to continue as "no curriculum is definite," but need continuous revision and updating. UL's CoE is implementing a policy to mandate the curriculum be

updated every five years, because of the lessons learned through EHED. Curriculum development also offered a positive learning opportunity for LF, many of whom were new to this process.

Revising the curriculum brought about an increased emphasis on practical learning and laboratory demonstrations, which has been a major boost for the quality of education at the CoEs. Integrating innovative methods, applied learning environments, and new equipment has created an enhanced learning environment for students at the CoEs. However, there were a few stakeholders, including faculty and students, who still felt there was too much emphasis on theoretical learning and courses were still included in the curriculum that could be discontinued.

“We’re learning more practical than theory. We do a lot of experiments, but I think as a freshman and sophomore student, it’s not enough to just do an experiment in the lab. You need to get out and learn how to do things in the field. When I started there was a lot of practical learning, but now [...] we spend a majority of our time in the classroom. Even if we have some of the needed equipment, we’re not really using it.”

- CASD Female FGD Respondent

Private sector: The PS had limited direct engagement in curriculum development. Please see the section 2b. (page 13-15) for more details on this question.

Students: The mode of delivery is very welcoming for the students and is very interactive, including more practical and laboratory demonstrations, which have boosted their confidence in their abilities and skills. Students gave mixed reviews of the extent to which it has been implemented in the classroom experience, especially with older faculty members who are not as familiar with interactive learning environment. Students were very enthusiastic about the opportunity to learn from visiting faculty and how learning with them became much more interesting and fun. They felt fulfilled by the new curriculum and see greater prospects for the future.

f) What strategies were most effective at attracting high school students to pursue careers in engineering and agriculture?

The pipeline program proved to be an effective means to reach nearly 5,000 students through a one or two-week Summer Start, Fast Start, or STEM training activity. Initially, students were selected by school administrators, and the programs required a 50:50 gender split, which respondents reported was successful in engaging a greater proportion of females in these classes than usual. In later years, EHED engaged PCVs in the selection process, to increase transparency. Respondents felt this yielded better results in identifying promising young talents to develop for engineering and agriculture fields.

The evaluation team observed a strong pipeline influence among the CoE participants in KII and FGD participants: usually one or two respondents in each FGD section reported participation in pipeline activities. Students provided many anecdotes of how the pipeline program had influenced them to select engineering or agriculture as a career, as shown in the case study in Annex V of Dorbor Foeday Zinnah, a UL engineering student who was inspired by his pipeline training opportunity. Other students reported that they had already selected the field of study but appreciated the additional training to strengthen relevant skills that were useful to them later in their academic careers.

One area most cited by respondents as being successful in attracting students to these fields was the interactive learning environment that the pipeline program offered. The pipeline curricula were developed by UMich and implemented by UMich faculty and PCVs during the summer. Students and volunteers praised the curricula as being very innovative for the students.

“The project was cool in Fast Start, making a race car. The kids liked it; it was something different; hands-on versus the lecture style they’re used to, so they were definitely excited. It was a new opportunity for them, so it was a nice way to teach in a project-based setting.”

- Male former PCV, Fast Start and Summer Start Instructor

Another effective strategy was utilizing existing capacity of the PCVs to facilitate the classes and provide local context to the curricula. Whereas the CoE curricula were vetted by LFs, EHEDL’s engagement of PCVs as supplementary summer program instructors proved to be essential to the success of the pipeline program. The PCVs worked with UMich to contextualize the materials prior to their implementation in the classroom. As one former PCV explained it: “PCVs were given the materials as part of the curriculum developed by UMich, but UMich didn’t know the Liberian context, so they used the training sessions with the PC volunteers to help adapt them to the local context. Their examples used trains and space ships – Liberian kids have no idea about these, so we looked over the curriculum and helped to interpret it, especially Fast Start.”

g) How effectively is EHEDL addressing underlying institutional, policy and systemic weaknesses that impact capacity to deliver CoE?

Institutional

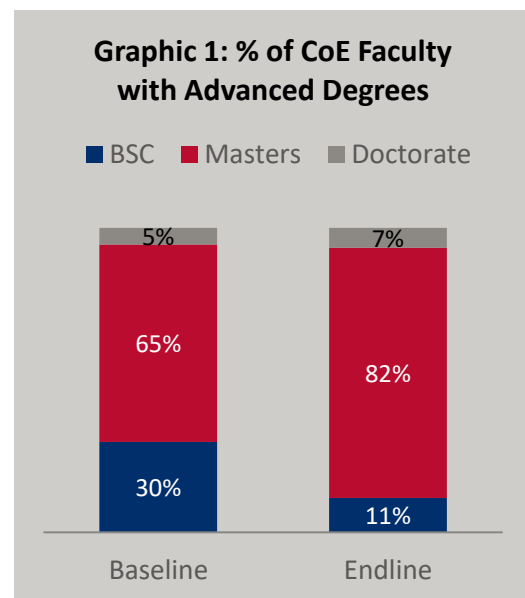
This evaluation found out that EHEDL addressed several underlying institutional weaknesses that could impact capacity to deliver a CoE. The project was instrumental in upgrading faculty qualifications; enhancing curricula, materials, and resources; promoting practical learning opportunities; sharing resources with other academic and research institutions to help build their capacity; demonstrating what a CoE looks like; and improving the reputation of the college and university overall.

Through provision of scholarships to LF to obtain higher degrees abroad, EHEDL affected significant gains in the development of LF. Graphic 1 illustrates the increased percentage of faculty at the CoEs with advanced degrees: from 70% before EHEDL to 89% by the end of the activity.

The facilities and materials available at the CoEs were impressive, especially the farm at CASD and the equipment available in the engineering laboratories at UL. The resource rooms have the best available research resources for agriculture and engineering, and students from other academic programs and universities are using them. Researchers from organizations like CARI have used the CoE labs and resource rooms to conduct research, again demonstrating the high quality of materials available at the CoEs.

Policy

EHEDL facilitated a collaborative curriculum review process that has left a strong legacy at UL and CU. LF in the CoE are now taking over the process of continued revisions to the curriculum to ensure that courses remain relevant to current trends and environments. UL has already developed an institution-wide policy requiring all academic programs to conduct curriculum reviews every five years.



EHELD has also influenced internship practices at both universities. Administrators at both universities recognize that the internship program is an opportunity to provide practical learning opportunities to students and expose students to potential employment opportunities. At CU, the administration is already discussing the possibility of using the CASD Internship Coordinator to oversee internship coordination for the entire institution. Moreover, in the updated curriculum, students at both CoEs are required to complete an internship course as a precondition for graduation.

The Fee for Service (FFS) concept proposed in the Sustainability Plan is becoming widely accepted to encourage faculty and academic divisions to participate in income generation activities. Under the concept, academic divisions can directly engage private sector partners to provide services and receive compensation without going through the university bureaucracy. A major appeal of FFS is that academic divisions who participate will be allowed to keep a portion of the income and direct those fees to benefit the unit and to supplement faculty salaries. At the faculty level, engineering faculty at the UL who have consulting businesses are being encouraged to refer clients who need lab work to the CoE and receive a percentage of the income generated. University administrators, especially at the UL, seem very willing to institute a university-wide FFS policy to cover all academic programs. At CU, the administration has already signed an MOU with the CASD to grant them autonomy to manage their FFS program and is cautiously considering the implications of making a system-wide change, which demonstrates the potential of EHELD to influence change within the wider university system.

Systemic

Limitations in the GoL education system and PS impeded its ability to address weaknesses at the policy and systemic levels, but concerted efforts were made by EHELD (although ultimately unsuccessful to a great degree) to achieve this goal. Also, EHELD was unable to develop a fiscal management process with the institutions.

3. SUSTAINABILITY AND LOCAL OWNERSHIP

To what degree is there university ownership, leadership and accountability for providing quality education at the CoEs in Liberia?

Faculty, administration, students, and alumni from both colleges show a strong interest and commitment to developing and sustaining the CoEs' assets at both institutions. At the same time, they also recognize the challenges of sustainability, and are anxious to continue the gains that have been made through EHELD. Both universities have strong leadership that demonstrates commitment to and enthusiasm for the challenge of assuming responsibility for the CoEs, as well as for expanding the model to other colleges or organizations within the institution. For example, at CASD, the university is planning to grant the CoE a level of financial autonomy that will enable the CoE to manage revenues generated through EHELD provided assets like the farm. However, university administrators did display some anxiety over the loss of control this arrangement represents, and its potential for setting a precedent for other colleges, which illustrates the degree to which this concept is a new strategy for the university.

To some degree, the sense of ownership has been affected by the perceived lack of transparency on the part of EHELD IPs. The University authorities do not feel fully responsible for the CoE, because they feel CoE are EHELD ideology and not theirs. There are also continuing negotiations between university administration and faculty about granting independence of the CoEs to maintain their own financial systems.

a) Will the (expected) results of EHELD be sustained?

b) What (expected) results appear to be less sustainable and why?

EHELD staff worked in close collaboration with university administration to develop strong sustainability plans that demonstrate potential for success if implemented in a timely manner and according to plan. Based on the EHELD Results Framework (as shown in Annex VI: EHELD Results Framework), the following section provides a breakdown of which activities are thought to be sustainable.

IR 1: Increased access to engineering and agricultural fields at CU and UL

EHELD's work under IR 1 focused on increased interest and enhanced access for students in target fields, especially through the pipeline program and career services. Most respondents felt these activities would be among the less sustainable elements of EHELD's work – most especially the provision of USAID-funded scholarships to enable students to pay school fees. University administrators, faculty, and students did not expect these scholarships to continue, which may limit students' access to these programs in the future due to expressed financial constraints.

While the student and alumni beneficiaries reported that their own personal interest in agriculture and engineering fields will likely endure, university representatives did not indicate specific plans to continue the pipeline activities in an organized fashion, although there was a clear interest in continuing recruitment activities among promising high school students.

IR 2: CoEs provide highest quality education in line with international best practices

The indicators under IR 2 focus on improving the quality of education at the CoEs, including faculty capacity, curricula, and facilities such as laboratories and libraries. The EHELD contributions that respondents felt were most sustainable in this area include: upgraded laboratory and other equipment; the offline materials in the resource rooms; the updated and revised curricula; the presence and usage of overhead projectors in the classroom; the computer labs; and relationships with CF members.

Elements that respondents were most concerned about maintaining include the internet service and some of the more expensive laboratory equipment that needs a controlled environment to be maintained. Respondents reported that a power surge had already damaged an expensive piece of the ULCE laboratory equipment, which had to be repaired using EHELD funds – which stakeholders worried would be too cost-prohibitive if it happens again after USAID funding ends.

Finally, some stakeholders reported concern over security issues that they felt could threaten the sustainability of EHELD's investment. This was especially prevalent in discussions with CASD respondents, who reported that equipment and animals have already been stolen, and requested that CU enhance campus security, to protect the investments.

“Items were stolen from the farms, light bulbs from their buildings and even an air conditioner was removed. I asked the CU administration to hire security to protect the CASD assets and it has yet to be taken care of. I hired two security officers who are currently watching the farm: these officers are not on the CU payroll and the division doesn't pay any finances. I am currently paying them out of my pocket but I know that if nothing is done by the administration, I cannot shoulder that responsibility.”

- CASD Dean

Additionally, respondents felt that revenue-generating activities like the farm and the laboratories would have had a greater chance to be sustainable if they had been implemented earlier in the project lifecycle. This would have given the CoEs an opportunity to identify lessons learned and make tweaks to the

strategy to address identified issues before the colleges became self-dependent. The CoEs would also have had a longer time to generate revenues, to build up a slush fund to repair or replace assets that break, such as expensive laboratory and farming equipment. While EHED did face challenges in the implementation timeline, including delays due to the Ebola crisis, the fact that some of these activities are just being undertaken at the end of the project may affect their sustainability.

IR 3: CoE graduates have increased employment opportunities

The indicators under IR 3 include increased linkages with private, public and governmental entities to provide internships, and increased practical experience for students through hands-on learning activities.

Regarding the sustainability of linkages built through EHED, respondents from both universities indicated an interest and commitment to sustaining current gains. One strategy that has already been undertaken, and they plan to continue, is the CoEs' annual Open Houses to showcase their enhanced facilities, to introduce new partners and new leadership to their expanded capacity. This is a key element in building the success of the FFS model.

However, respondents acknowledged that fundraising efforts will be more challenging without the provision of trained grants managers to support these growth potentials. CoE leadership did recognize that there is a short window to develop these relationships and take advantage of their existing assets, and vocalized their commitment to fill these open positions as quickly as possible.

Administrators and deans were very enthusiastic about the potential of FFS to provide revenues to promote sustainability. UL has already started generating revenues through FFS activities, although they have still to put into place a formal arrangement in the policy document to establish how it will be managed. Most of the engineering faculty undertake outside consulting projects, so they are well-connected with potential clients who may be interested in hiring out projects with UL Engineering equipment, of which the college will receive a percentage.

While most respondents supported the inclusion of internships as a graduation requirement, and CU leadership indicated strong plans to institutionalize the internship coordinator position for all colleges, there was some evidence that administrators underestimate the level of effort required to provide internships for all students. UL leadership acknowledged that internal university politics may challenge this policy going forward: if students are unable to identify internship opportunities and are thus unable to graduate, the university may face strong pressure to discontinue the requirement of pre-graduation internships.

c) Is the program being implemented and managed in a cost-effective manner?

What are the estimated implementation costs of the major activities implemented under EHED? Are the universities prepared to continue these activities?

The evaluation team worked in close collaboration with the IP to collect financial information with as much detail as possible: Table 2 below provides the list of all financial information provided to the evaluation team. These include costs for: the consortium partners' investments in CF salaries and faculty training abroad; expenditures to upgrade the Centers of Excellence (e.g., laboratories and resource rooms); student scholarships; and support for internships.

Table 2. Breakdown of major EHELD Expenditures provided by RTI

Category	EHELD Investment
Consortium Partners	\$6,725,317
Contract Faculty Salary	\$1,896,980
Faculty Training (abroad)	\$1,488,097
Other activities (e.g., pipeline, curricula development, etc.)	\$3,340,240
Centers of Excellence*	\$1,320,236
Laboratories	\$770, 679
Computer labs & Resource Rooms	\$101,563
Other CoE Expenses	\$447,994
Student Scholarships	\$882,968
Internship Stipends (FY2016 only - previous years not provided)	\$7,680
* As of 05/31/2017, only includes expenditures above \$250	

Given the lack of national-level comparison figures, the evaluation team explored the question of cost effectiveness from the angle of whether qualitative and quantitative evidence indicated that a given activity was a cost-effective and sustainable investment. Thus, the following section provides an analysis of the cost-effectiveness of these expenditures by cost category.

Consortium Partners

Under the \$6.7 million spent on activities implemented by consortium partners, costs included approximately \$1.9 million in CF salaries, \$1.49 million in scholarships to support LF higher degrees abroad, and \$3.4 million in activities such as the pipeline program, development of curricula for both CoEs, and other miscellaneous costs.

Respondents considered the CoE curricula, provision of CF to strengthen quality of the learning environment, and scholarships to support LF training to be cost-effective investments for EHELD. Their reasoning for this assessment was that these elements will endure after EHELD ends – the curricula will continue to be used, and the capacity of LF will remain with the college as long as faculty continue to teach there. However, some respondents felt it would have been more cost effective to utilize Liberian specialists as visiting faculty, rather than bringing in foreigners. Several respondents questioned the cost effectiveness of funding LF to pursue their advanced degrees in the US, rather than obtaining masters' and doctoral degrees from West African universities. However, this was a requirement of the cooperative agreement and thus part of the original activity design. In addition, EHELD did note this issue and made some adjustments later in the project lifecycle to train more faculty at universities in the region.

Centers of Excellence

The CoE expenses totaled some \$1.3 million in investments, including \$770K to refurbish and equip laboratories at both universities. UL received equipment for nine labs to serve the electrical and civil engineering departments, including a surveying and mapping lab, and an energy conversion lab, among others. CU received equipment to establish a laboratory for each of the three disciplines, plus the farm. In addition, both CoEs also received support to develop resource rooms, classrooms upgrades, faculty offices, and housing for CF, totaling just over \$100K for both institutions.

Overall, respondents felt that these investments were cost-effective as they offered significant upgrades to the research and applied learning environments at both CoEs. In addition, respondents also identified these elements as being sustainable investments, as long as the universities provide sufficient resources to maintain and secure these investments. However, the internet access, which is a very costly asset, was thought to be less sustainable, although a worthy investment to support students' and faculty's enhanced access to online research tools during the project's lifecycle.

Student Scholarships

Students who received EHELD scholarships felt they were a good investment for their own personal development, as many of them would have not been able to attend these institutions, especially CU, without financial assistance. University administrators also felt the scholarships were a good investment, as they led to increased enrollment and increased female participation at the CoEs, but acknowledged that the institutions will be unable to continue the scholarships after EHELD ends.

The EHELD baseline report indicated that there were 322 scholarship recipients at CU overall (entire university) and 54 scholarship recipients at ULCE (data for the entire UL was not available) prior to EHELD. These scholarships were sponsored by the GoL (49%) and other donors (51%) at the start of EHELD. Currently, CASD has 62 scholarship students, of which 26% are GoL sponsored. Figures were not available for UL. These data demonstrate that additional funders for scholarships exist; however, the team did not uncover any evidence that EHELD attempted to engage such sponsors, or sought student sponsorship from alumni associations.

As EHELD ends and the last batch of EHELD scholarship recipients approach graduation, enrollment rates (especially at CASD) are beginning to drop. The resulting revenue reductions will likely impact the CoEs' revenue base as fewer students will be paying tuition fees. In addition, the decision to implement EHELD at CU, which has a very high tuition rate in comparison to a public university like UL, poses a challenge for the CoE's accessibility since, without tuition assistance, most Liberian students cannot afford to attend CU.

Internship Stipends

The project invested a reported \$7,680 in supporting internships for 162 students and alumni to participate in internships. To supplement this, EHELD raised a reported \$8,420 in employer funded matches. Given the reported value among respondents of the internship experiences for students' skills development, and the resulting linkages with the private sector that came from these efforts, the internships appear to be a cost-effective activity. However, cost information on the value of the support provided by EHELD and the universities to fund the internship coordinator position (including the costs associated with facilitating the internship opportunities such as travel and per diems), makes it much more difficult to assess the cost value of the internship program.

According to university administrators, especially at CU, the universities are learning from the EHELD internship model, planning how to sustain the gains made during implementation, including it as a required part of the CoE curricula, and even considering expanding the program to other colleges within the institution. These suggest a high potential for sustainability, if implemented as planned.

3. GENDER

To what extent has the project integrated gender strategies and considerations into its activities? What interventions were most successful to increasing women's access to and participation at UL and CU?

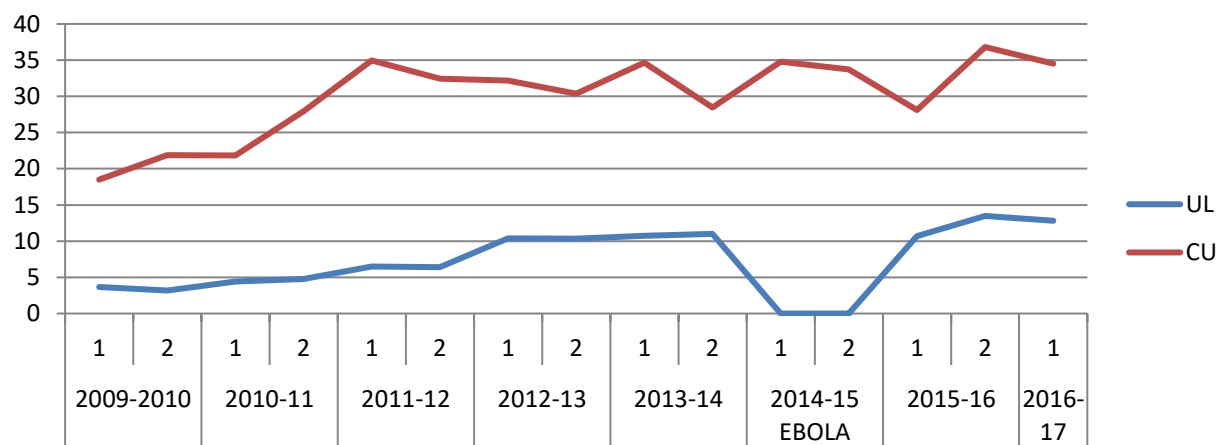
Respondents reported that EHELD was very successful in integrating gender perspectives into the activity's design and implementation, as demonstrated through: provision of scholarships to females, increased focus on developing female faculty and staff, working to promote a more gender-balanced campus environment, inclusion of gender courses in the new curricula, and the pipeline program's focus on female recruitment.

Enrollment and Retention of Students at UL & CU

Prior to EHELD, both ULCE and CASD had low rates of female enrollment and retention. To increase female participation, EHELD focused on the recruitment of females in both programs and promoted female participation through the provision of scholarships. In addition, the evaluation team also heard anecdotal evidence that EHELD's strategy of promoting female enrollments through the development of a pipeline was effective based on evidence that the pipeline programs had strong female participation rates, and feedback from female FGD respondents who said they had participated in pipeline activities and were thus encouraged to pursue these careers.

EHELD awarded about 41% of CASD scholarships to females, and about 31% to ULCE female students. This strategy was successful in increasing female enrollment at both colleges, increasing UL's female enrollments from 4% to 13% of students, and at CU from 18% to 35% of students. While official retention numbers for females were not available, female enrollments per university did steadily increase throughout EHELD's lifecycle, as shown in Graphic 2 below.

Graphic 2: Percentage of Female Enrollments at ULCE and CASD



Female-Only Focus Groups

The female-only focus groups started with an activity in which respondents were given a half-sheet of paper and asked to write down what was the best thing about being a female student studying at their college. The respondents were then asked to present their statement and display it on the board to create a collage. The responses demonstrated the strong pride that female students feel about their studies, as illustrated by the following quote.

“Being a female engineering student is challenging because, in our country, they discourage females. You see so many males in this college and I see myself as a female working in a group with them, it makes me feel very strong to be conscious and motivated. Sometimes I feel downhearted, and feel like giving up on this course or this field. But seeing young female students being included and myself as a female – if men can do this, then I as a female must also do my best to reach the same place.”

-- ULCE Female focus group participant

One contract faculty member also reported that EHED’s emphasis on gender not only led to increased female participation in engineering, but was also instrumental in establishing the Liberian Society for Women in Engineering, a “pet project” of a UMich graduate student and former Summer Start instructor. In addition, EHED paid for three ULCE students to attend a conference for Women in Engineering in the US.

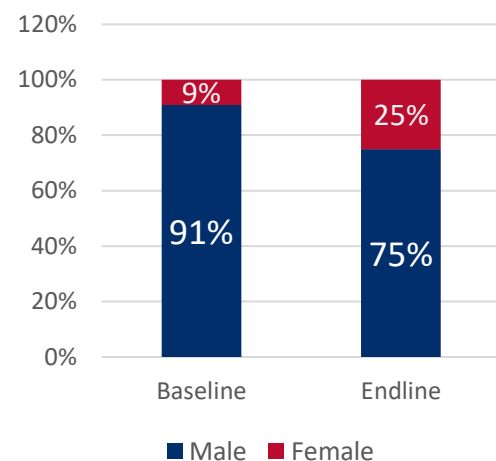
Faculty Development and Involvement in Administrative Leadership

EHED was successful in promoting female engagement in faculty and leadership roles at CU: female faculty at the CASD increased from 9% to 25% (Graphic 3) over the project life cycle. CASD was also successful in sending six females for advanced degrees; they have returned and are currently serving in different departments in the CASD.

CU also provides a minor in gender studies, which the CoE has started encouraging its students to combine with their agricultural studies. While this is not a required element of the CASD curriculum, respondents expressed a hope that it will encourage the administration to strive for female faculty retention and make female-focused studies available for CASD students.

According to anecdotal evidence from a few of the CASD female faculty members, EHED was instrumental in promoting a more female-friendly campus environment, that administration and faculty were starting to talk about gender and integrate it into their standard practices, which was not the case prior to the start of the CoEs.

Graphic 3. Gender Composition of CASD Faculty



“There are more female faculty, so that makes it feel like a safer space. The gender dynamic at the school is significantly different than a few years ago [...] the way that people talk to each other, interact with each other and talk about gender. It used to be hard to be a woman on this campus, there was a lot of sexual harassment [...]. I see a lot less tolerance for it now, also a greater number of female faculty, students, to support each other, so it’s a more respectful environment.”

- EHED Staff at CASD

Conversely, UL has not been successful in expanding female faculty presence at ULCE, and at the time of the evaluation, had no female faculty members. While the reasons for the lack of female faculty are not clear, most respondents felt that there are fewer female teaching candidates to choose from. However,

the university has recently undertaken more steps to promote female leadership, and most ULCE administration and faculty recognized the need to expand female faculty presence at the college. Several respondents shared their belief that stronger female faculty presence is an important factor in promoting female success in academia. This underlines the importance of promoting more female faculty.

Despite the provision of scholarships and the inclusion of gender courses in the curricula that continue to attract females to both colleges, female students still face challenges which can contribute to female drop-out rates. One such example is sexual harassment that continues to occur despite the progress made in establishing a more inclusive campus environment.

Another challenge that EHELD-scholarship women faced was the new experience of being away from home, living independently, and having to make good choices that will not have a negative impact on their academic success, as well as the belief that male students have more latitude to make mistakes without it negatively impacting their reputation in the same way. ULCE and CASD are both exploring strategies to provide additional support to female students to assist their transition to independent living.

The evaluation team also explored the male dynamic of Liberian gender issues, both in terms of how male students felt about EHELD's promotion of females, as well as their needs as males. Participants in the male-only focus group at ULCE overwhelmingly agreed that they support the increased female enrollment. One participant stated that he "loved" having females in the program and found it to be motivating because: "I wouldn't want a female to have a higher grade than me or to be one of the best known in the classroom." He also expressed pride in ULCE's promotion of greater female enrollments because "we live in a society where females think that they have less potential in sciences so when I see a female pursuing a career in engineering, it gives me pride."

However, participants in the male-only focus group also felt there was not as much attention given to them compared to females. Their needs were not included in the gender dynamic, and they felt some resentment about the preferential treatment of female students. One student from the male-only focus group stated: "Females have an engineering club, benefit from gender workshops, summer camps and international training opportunities. Female participants also receive preferential treatment from the EHELD office whenever they have problems. While there is a need to prioritize female participation, it is sometimes done to the extreme and [we] are not receiving fair treatment."

Internships

EHELD's internship coordinators aimed to facilitate equal internship opportunities for females, but found it challenging to maintain an equal 50:50 gender split between internship opportunities. While the female internship participation rate is generally reflective of the program's gender composition, EHELD had fewer female students who qualified for an internship. About one in four internships were filled by female beneficiaries. Overall, respondents reported that internship providers did not have specific gender requests, or requested female interns to maintain a gender balance in their own programs.

CONCLUSIONS

Project Performance:

EHELD met its primary objective in establishing two functioning CoEs. However, the CoE model would be more sustainable if implemented only at one public university because of the potential to leverage investments across colleges.

Student enrollments at both CoEs increased because of the scholarship; however, this increase may not be sustainable because tuition costs are too high for some students to pay on their own, especially at CU where, as a private institution, tuition is more expensive.

EHELD's use of CF did successfully build the capacity of staff at both UL and CU and enhanced the learning experiences of students. However, salary disparities and perceived exclusion by some of the LF who were trained abroad, and the accompanying resentment created some challenges in building stronger and more enduring mentorship relationships between CF and LF.

Project Management and Implementation

EHELD's Engagement with Universities

There were very positive aspects to the implementing partners/universities' collaborations, but increased transparency and sharing of information (including financial information) with both university administrations would have strengthened universities' buy-in, minimized the potential for unrealistic expectations, and created a deeper sense of ownership for the CoEs. Additionally, engaging local universities staff (especially faculty) at the very beginning of the project implementation would have contributed to ownership and sustainability.

Engaging Private Sector

There was limited involvement from PS partners, which made it difficult for EHELD to align curricula to their actual needs. Smaller PS partners who operate on a more local scale with common activities and purposes, represent the most enduring and beneficial partners for the CoEs.

Because the universities do not recognize potential benefits or accept responsibility for graduates' employment, there were lost opportunities to engage the PS in a mutually-beneficial partnership model to identify job opportunities and to promote recruitment from among ULCE and CASD graduates.

Universities do not always understand the level of effort involved in planning and facilitating productive internships, and therefore may underestimate the inputs needed to engage PS partners effectively.

Engaging the GoL

From all indications, there was limited engagement between EHELD and government ministries. The higher education system within the GoL framework limited the potential for strong governmental engagement with EHELD. The project was not successful in promoting voluntary engagement with GoL ministries outside of another donor-funded activity that facilitated internships for engineering students.

Consortium Achievements

The consortium partners were indispensable to the process of creating the CoEs; they facilitated training, curriculum development, and upgrades to the labs and resource rooms. However, there were challenges associated with the differing paces of implementation among consortium partners.

Success of the Curriculum

The faculties of both universities see the revised curricula as being improved, and there was significant engagement of various university stakeholders (CF, LF, administrators, and students) in the curriculum development process. There was limited cooperation by PS stakeholders, but there were models of strong PS partnerships, such as the CASD/CARI relationship.

CU needs to provide more support for greater integration of the new NRM specialization, because they do not currently have sufficient faculty to offer this major at the elite level.

Success of the Pipeline

Integrating active learning methodologies in the classroom makes the experience more enjoyable for students and promotes skills development that is not taught in standard Liberian classrooms.

The curricula developed by EHEDL are successful in promoting students' skills in key areas needed to be successful in higher education.

Using PCVs to teach pipeline classes was a successful practice because it was cost-effective, an efficient use of USG resources, helped to contextualize the classroom experience for local participants, and ensured more transparent beneficiary selection.

Addressing Underlying Weaknesses

EHEDL addressed many institutional and policy weaknesses, including: strengthening curricula; promoting the concept/policy of college autonomy and self-funding opportunities; and facilitating applied learning opportunities, including internships and post-graduation placement support. The institutions need to develop a better understanding of what it would require to fully support an internship and placement office.

The project had limited impact in addressing systemic weakness due to limited GoL and PS engagement and EHEDL's implementation framework. Perhaps if the project had been implemented at one institution, and the project staff was embedded in the administrative and financial management structure of that institution, EHEDL might have been able to model practices that could further influence the fiscal and administrative management practices of that university.

Sustainability and Local Ownership:

Universities feel strong pride in their CoEs, see the benefit of it in building their reputation, but also recognize challenges that may affect sustainability.

While many of EHEDL's contributions should be sustainable if the sustainability plans are implemented, others may face greater challenges. Time is of the essence in ensuring protection of valuable EHEDL assets such as the laboratory and farm equipment, from theft or damage, and to generate sufficient revenues to maintain equipment and other resources before they depreciate too much to attract FFS clients.

Components such as the laboratories, staff/faculties development, internet service, and provision of scholarships and stipends to students will be challenging for the universities to sustain, but the IP feels confident that the sustainability plans account for these challenges. While the evaluation team agrees in principle, it is essential that CoEs are granted sufficient independence to start generating their own revenues in a timely fashion, before the assets depreciate and their potential is lessened.

EHEDL's Cost-Effectiveness

EHEDL employed cost-effective strategies of developing the curricula, hiring CF, equipping the resource rooms and labs, upgrading facilities, and providing training to LF.

While the provision of scholarships was a good investment (especially for the individuals who obtained degrees at schools they would not otherwise have access to or that would take much longer to complete without financial support) this investment is not sustainable. Enrollment and gender diversity gains (largely supported by scholarships) by EHEDL might be sustained at the UL (where tuition rates are affordable) but this outcome appears less likely at CU. Accordingly, while the student scholarships were a good investment for the individuals who benefitted from them through EHEDL, evidence that enrollments are now returning to pre-EHEDL levels suggests that the program was not cost-effective in building a model with long-term sustainability.

Engaging private companies and alumni of the two universities to provide financial support for scholarships would have been more cost-effective and sustainable because the colleges would not have been solely dependent on USAID funds.

The decision to use graduate students and faculty from the UMich to teach the pipeline courses, and to provide internship stipends for students, were among the less effective and less sustainable implementation models identified by the evaluation team.

Engaging Females

EHEDL was successful in promoting female engagement – especially at CASD, but also among students at ULCE. However, UL was not successful in expanding female faculty presence. The expanded female presence in both colleges, but especially at CASD, also helped to change the atmosphere to be more female-friendly and tolerate environments for faculty and students.

RECOMMENDATIONS

Project Performance

University Recommendations:

The CoEs are strong assets that should be supported to transition to locally-owned entities, as they work to implement sustainability strategies to maintain their status as premier educational institutions in their select fields. Continue to explore innovative strategies to make school fees affordable for students, and other funding sources to reduce dependency on school fees (FFS, research grants, etc.). Train students and faculty to perform routine maintenance on equipment, where appropriate, to reduce maintenance costs.

Explore strategies to increase awareness and utilization of valuable CoE resources, such as lab equipment, among relevant partners. Expand the role of the internship coordinator to network with the PS, so that the university can start facilitating support for graduates to find jobs. This position could also provide support to faculty to solicit research grants and to identify opportunities to promote FFS usage, which would increase college revenues. Invest in PS partnerships that have the greatest chance for success, i.e., local, mid-size organizations with similar objectives. Continue the practice of hosting Open House events, to showcase CoE facilities and to introduce new partners and to the CoEs' expanded capacity.

At the administrative level, institutionalize CoE autonomy to enable the CoEs to generate revenue with USAID-funded assets. Ensure proper oversight of this process to promote revenue distribution according to plan. Regarding LF development, universities should provide incentives to supplement LF salaries by encouraging the sharing of income generated through faculty innovation, grant-writing initiatives, and FFS activities.

Facilitate mentorship between RF and those not trained abroad to maximize multiplier effects of the newly acquired experiences and increase the comfort of LF to integrate new methods and strategies into the classroom. Explore opportunities to continue partnering with US consortium universities to support sustainability and enhance quality of CoEs beyond EHED.

USAID Recommendations:

USAID should continue to fund projects to enhance the quality of Liberian higher education institutions in high-growth sectors. However, future activities should be implemented at institutions with tuition costs that are more affordable to the average Liberian, in order to make intervention more inclusive of economically disadvantaged individuals. The evaluation team recommends that any future programs should recognize that pay disparity between individuals who perceive themselves as fulfilling the same role and perceived differences in hiring practices could lead to a lower level of participation from those who see themselves as being disadvantaged.

Allow a longer implementation period for future curriculum reform projects in higher education. Regularly align work plans across USAID interventions with complementary activities to promote scheduling of inputs in a complementary manner. Work in close collaboration with all project stakeholders to promote implementation schedules that build off each other in logical and complementary phases. Consider identifying other USAID funding sources to provide the much-needed solar power to protect the EHED investments.

Project Management and Implementation

EHED Engagement with the Universities

Universities: Identify specific points for which financial information is still required to assist in decision making and planning for sustainability of CoEs after USAID funding ends, and get this information from RTI before the activity ends.

USAID: Promote a culture of information sharing (especially financial information and project re-design) among program implementers and beneficiaries at all stages of the project implementation.

Engaging the GoL

Universities: Continue seeking and organizing opportunities to promote GoL involvement to the greatest extent possible, including inviting GoL representatives to showcase events like Open Houses, to expand their awareness of the CoEs' potential.

USAID: Explore opportunities to promote policy changes within the Liberian educational system that would enhance GoL oversight for higher education quality.

Consortium Achievements

Universities: Seek to fill the grants coordinator position, as this role will assist in the implementation of the sustainability plan through greater fundraising potential to enable research and development.

USAID: Consider the advantages and disadvantages of using a development versus a higher education institution to oversee the implementation of a higher education project.

Success of the Curriculum

Universities: Continue to refine and revise the curricula to keep them relevant to current contexts. Ensure the curricula are based on locally-relevant concepts and are appropriate for students' starting

capacity. Once that is determined, curricula can address what skills and abilities students need to study engineering at the tertiary level.

For CU, consider expanding on EHED's impact by developing an applied learning entrepreneurial agribusiness program (see Annex V: Case Studies, the Caroline Kwenah case study, for more details).

Success of the Pipeline Activities

Universities: Explore opportunities to continue pipeline development, including utilizing existing resources to train local instructors. Provide tutoring and mentorship throughout the school year, which would provide more long-term encouragement for students to go into STEM. Explore opportunities to provide enrichment opportunities for high school instructors, to create a pipeline of competent students for the CoEs.

Engaging the Private Sector

Universities: The PS should be more encouraged to cover the cost of internships, and students should plan to cover some of these costs as an investment in their educational development. Colleges should explore implementing VSLA-style savings plans for students to put aside funds needed for internship to encourage more ownership of the process.

Addressing Underlying Weaknesses through EHED

Universities: Conduct learning events to disseminate effective strategies and lessons learned from EHED to wider stakeholders, especially other colleges at UL/CU that may want to model EHED.

USAID: Consider embedding implementing partners' staff for future programs within the university administrative structure to foster changes at both the academic and administrative levels.

Sustainability:

Universities: Heighten security to protect valuable assets like lab and farm equipment. Explore opportunities to train students and faculty to perform routine maintenance on equipment to save repair costs and keep equipment in good working order.

Gender:

Universities: Continue to explore opportunities to promote greater inclusion of female faculty and students at each college, especially at UL. Offer gender courses and minors to promote greater awareness of gender-related issues on campus, and continue to provide a safer and more accepting learning environment for females.

USAID: Consider supporting enrichment programs that will ensure continuous supply of qualified candidates (especially females) for the CoE. Ensure that gender-focused programs include a male-focused element to support male beneficiaries' interests and needs, as well as females.

ANNEXES

ANNEX I: EVALUATION STATEMENT OF WORK

Statement of Work: Final Performance Evaluation Excellence in Higher Education for Liberian Development (EHELD) Project USAID/Liberia

Project Title: Excellence in Higher Education for Liberian Development (EHELD)
Project Number: Cooperative Agreement: AID-669-A-00-11-00035
Project Dates: February 10, 2011 – September 30, 2017
Project Funding: \$22,591,412
Implementing Organization: Research Triangle Institute (RTI) International
Subcontractors: Rutgers University, University of Michigan, North Carolina State University, and the Associates in Rural Development
Agreement Officer's Representative (AOR): Mardea Nyumah
Active Geographic Regions: Montserrado and Bong Counties

I. Evaluation Purpose and Use

USAID/Liberia requests Liberia Strategic Analysis (LSA) to conduct a final Performance Evaluation of the “Excellence in Higher Education for Liberian Development” (EHELD) project. The overall objective of the project is to build regionally recognized and competitive academic Centers of Excellence (CoEs) that produce graduates who become leading professionals and entrepreneurs in the fields of engineering and agriculture in Liberia. The project seeks to achieve these objectives by pursuing three distinct but related areas of activity. First, EHELD develops a pipeline of secondary school students to attract, enthruse, and adequately prepare equal numbers of young Liberian women and men to agriculture and engineering CoE programs. Second, EHELD works with the leaders and faculty of Cuttington University (CU) and the University of Liberia (UL) to create CoEs in agriculture and engineering. Third, leaders within government, business, and the donor community are engaged and empowered to engage the private sector into the EHELD initiative.

The evaluation is meant to serve a dual purpose 1) to determine the extent to which the EHELD project met its objectives, and 2) to document lessons learned and recommendations for improvement by the stakeholders sustaining the intervention. The findings of the evaluation will: inform USAID, the implementing partner Research Triangle Institute (RTI) International, and sub-partners as well as other stakeholders, including the host country universities, the Government of Liberia (GoL), and private sector partners on how well the project's activities and strategies contributed to the achievement of its expected results; provide a contextual backdrop and understanding of the challenges and constraints the project works within; and to inform future decisions about the design of similar projects in the future.

The following set of objectives will inform the final evaluation of the EHELD project:

1. **Performance (40%):** Evaluate effectiveness of implementation approaches and activities.
2. **Project Management and Implementation (25%):** Evaluate the management of the EHELD project, Evaluate the relationship with partners both local and international (recruitment of the right technical skills to achieve the desired results, retention of staff or impact of staff changes on the project, consistent communication and collaboration with stakeholders).
3. **Ownership and sustainability (25%):** Evaluate the potential for UL and Cuttington to sustain and demonstrate ownership of different aspects of the project.

4. Gender (10%): Evaluate the capacity of RTI, UL and Cuttington to implement core recommendations from the Gender Assessment (July 2013).

The final performance Evaluation is anticipated to begin in April 2017 and take place over a period of approximately 15 weeks in 2017.

The main participants in the evaluation will be: beneficiaries (students, faculty, and partner institution staff at UL and Cuttington), the Government of Liberia officials (National Council on Higher Education, Ministry of Agriculture, Ministry of Public Works), and private sector partners. The principal audience of this assessment will be USAID/Liberia, and RTI and its sub-partners. The evaluation will provide these parties, as well as GoL and academic institutional counterparts and other donors with information that they can use to adjust and plan for future programming designs in higher education development.

I. Background

Liberia faces a situation in which the higher education system is generally unable to provide the quality education, training, research and extension that is needed by all three of its core clients: private sector employers (businesses and NGOs), public sector employers, and the individuals seeking post-secondary training and education in hopes of working for such employers or starting their own businesses. While this situation would be problematic for any country, it is especially alarming in a country struggling to move from fragility and reconstruction to stability and development.

The Government of Liberia (GoL) has placed a high priority on revitalizing the higher education sector and improving access to quality higher education opportunities throughout the country. The GoL asserts that the failure to address the significant resource, faculty, management, and curricular/instructional needs at the higher education level will significantly constrain Liberia's ability to reduce poverty, improve social welfare and achieve sustainable economic growth.

Company managers, farmers, government officials, nongovernmental organization (NGO) leaders, and donor representatives alike point to Liberia's critical need for improved education, skills, and labor force capacity as the principal challenge to sustaining the momentum of development. Today, institutions of higher learning are functioning, students are attending classes, and teachers are teaching. However, there are many conditions that still require immediate attention: some curricula remain mostly outdated, many qualified faculty are nearing retirement, and there is a need to train incoming faculty. Buildings are in various states of renovation and disrepair, classrooms are often overcrowded, there are few laboratories with functional equipment or up-to-date textbooks, and due to limited and erratic educational opportunities throughout the war and low admission requirements, students often lack the foundational knowledge to succeed in the programs in which they enroll.

The **EHELD** project is addressing some of the more critical issues that have been described to better prepare top-performing young Liberian women and men for professional careers as leaders, managers, extension agents, researchers, and entrepreneurs in two of the most critical development sectors—agriculture and engineering.

EHELD is a 6.5 year, \$22.5 million project implemented by consortia of Rutgers University, University of Michigan, North Carolina State University, and the Associates in Rural Development. The consortia are led by the Research Triangle Institute (RTI).

The EHELD consortia aim to assist the leaders and faculty of Cuttington University (CU) and the University of Liberia (UL) create academic **Centers of Excellence (CoEs)** in agriculture and engineering that employ sufficient numbers of faculty, utilize up-to-date curricula, employ best-practice teaching methodologies and materials, and do so in facilities that are conducive to learning.

EHELD's strategy includes developing a **pipeline** of secondary school students to attract and prepare equal numbers of young Liberian women and men for Agriculture and Engineering CoE programs. Lastly,

utilizing a public-private-education community outreach initiative, originally named the *Liberia Engineering and Agriculture Pact (LEAP)*, the EHED project has engaged leaders in business, government, and the NGO community to build key employer **linkages**. EHED thus seeks to create a real-world student experience, service learning opportunities, and constant exposure to the practical world of work that will, ultimately, facilitate job placement for CoE graduates. Specifically, these CoEs will:

- Improve the success rate of students entering the higher education system through remedial programs and summer learning opportunities;
- Ensure broader access to degree programs through targeted outreach and scholarship programs aimed at female students and underserved populations;
- Improve graduate placement from the engineering and agricultural programs by linking the academic programs with priority economic sectors such as mining, agriculture, and infrastructure construction (energy, water and sanitation systems, roads, and bridges);
- Support national development priorities by increasing the availability of qualified entrants to the workforce in key economic growth sectors;
- Promote self-employment opportunities through professional and entrepreneurship training; and,
- Create linkages with U.S. and regional university programs through faculty exchanges, joint research projects, and shared resources.

In addition to creating a highly qualified workforce in agriculture and engineering that will contribute to addressing Liberia's national development priorities, EHED's long-term vision is to create a blueprint for replicating the development of Centers of Excellence in other disciplines and with other Liberian institutions.

By implementing the three coordinated approaches—USAID will **improve Liberia's ability to meet its critical development challenges**. Consequently, when EHED ends in September 2017 and objectives are achieved, Liberia will have a more highly qualified workforce in agriculture and engineering, better able to find solutions to Liberia's national priorities. The partnerships established and strengthened through EHED will contribute to greater sustainability, promote access to higher education for women and disadvantaged populations, and maintain the relevance and quality of the Centers of Excellence programs into the future.

Gender Disparities and Imbalances

Gender disparities and imbalances are common in every sphere of Liberian life. Women have been disproportionately disadvantaged by these disparities and imbalances (lower incomes, equitable access to education, limited employment opportunities, etc.). To reduce poverty and accelerate post-conflict development, there is no question that Liberia must more effectively engage the female half of its population. Women and girls play a central role in Liberia's economy as consumers and producers. Currently, these roles come principally through the informal sector; agricultural production and petty trade of goods and services in local marketplaces.

In the fields of agriculture and engineering, females are underutilized. The percentage of women enrolled in these fields is less than half that of their male counterparts. Because fewer women enroll and complete engineering and agriculture degrees, there are fewer women that can contribute to these fields. As a result, Liberia has missed opportunities and under-estimated the potential of female engineers and agriculturalists.

In response to the gender imbalance, the EHELD project contains one performance objective to redress the imbalance. The goal is to promote gender equity through increased selection of female engineering and agricultural students across all the departments. Other currently known gender issues at the universities include poor student enrollment rates; a culture of “sex for grades”; and retention and completion. EHELD has responded to these issues through the design and implementation of gender-sensitive curriculum and teaching pedagogy.

Project Modification

An external mid-term evaluation of the EHELD project was conducted between January – March 2014. The performance evaluation informed USAID, RTI and its consortium partners and stakeholders’ understanding about EHELD’s strategy and progress towards the achievement of the expected outcomes. The evaluation also examined the likelihood for sustainability. Based on the findings, USAID approved a cost and time modification to strengthen the achievement of the established results. Recommendations included in the mid-term evaluation were used to enhance/improve future implementation of activities.

II. Final Evaluation Questions

The final evaluation report should directly answer the following four (4) key questions:

Project Performance:

- d) To what extent did the EHELD project meet its overall objectives and intermediate results? How effective were both the EHELD project’s design and its implementation in identifying and responding to challenges in the Liberian higher education context?
- e) What, if any, were the unexpected obstacles in the universities’, private sector or GoL response to the program?
- f) To what extent is the contract faculty building local faculty capacity to assume responsibility when the EHELD project ends successful?

Project Management and Implementation:

- h) How collaboratively, transparently, and effectively has EHELD engaged with University of Liberia and Cuttington University leadership and faculty?
- i) What approaches led to the most effective relationships with the private sector, both in general and through the Liberian Employers Action Group (LEAG)?
- j) How effectively has EHELD engaged the National Council on Higher Education (NCHE), Ministry of Agriculture, and Ministry of Public Works?
- k) What has been achieved through the consortium to date? What are the challenges and how should these be addressed?
- l) What was most successful about the revised curricula from the following perspectives?
 - University Leadership and faculty
 - Private sector partners
 - Students
- m) What strategies were most effective at attracting high school students to pursue careers in engineering and agriculture?

- n) How effectively is EHEDL addressing underlying institutional, policy and systemic weaknesses that impact capacity to deliver CoE?

Sustainability and Local Ownership: To what degree is there university ownership, leadership and accountability for providing quality education at the CoEs in Liberia?

- d) Will the (expected) results of EHEDL be sustained?
- e) What (expected) results appear to be less sustainable and why?
- f) Is the program being implemented and managed in a cost-effective manner?
 - What are the estimated implementation costs of the major activities implemented under EHEDL? Are the universities prepared to continue these activities?

Gender: To what extent has the project integrated gender strategies and considerations into its activities? What interventions were most successful to increasing women's access to and participation at UL and CU?

III. Data Collection and Analysis Methods

USAID Liberia is requesting a mixed methods performance evaluation that will enable evidence based answers to all evaluation questions. The following methods could be used.

- Document review
- Cost Benefit analysis
- Focus Group discussion
- One on one interview with key stakeholders
- Case studies

IV. Evaluation Team Composition

- **Team Leader/Senior Evaluation Specialist:** S/he will be responsible for coordinating the activities of the evaluation team, and have the authority to make budgetary and programmatic decisions regarding the evaluation. S/he will serve as the main point of contact between USAID and the contractor's headquarters. The Team Leader will approve the final evaluation design, oversee the development of evaluation instruments, integrate the findings of different team members and coordinate the preparation of the final reports.

The Team Leader/Senior Evaluation Specialist should have at least ten years of experience in the administration of multi-faceted education projects in developing countries - preferably in West Africa. S/he should have experience in managing multi-disciplinary teams and developing and conducting qualitative and/or performance evaluations. The Team Leader is required to have demonstrated expertise in evaluation methodology. It is essential that the candidate has the ability to conceptualize and structure evaluation activities and produce high quality evaluation reports in English. An MA or PhD in education administration, planning, economics of education or similar field is required. Experience working in and/or conducting evaluations post-conflict and transition settings is preferred. This role was filled by Sarah Auten Fuchs.

- **Higher Education Specialist:** She/he will be responsible for assessing governance issues in higher education, including transparency and accountability in financing and managing higher education; institutional arrangements within University of Liberia and Cuttington University,

including working relations between the implementing partner and the partner institutions. S/he will provide expert technical advice on evaluation of higher education projects to the evaluation team. The Higher Education Specialist will hold an advanced degree in Higher Education Administration, Public Administration, Educational Research and/or Statistics and have extensive experience in evaluating higher education programs. S/he will have at least ten years of experience working with educational projects in developing countries, preferably in post-conflict environments. This role was filled by Dr. Chris Tokpah.

- **Liberia Education Context Specialist(s):** The local consultant should have at least five (5) years of experience in the higher education context in Liberia, particularly on youth, workforce development and literacy and numeracy programs. Must have strong gender and social analytical skills, specifically in designing and evaluating education programs. The incumbent must be able to conduct interviews and focus group discussion and analyze the resulting data. Ability to conduct interviews and discussions in at least one local Liberian language. Strong American English language speaking and writing skills are also essential. This role was filled by Essa Sherrif.
- **Evaluation Specialist:** The consultant should have at least five (5) years relevant experience in qualitative and quantitative data collection methods. The consultant must have experience evaluating education programs, specifically analyzing quantitative data, and have demonstrated logistics and planning skills. Ability to communicate clearly in American English. USAID expects that this role will be covered by LSA staff. This role was filled by Theophilus Kiah.

Collectively the evaluation team members must have experience in conducting both quantitative and qualitative data collection and analysis. Prior to their arrival in Liberia, all team members are required to familiarize themselves with USAID's Evaluation Policy, with USAID's publication outlining a good evaluation report, and with USAID's checklist for assessing an evaluation report. Additionally, all team members should possess a strong familiarity with the political, economic, policy and educational context in Liberia, particularly since the end of the civil war.

LSA will provide additional logistical support to work with local partners to plan travel and evaluation activities as required. LSA will review, edit and format the final report of the evaluation; prepare it for production; supervise the production, and distribute it to USAID/Liberia.

V. Level of Effort

Evaluation team members are authorized and expected to work a six-day week. Travel over weekends may be necessary. Work should commence as soon as practicable, but no later than April 2017. For planning purposes, contractors should be aware of Liberian and US holidays during the evaluation time frame.

The evaluation should follow the illustrative schedule and level of effort given below.

Task/Deliverable	Estimated time
------------------	----------------

	(Days)
Review background documents & preparatory work (offshore): Draft work plan submitted to USAID/Liberia	5 int'l / 3 nat'l
Travel to Liberia-expatriate team members	2
Team Planning Meetings in Monrovia with implementing partners and USAID	2
In-brief with USAID/Liberia and prepare for field work	4
Field work: Data collection and On-Going Data Analysis	20 (including field travel)
Analysis and report drafting	10 int'l / 7 nat'l
Presentation and debrief with GoL, USAID/Liberia and IPs by Evaluation Team	1
LSA performs quality assurance check and edits draft report	4
LSA submits draft report to USAID/Liberia and GoL	1
USAID and MOE provide comments on draft report	10
Evaluation Team Leader revises draft report to incorporate comments and submit final report	5 TL / 1 int'l team member
LSA performs quality assurance check and submits final report	5
LSA facilitates learning event	1 TL / 2 nat'l
Total time required	70
Working days Team Leader (including international travel)	50
Working days international team member (including international travel)	45
Working days local team members	39

VI. Evaluation Deliverables

The evaluation team will produce the following deliverables:

- a. **Evaluation Team Planning Meetings**
- b. **Inbrief with USAID/Liberia, GoL and Implementing Partners**
- c. **Inception Report with work plan and data collection instruments**
- d. **Debrief with USAID/Liberia, GoL and Implementing Partners:** The team will provide an oral briefing of its key initial findings and recommendations to USAID/Liberia Education Office, other technical office/Development Objective (DO) Teams (as appropriate), and senior management prior to departure from Liberia.
- e. **Field Work:** Fieldwork for the evaluation, including the out-briefing for USAID Liberia, is estimated to take 24 *working days* in country and will be conducted according to the approved work plan.
- f. **Draft of Evaluation Report:** A draft report should be submitted to LSA for review, and LSA must submit the draft report electronically to USAID/Liberia within three weeks after the in-country work is conducted. The draft report and its executive summary shall include the evaluation methodology, analysis, findings, and recommendations and will incorporate and/or address specific issues raised during the Mission out-briefing. Analysis and findings must be substantiated and supported by data.

USAID/Liberia will have ten working days to submit its comments on the draft report.

- g. **Final Evaluation Report:** The Team will submit a final report that incorporates the GoL's and Mission's comments and suggestions no later than ten days after final, written comments on the team's draft report have been submitted by all parties.

The Evaluation Report should meet the following criteria:

- The report should be in line with USAID Evaluation Policy (see Appendix I – Criteria to Ensure the Quality of the Evaluation Report) and USAID Secretariat Style guide.
- The report should be no longer than 30 pages, excluding executive summary, table of contents, and annexes.
- The report should include a 3-5-page Executive Summary highlighting findings and recommendations.
- The report should represent a thoughtful and well-organized effort to objectively respond to the evaluation questions.
- The report shall address all evaluation questions included in the SOW.
- Evaluation methodology shall be explained in detail and all tools used in conducting the evaluation such as questionnaires, checklists and discussion guides shall be included in an Annex in the final report.
- Limitations to the evaluation shall be disclosed in the report, with attention to the limitations associated with the evaluation methodology (selection bias, recall bias, etc.).
 - An evaluation of any differential outcomes and anticipated impacts on males and females
 - Statements of differences (if any) regarding significant unresolved difference of opinion by funders, implementers, and/or members of the assessment team
- Annex(es) should include:
 - Section on recommendations for follow-on award, extension or other future work on higher education in Liberia
 - A copy of the Evaluation SOW
 - Data collection instruments
 - Sources, sites, sampling frame, individual/focus group interviews, etc. included in data collection
 - Disclosure of conflicts of interest forms for all evaluation team members, either attesting to a lack of conflict of interest or describing existing conflict of interest
- Evaluation findings should be specific, concise and supported by strong quantitative or qualitative evidence.
- Recommendations should be action-oriented, practical, specific, and evidence-based.
- The final report should be edited and formatted.
- Liberia Strategic Analysis must submit the final evaluation to the Development Experience Clearinghouse.
- A Summary Briefer of the evaluation report (approximately two pages) for public consumption.

ANNEX II: EVALUATION METHODS AND LIMITATIONS

Table 1. Targeted and Actual KII and FGDs

Respondent Category	Interviews		Focus Groups	
	Target	Actual	Target	Actual
USAID representatives	2	1		
Government of Liberia representatives	5	5		
Consortium partners	7	10		
Private sector partners	5	4		
University administration and faculty	8	24		
University students/alumni	8	7	4	6
High school students	0	2	2	0
Interns and volunteers	5	6		
Peace Corps volunteers	2	3		
TOTAL		62		6

Table 2. Focus Group Composition by Students' School, Gender, and Financial Status

GROUP #	SCHOOL	GENDER	FINANCIAL STATUS	# OF PARTICIPANTS
1	CU	Females	Scholarship	9
2	UL	Females	Scholarship	9
3	UL	Males	Scholarship	8
4	CU	Mixed	Non-scholarship	5 female, 5 male
5	CU	Mixed	Scholarship	5 female, 4 male
6	UL	Mixed	Non-scholarship	6 female, 4 male

Table 3. Constraints and Limitations, Results, and Mitigation Strategies

Limitation/Constraint/Bias	Result	Mitigation Strategy
Quantitative data reported by universities or in PIDS may not be up to date or may be inaccurate	Decisions would be made based on outdated information	Verified reported numbers with RTI to ensure they are accurate
Respondents may be biased or not	Qualitative data would be	Explained to each respondent LSA's

feel comfortable to speak freely	inaccurate or information withheld that is essential to the evaluation	relationship to EHED and USAID, ensuring anonymity of information shared
Donor dependency may skew the information, overstate the needs to sustain the program to get more funding	Qualitative data would be inaccurate or information withheld that is essential to the evaluation	Explained to each respondent LSA's relationship to EHED and USAID, triangulating data among stakeholder groups to promote more reliable information is used for analysis
Respondents interviewed may not be representative of the group or may not be generalizable	Information gathered would be accurate from the respondent's point of view but not represent reality for many participants	Triangulated data to promote more reliable information, interviewed a representative sample of the population to ensure sufficient data was gathered to reach theory saturation
Researchers could have made errors in data collection through misunderstanding or mishearing the respondents	Qualitative data would be inaccurate	Recorded KIs and FGDs when possible, having multiple note-takers to document and review each other's work, to identify and resolve any inconsistencies
Limited quantitative data, including undefined (or unavailable) performance targets for majority of the indicators. Universities provided enrollment and graduation data aggregated by gender; data on retention and longitudinal tracking were not available, insufficient detail in financial reports to conduct cost-benefit analysis	Some of the desired program analysis was not possible because data was lacking or unavailable.	The evaluation team worked closely with RTI and university/college staff to obtain the fullest and most up-to-date quantitative data available, which is presented in this report.

ANNEX III: DATA COLLECTION INSTRUMENTS

Excellence in Higher Education for Liberian Development (EHELD) Final Performance Evaluation

Key Informant Interview Guide – University Administrators

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

Name: _____
Position: _____
School: _____
Date: _____
Gender: _____

1. What are your responsibilities at CU/UL?
2. How have you been involved with the EHELD Project?
3. What gaps has the EHELD successfully addressed at the university?
Probe: what challenges have they faced?
4. What has been the Ministry of Education's response to the new curricula/materials for this program? Have you received from support from other government Ministries and Agencies?
5. To what extent do you think EHELD's capacity building efforts are sustainable?
6. What is the relationship between your institution and potential employers?
Probe: how would you describe your level of communication with employers? What activities have they been involved in?
7. To what extent has EHELD built the capacity of the local faculty members?
Probe: is this development sustainable? Why or why not? How many of your faculty have benefited from EHELD scholarship home or Abroad that had returned to the university to teach? Did you feel this is a useful activity for your institution?
8. Did you have visiting faculty as part of EHELD? If so, in what areas? How did the contract faculty work with the local faculty? Did you see a change in the local faculty's capacity based on this relationship?
9. What parts of EHELD do you think will continue after USAID funding ends? What program elements will be challenging to continue?
10. How does the university support link youth to relevant and realistic livelihoods trainings/activities & employment/business?
Probe: Are males and females benefitting equally from the Program? Do you have an office that is designated to help students find job opportunities?
11. Have you been involved with the Smart Start students in secondary schools?
12. What would your recommendations for EHELD going forward?

Thank you very much for sharing your thoughts and experiences. Do you have any questions for us? Are there other comments that you wish to make?

Final Performance Evaluation
Key Informant Interview Guide – University Faculty

Thank you for taking the time to meet with us today. The EHEDL project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHEDL project.

I am working with LSA to gather information about your experience with EHEDL, to determine how effective EHEDL was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHEDL to benefit future programs.

Name: _____
Position: _____
School: _____
Date: _____
Gender: _____

1. What are your responsibilities at CU/UL?
2. How have you been involved with the EHEDL Project?
 - a. Describe your involvement in the Curriculum review process.
 - b. Describe your work with Contract faculty.
3. How do you find it in using EHEDL curricula? Do you think it exposes students to the idea of entrepreneurial careers?
4. To what extent do you think EHEDL's capacity building efforts can be sustainable?
 - a. To what extent will you be able to use the lab and other instructional aids that have been provided by EHEDL?
5. How would you describe the impact of EHEDL activities on UL/CU?
 - a. You
 - b. Students
 - c. The institution
6. How would you describe the program's effort to contribute to gender diversity?
 - a. How would you describe the retention of students in the program? Is it the same across gender?
 - b. How would you describe the graduation of students in the program? Is it the same across gender?
 - c. Staff diversity
7. What aspects of the EHEDL program can be sustained without USAID funding? Why?
8. What aspects of the program appear less sustainable without USAID funding? Why?
9. Are there any changes you could recommend for the program?
10. Is there anything you would like to share that I didn't ask you?

Thank you very much for sharing your thoughts and experiences. Do you have any questions for us? Are there other comments that you wish to make?

Excellence in Higher Education for Liberian Development (EHEDL)
Final Performance Evaluation

Key Informant Interview Guide – University Students

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

Name: _____
School: _____
Date: _____
Gender: _____
DOB: _____

Questions:

1. What is your academic major?
2. When did you start your study? Why did you choose to study this field? Probe: did you participate in the Smart Start summer activity?
3. Are you aware of the EHELD program? If so, what is your opinion about the EHELD program? Do you think it changed the way you learn in the classroom? If so, how?
Probe: Did you receive a scholarship from EHELD to support your studies? If so, apart from the scholarship what other support do you get from the program?
4. How is the communication with your university (UL, CU) been to date?
5. Have you experienced any unexpected challenges during your studies?
Probe: Did you talk to anyone about those challenges? If yes, to whom? What was the resolution of this challenge?
6. What do you plan to do after you complete your studies?
Probe: Did you do an internship? Does the university support you to find a job after you graduate?
7. How do you put to practice what you are learning as a student?
Probe: what are you currently doing to utilize your skills? Does the college have laboratory facilities that you can use as part of your studies? If yes, do you use them? How?
8. To what extent do you interact with your sponsor?
Probe: do they follow up on your progress?
9. Are women involved in academic activities at your university?
Probe: Do you think they face challenges? Have extra benefits?
10. To what extent are women given chance to compete with their male counterparts in your engineering/agriculture program?

Thank you very much for sharing your thoughts and experiences. Do you have any questions for us? Are there other comments that you wish to make?

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation**

Key Informant Interview Guide – Alumni

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

Name: _____

Position: _____

Organization: _____

Date: _____

Gender: _____

DOB: _____

1. What was your academic major? How did you choose this field of study? Did you participate in the Smart Start program?
2. When did you complete your studies?
3. Was a scholarship provided to you by EHELD?
4. What kind of support was provided to you while studying from EHELD and CU/UL?
Probes: Do you think that EHELD changed the way you learned in the classroom? How was the communication between you and EHELD/the university? Could it have been improved?
5. Do you currently work? If so, where? Did the university help you to find a job after graduation? If so, how?
6. Did you do an internship during your studies? If yes, do you work at the same place where you did your internship?
7. What sort of unexpected challenge(s) did you experience while you were completing your degree?
Probe: Were they addressed? If so, how?
8. Are women involved in academic activities at your university?
9. To what extent do you think women are given chance to compete with their male counterparts at the university? In the job market?
10. Do you think that EHELD made a change at the university? If so, in what way?
Probe: Do you think this change will last after EHELD ends? Why or why not?
11. Do you think that EHELD made a change in your life? If so, in what way? If not, what would you have wanted EHELD to do for you?

Thank you very much for sharing your thoughts and experiences. Do you have any questions for us? Are there other comments that you wish to make?

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation**

Key Informant Interview Guide – Pipeline Teachers

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHED, to determine how effective EHED was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHED to benefit future programs.

Name: _____

Position: _____

School: _____

Date: _____

Gender: _____

1. What is your area of specialization?
2. What your knowledge about the EHED project?
3. How were you recruited as a pipeline teacher for the Summer Start activity?
4. How long did you work as a Summer Start teacher? Were you given training or preparation before the program began?
5. Tell us about your roles and responsibilities with the program?
6. Do you think the program helps to encourage young people to consider engineering and agricultural fields for a career? Do you think it helps to encourage young people to consider entrepreneurial careers in these fields? Probe: why or why not?
7. What challenge(s) did you experience in Smart Start?
Probing: How were they addressed?
8. Do you have any relationship with the universities working with EHED?
Probe: If so, how is this relationship?
9. Do you make report on students' progress?
Probe: If so, to whom?
10. What has been the overall involvement of females in the program?
11. What can you say about females' participation in term of numbers and retention?
12. What kind of changes you could recommend for the program?

Thank you very much for sharing your thoughts and experiences. Do you have any questions for us? Are there other comments that you wish to make?

Excellence in Higher Education for Liberian Development (EHED)

Final Performance Evaluation

Focus Group Guide – Pipeline Students

Thank you for taking the time to meet with us today. The EHED project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHED project.

I am working with LSA to gather information about your experience with EHED, to determine how effective EHED was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHED to benefit future programs.

1. How did you decide to participate in the Summer Start program?
2. What do you like about the Summer Start program?
3. What could be better about Summer Start?
4. Did Summer Start help you with your school work?
5. Did it help you decide what you want to do after you finish high school?
6. Did females participate in Summer Start? Do you think they faced challenges in this program?
7. Did your parents support your participation in Summer Start?

Thank you very much for sharing your thoughts and experiences. Do you have any questions for us? Are there other comments that you wish to make?

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation**

Key Informant Interview Guide – Private Sector Partners

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

1. What kind of involvement did you have with EHELD?

Probes: What kinds of contributions did you make to EHELD? Were you consulted about curriculum or asked what skills you would like to see in a prospective employee by EHELD?

2. Overall, how would you rate the quality of engineering/agricultural graduates coming out of UL/CU?

3. Did you host any interns as part of your cooperation with EHELD?

- a. If so, how many? How would you rate the quality of these interns? Did EHELD provide a structure to the internship program to help you and the intern understand their roles and responsibilities? Do you have any suggestions to make the internship program more useful to you?
- b. If not, were you offered this option? Would you be interested in hosting interns in the future? Why or why not?

4. What kind of training do you usually provide for your new employees in the engineering and/or agricultural fields?

5. Do you hire female employees? Do you have a special effort to hire female employees? Do you have any special considerations for new or existing female employees in your workplace?

6. What kind of recommendations could you give me for future projects, to help USAID provide better candidates for your open positions?

7. Is there anything else you would like to share that I didn't ask you?

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation**

Key Informant Interview Guide – Consortium Partners

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

Name: _____

Position: _____

Institution: _____

Date: _____

Gender: _____

1. What are your responsibilities at the institution?
2. Please describe your institution's involvement with the EHELD Project?
 - a. Which aspects of your engagement with the project were successful and why?
 - b. Which aspects of your engagement with the project were challenging and why?
3. How would you describe the impact of EHELD activities on UL/CU?
4. How effectively did EHELD activities address the underlying weaknesses that could UL/CU ability to remain a CoE?
 - a. Institutional weakness
 - b. Policy weakness
5. To what degree did you observe ownership and leadership by the UL/CU authorities to continue with the CoE?
6. What aspects of the EHELD program can be sustained without USAID funding? Why?
7. What aspects of the program appear less sustainable without USAID funding? Why?
8. Are there any changes you could recommend for the program?
9. Is there anything you would like to share that I didn't ask you?

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation
Key Informant Interview Guide – RTI Consortium Contract Faculty**

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

Name: _____
Position: _____
Institution: _____
Date: _____
Gender: _____

1. What are your responsibilities at the institution?
2. Please describe your involvement with the EHELD Project?
 - a. Which aspects of your engagement with the project were successful and why?
 - b. Which aspects of your engagement with the project were challenging and why?
3. Please describe your involvement in the curriculum development/review process.
 - a. How was the process done?
 - b. Has local capacity been developed to undertake curriculum revision without external assistance?
4. How would you describe your engagement with local faculty development?
 - a. Do you believe the local faculty have the preparation and zeal to continue the program?
5. How would you describe the impact of EHELD activities on UL/CU?
6. To what degree did you observe ownership and leadership by the UL/CU authorities to continue with the CoE?
7. What aspects of the EHELD program can be sustained without USAID funding? Why?
8. What aspects of the program appear less sustainable without USAID funding? Why?
9. Are there any changes you could recommend for the program?
10. Is there anything you would like to share that I didn't ask you?

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation
Key Informant Interview Guide – Government Ministries/Agencies**

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

Name: _____
Position: _____
Ministry/Agency: _____
Date: _____
Gender: _____

1. What are your responsibilities at the ministry?
2. Please describe your (and your ministry/agency) involvement with the EHELD Project?
 - a. Which aspects of your engagement with the project were successful and why?
 - b. Which aspects of your engagement with the project were challenging and why?
3. Did you host any interns as part of your cooperation with EHELD?
 - a. If so, how many? How would you rate the quality of these interns? Did EHELD provide a structure to the internship program to help you and the intern understand their roles and responsibilities? Do you have any suggestions to make the internship program more useful to you?
 - b. If not, were you offered this option? Would you be interested in hosting interns in the future? Why or why not?
 - c. Are you aware of another ministries or agencies that could serve as possible internship/employment sites for interns/graduates?
4. How would you describe the impact of EHELD activities on UL/CU?
5. What plans does your ministry/agency must continue an ongoing engagement with UL/CU?
6. What aspects of the EHELD program can be sustained without USAID funding? Why?
7. What aspects of the program appear less sustainable without USAID funding? Why?
8. Are there any changes you could recommend for the program?
9. Is there anything you would like to share that I didn't ask you?

Focus Group Guide – Students (Mixed Gender)

Thank you for taking the time to meet with us today. The EHEDL project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHEDL project.

I am working with LSA to gather information about your experience with EHEDL, to determine how effective EHEDL was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHEDL to benefit future programs.

1. What do you know about the EHEDL Program?
2. Did EHEDL give you a scholarship to support your studies?
3. Did EHEDL help you achieve your purpose of studies?
4. What do you like about the program?
5. What challenges did you face? How did you overcome them?
6. Are females involved in EHEDL? In what way?
7. Did your university get equipment to use as part of your studies? If so, did you use the equipment?
8. When did you decide on what career to do?

Probes: Who helped you to choose what to study?

Did EHEDL give you information on possible careers?

Did anyone participate in the Summer Start program while they were in high school?

If so, did this influence your decision about what to study?

9. Have you considered a career as an entrepreneur?
Probe: Did EHEDL give you information on being an entrepreneur?
10. At what level are your parents involved with the EHEDL Project? Do your parents meet with your sponsors?

Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation
Focus Group Guide – Students (Female Only)

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

1. How did you decide to study agriculture/engineering?
2. Did EHELD program support you during your studies?
3. What are the benefits of being a female studying agriculture/engineering?
4. What challenges did you face at UL/CU?
5. Do you feel like you're treated differently at UL because you're a female?

Probe: If so, in what way? by teachers? By other students (male/female)? By administrators?

6. Do you use the laboratory equipment and other materials?
7. Do you feel that your family supports your studies? Your friends?
8. What do you plan to do after you graduate?
9. Is there anything you would change about the program?
10. What was your favorite thing to study? List and rank

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation**

Focus Group Guide – Students (Male Only)

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I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

1. How did you decide to study agriculture/engineering?
2. Did EHELD program support you during your studies?
3. What challenges did you face at UL/CU?
4. Do you use the laboratory equipment and other materials?
5. How do you feel about having more females in the classroom?
6. Do you think that the EHELD program treats males and females differently?
7. Do you feel that your family supports your studies? Your friends?
8. What do you plan to do after you graduate?
9. Is there anything you would change about the program?
10. What was your favorite thing to study? List and rank

**Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation**

Key Informant Interview Guide – Private Sector Partners

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

I am working with LSA to gather information about your experience with EHELD, to determine how effective EHELD was, what lessons can we learn from the experience, and what recommendations can we offer to make future higher education projects in Liberia even stronger.

The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

1. What kind of involvement did you have with EHELD?

Probes: What kinds of contributions did you make to EHELD? Were you consulted about curriculum or asked what skills you would like to see in a prospective employee by EHELD?

2. Overall, how would you rate the quality of engineering/agricultural graduates coming out of UL/CU?
3. Did you host any interns as part of your cooperation with EHELD?
 - a. If so, how many? How would you rate the quality of these interns? Did EHELD provide a structure to the internship program to help you and the intern understand their roles and responsibilities? Do you have any suggestions to make the internship program more useful to you?
 - b. If not, were you offered this option? Would you be interested in hosting interns in the future? Why or why not?
4. What kind of training do you usually provide for your new employees in the engineering and/or agricultural fields?
5. Do you hire female employees? Do you have a special effort to hire female employees? Do you have any special considerations for new or existing female employees in your workplace?
6. What kind of recommendations could you give me for future projects, to help USAID provide better candidates for your open positions?
7. Is there anything else you would like to share that I didn't ask you?

Excellence in Higher Education for Liberian Development (EHELD)
Final Performance Evaluation
Key Informant Interview – Interns

Thank you for taking the time to meet with us today. The EHELD project is undergoing a final performance evaluation, which is led by Social Impact's Liberia Strategic Analysis project. LSA is an independent entity hired by USAID to report on the success of the EHELD project.

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The information you share with me today will be reported to USAID and its strategic partners on an anonymous basis, identified by type of respondent, location, and gender. If there is anything you wish to share with us that you prefer to keep confidential, please let us know and we will not include this information in our report. We would like you to be as open and honest as possible about your experience with EHELD to benefit future programs.

1. What did you study? Where did you intern? How did the two relate to each other?
2. Did you get a scholarship from EHELD? If yes, did this help you to finish your studies?
3. Did you get to practice skills you learned in the classroom while you were in school? If yes, do you think this was helpful to you when you did your internship?
4. Do you think that the internship helped you to practice the things you learned in school? If yes, in what way? If not, why not?
5. Did you have a formal written contract and code of conduct with the school? With your employer?
6. Do you think there's a difference between males and females in the workplace?
7. Did you fill out a survey about the internship experience?
8. Did you find a job / expect to be hired after graduation? If yes, was it in your field of study? Did you feel prepared to start this work at the beginning?
9. What skills would you have liked to have learned in university that they didn't teach you, that would be helpful to you in your work?
10. Is there anything else you would like to share with me?

ANNEX IV: SOURCES OF INFORMATION

Document Review

During the first week of the evaluation, the team conducted a thorough review of background documents related to EHED, including periodic program reports, contractual documents, research studies, and other relevant documents to contextualize the research. These documents enabled the team to gain a deeper understanding of the project's operations to date, to establish the evaluation design and data collection tools, and to inform the overall project assessment process, including conclusions and recommendations for future programming. These documents included the following:

- 1 Baseline Survey Final Questionnaire-DV
- 2 Baseline Survey Final Questionnaire- LAC
- 3 Baseline Survey Pipeline Baseline Survey
- 4 EHED Stakeholder Matrix
- 5 List of Internship Students
- 6 Pipeline Student Participants' Information-Stem 2016
- 7 Scholarship Students List
- 8 UL CE Students' Enrollment
- 9 CU/CASD Curriculum –Catalog of the CASD-Final
- 10 CU CASD Sustainability Business Plan
- 11 EHED Gender Report Final- July 2013
- 12 EHED Annual Report 2011
- 13 EHED Annual Report 2012
- 14 EHED Annual Report 2014
- 15 EHED Baseline Survey Report Final
- 16 EHED DOA August 12, 2015
- 17 EHED DOA Final Report 4,12,2017
- 18 EHED Midterm Evaluation
- 19 EHED PMP Revised 02-25-16
- 20 EHED Project FY-15
- 21 EHED PIDS DATA
- 22 EHED Year 6 FY2016 Annual Report Final
- 23 Liberia EHED Fiscal Year 2013 Annual Report
- 24 Liberia EHED Life of Project Strategic Plan V 2.0
- 25 Liberia EHED Year 1 Work Plan v.2.0
- 26 Liberia EHED Year 2 Work Plan final
- 27 Liberia EHED Year 3 Work Plan v1.0
- 28 Liberia EHED Year 4 Work Plan
- 29 EHED Project Year 5 Work Plan FY15
- 30 Liberia EHED Year 6 Work Plan FY 16 Final
- 31 Revised EHED PIDS Disaggregated data
- 32 UL CoE Sustainability Plan
- 33 UL Reach and FFS Draft Policy- Being Reviewed by UL
- 34 UL Revised Engineering Curricula- 2013 Final

Respondents for Key Informant Interviews, by Organization

No	Name	Sex	Affiliation
RTI's EHELD STAFF			
1.	Christophe Poubanc	Male	COP
2.	Oscar N. Goyee	Male	DCOP
3.	Momolu Vannie	Male	Partnership Officer
4.	Rebekah Schulz	Female	CASD Operations Manager
5.	Preston Tulay	Male	UL CoE Operations Manager
CONSORTIUM PARTNERS			
6.	James Simon	Male	Principal Investigator, Rutgers
7.	David Jordan	Male	Principal Investigator, Rutgers
8.	Herbert Winful	Male	Principal Investigator, Michigan State
9.	Dennis Eaton	Male	CASD – Contract Faculty (Rutgers)
10.	Ibrahim Elkholy	Male	UL CoE – Contract Faculty (UMich)
11.	Abraham Mahari	Male	CASD NRM Contract/Local Faculty
12.	Anjulie Shea	Female	Peace Corps volunteer/pipeline
13.	Alex Abbandola	Male	Peace Corps volunteer /pipeline
14.	Emily Floess	Female	Peace Corps volunteer /pipeline
UNIVERSITY OF LIBERIA			
15.	Dr. Ophelia Weeks	Female	University President
16.	Dr. Julius S. Nelson	Male	VP Student Affairs
17.	Augustus Moore	Male	Dean - CoE
18.	Gesler Murray	Male	Chair/Geology & Mining
19.	Adolphus Nippae	Male	Chair/Electrical Engineering
20.	John Boimah	Male	Chair/Civil Engineering
21.	Dr. Darlington Davids	Male	Faculty/ CoE
22.	Hafiz Sheriff	Male	Faculty/CoE
23.	Samukai Konneh	Male	Faculty/CoE
24.	Mensah Powoe	Male	Faculty/CoE
25.	Preston Dee	Male	Internship Coordinator
26.	Borbor Gibson	Male	Alumni
27.	Magnus Payzine	Male	Alumni
28.	Timothy Leiway	Male	UL – senior student
29.	Rebecca Fallah	Female	UL – senior student
30.	Dorbor Foeday Zinnah	Male	UL - Pipeline student
CUTTINGTON UNIVERSITY			
31.	Dr. Herman Browne	Male	University President
32.	Dr. Theodore Brown	Male	VP/Academic Affairs
33.	Charles Mattia	Male	Dir. Of Entrepreneurship Inst.
34.	David Kolleh	Male	Dean - CASD
35.	Jacob Kolleh	Male	CASD – Academic Coordinator
36.	Hannah Farr	Female	Chair/NRM
37.	Nyuma Fallah	Male	CASD Grants & Resource Manager
38.	Gloria Bishop	Female	Chair/Animal Science
39.	Comfort Gobeh	Female	Faulty/CASD

40.	Vincent Cleveland	Male	Associate Prof, College of Natural Sciences
41.	Caroline N. Daviis	Female	Faculty/CASD
42.	Johnson Weefah	Male	Faculty/CASD
43.	Charlene Freeman	Female	Faculty/CASD
44.	David Fehkpolo	Male	CASD Internship Officer
45.	Bendu Kou Johnson	Female	Alumni
46.	Monica Davis	Female	CASD - student
47.	Momoh Kanneh	Male	Pipeline student
48.	Massa Ben	Female	Pipeline student
49.	Samuel Kermue	Male	Pipeline student
50.	Esther C. Wenneh	Female	CASD graduate, CARI employee
51.	Kebbeh Coleman	Female	CASD graduate, CARI volunteer
52.	Korto Neufuille	Female	CASD graduate, CARI employee
53.	Augustine Johnson	Male	CASD graduate, CARI volunteer
54.	Bendu Tou Kollie	Female	CASD graduate, CARI employee
55.	Randolph Kolleh	Male	CASD graduate, CARI employee
OTHER STAKEHOLDERS			
56.	Emmanuel Baker	Male	Director/IIU, Ministry of Public Works
57.	Dr. Michael Slawon	Male	Director/NCHE
58.	Dr. Romell Horton	Female	Deputy Minister for Instruction, MOE
59.	Joyce Kolva	Female	Ministry of Agriculture
60.	Jeremiah Karmo	Male	Forestry Training Institute
61.	Dr. Walter Wiles	Male	Director/CARI
62.	Abibatu Kromah	Female	CARI
63.	Aaron Marshall	Male	Aaron Marshall Farms
64.	William Togbah	Male	HR Manager, Ancelor Mittal

Focus Group Participants, by Group

UL- Female scholarship students FGD

Name	Gender	Age	Years of Study	Major
Korlah DORKO	Female	21	Junior	Geology
Rachel KEKEL	Female	28	Junior	Geology
Emah Jessica KPAINPAH	Female	23		Geology
Mai QUOIE	Female	30	Junior	Geology
Angie Fatu SILLAH	Female	22	Senior	Civil Engineering
Patience Reeves	Female	23	Junior	Geology
Fatmata Waritay	Female	25	Junior	Geology
Alice Kollie	Female	23	Junior	Geology
Konah Zubawuo	Female	32	Junior	Geology

Mixed UL non – scholarship FGD

Name	Gender	Age	Major	Years of Study
Felton G. Bahn	Male	33	Civil Eng.	
Abigail N. Pellewuwen	Female	27	Mining Eng.	
Leah S. Stubblefield	Female	20	Elec. Eng.	
Paxton W. Jones	Female	22	Geology	
Moses F. Johnson	Male	28	Elec. Eng.	
Meima D. Fahnbulleh	Female	23	Mining Eng.	
Christiana S.N. Tow	Female	25	Geology	
Soleh E. Kpadeh	Female	25	Geology	
Cooper B. Saysay	Male	32	Civil Eng	
Moses K. Atuanga	Male	31	Mining Eng.	Junior

UL- Male Scholarship students FGD

Name	Gender	Age	Major	Years of Study
Jutomue Brown	Male	24	Elec. Eng.	Junior
Timothy SJL Kiamue	Male	29	Geology	Senior
Edward F. Lamin	Male	26	Geology	Junior
Dorbor F. Zinnah	Male	24	Civil Eng.	Junior
Christian Weah	Male	24	Civil Eng.	Junior
Thomas Walker	Male	24	Geology	Senior
Ferrison S. Andrews	Male	29	Mining Eng.	Junior
Theophilus P. Reeves	Male	26	Elec. Eng.	Senior

Cuttington Mixed Scholarship FGD

Name	Gender	Age	Major	Years of Study
Evelyn Tamba	Female	39	Agriculture	2012-2015
Lawson Fallah	Male	20	Agriculture	2011-2015
Joe Mulbah	Male	27	Agriculture	2013-2014
Mamie Shedrick	Female	30	Agriculture	2013-2017
Siaffa Karneh	Male	27	Agriculture	2013-2017
John Lawor	Male	24	Agriculture	2014-2017
Rose Mulbah	Female	23	NRM	2013-2017
Emmanuel Weeks	Male	23	NRM	2013-2019
Sianneh Kullei	Female	25	PSS	2012-2017
Jeanna Gbawajiya	Female	29	NRM	2013-2017

CU Female Only FGD

Name	Gender	Age	Year of Study	Major
Martha Ricks	Female	29	Senior 2017	PSS
Bendu T. Kamara	Female	24	Senior	NRM
Agnes S. Ellie	Female	23	Senior	PSS
Roseline V. Glayluo	Female	26	Senior	PSS
Caroline Kwenah	Female	36	Senior	NRM
Cynthia Loila	Female	25	Senior	PSS
Agnes Diabolo	Female	28	Graduated	Agriculture

Irene Willie	Female	28	Graduated	Agriculture
Yassah Malakya	Female	28	Senior	Agriculture

CU Mixed Non-Scholarship FGD

Name	Gender	Age	Year of Study	Major
Dianna Wolobah	Female	28	Junior	NRM
Rufus J Korfeh	Male	26	Junior	NRM
Leona G Gwelima	Female	28	Sophomore	PSS
Tom Zolue	Male	25	Junior	NRM
Alphonso Kou	Male	21	Junior	PSS
Robrtson Kermue	Male	28	Junior	PSS
Othniel Blamah	Male	24	Junior	PSS
Pauline Worgee	Female	24	Sophomore	PSS
Okehwon Cooper	Female	26	Junior	NRM
Beatrice Browne	Female	23	Sophomore	NRM

ANNEX V: CASE STUDIES

CARI – CASD Case Study

The relationship between the **Central Agriculture Research Institute (CARI)** and **CASD** demonstrates a strong model of a university partnership with an independent research institute to develop a mutually beneficial relationship. CARI has a research farm located less than five miles from CASD. CARI used to be government funded but now has transitioned into an independent entity.

CARI was the largest single institutional internship provider for EHELD, offering 53 two-or three-month unpaid internships for students within all sectors of CARI's agricultural work. Forty percent of interns were women. The relationship was institutionalized by a formal MOU between the two entities, and provided a broad range of opportunities for trainee to sample a variety of disciplines within the agriculture sector.

CARI has also provided numerous **long-term volunteer opportunities for CU graduates** providing on-the-job training for some 50 students, of which 15-20 are still ongoing. The evaluation team interviewed several CASD graduates who volunteered at CARI and they all greatly valued the learning experience.



EHELD graduates working at CARI

“The things I learned, they multiplied for me. I know better methods of agriculture; I share these new methods with others in my community. I work on a community-run farm in Nimba, we grow eddo, potatoes, corn, peppers, eggplants, and plantains ... I want to work out in the field, not just in an office, but not just as an independent farmer... Provide more materials for farmers – equipment, seeds, etc. so after graduation, people can get started with farming.”

- Female CASD 2015 graduate and former CARI volunteer

CARI has a strong lifelong learning approach to training. They have sponsored staff to go abroad to study topics like pest-resistant rice production or bee management, in China, Uganda, India, and Philippines, among others. CARI staff have also served as instructors in CASD classes, so they are familiar with the old curriculum and could be better utilized as a resource for the development of EHELD's curriculum. They have strong capacity to serve as guest lecturers or local expert faculty, which would address beneficiaries' concerns that local experts be better utilized as contract faculty.

Strengthening the CARI Connection:

FFS Clients: CARI research assistants are already using CASD facilities, including soil testing lab equipment, and report continued interested in conducting research at CU's EHELD-enhanced facilities

Expanded Collaboration with the Entrepreneurship Institute (EI). There were examples of CARI collaborating on other CU activities, including organizing a breadfruit growing competition with EI; this type of activity could be modeled and expanded, and facilitate stronger GoL linkages.

Case Study - Dorbor Foeday Zinnah, Engineering Student

Dorbor Foeday Zinnah is a Civil Engineering student at UL. Dorbor grew up in Dolo Town and graduated from Firestone High School in 2012. During his life, his family status has moved from lower to middle class because his father earned a degree from UL in Agriculture Agronomy in 2015, and found work as a Superintendent at Firestone. Dorbor first encountered EHELD during high school:

“EHELD was looking for bright students in the math and sciences subjects and I happen to fit that category so I was selected to participate in the Summer Start. Initially, I felt that I could do only math, but EHELD helped me to redirect my focus. In Summer Start, we were encouraged to do some results-based calculations like calculating the tonnage of a car, a bridge, etc. From those activities, I developed an interest in civil engineering.”



Dorbor Zinnah at the
UL Campus

Dorbor entered ULCE in 2012 and his parents initially paid his school fees. However, after two semesters, he was again selected by EHELD because of his outstanding academic performance to spend the summer studying general engineering subjects, such as Google Cache, calculus, and architectural design. Dorbor credits the EHELD scholarship as an opportunity that opened many doors for him:

“Through the EHELD scholarship, my life has been transformed. With the scholarship, my fees were paid and I was also given cash to cover other expenses. I started teaching algebra and mathematics as a volunteer teacher in my community schools and also conduct free tutorials for both my colleagues here on campus. I am very passionate about giving back to the community ... I feel now that I can give back more to my community than in the past when it was pretty tough because of the [financial] hardships I faced. After graduation, I would like to pursue a Masters or even Ph.D., but more than that I intend to teach.”

Case Study: Caroline Kwenah, CASD Student

“When I entered [university], I started thinking that Liberia is a country where it’s very difficult to find a job. So I started brainstorming with three of my colleagues, and said” I think if we graduate from Cuttington and we do Natural Resource Management, we will be able to establish our own thing, and be self-employed. But if we don’t do this, when we graduate we will just sit down and our dreams will die.” So we are about four people, and we are saving money together so we will be able to buy some land after graduation. I’ve been thinking about it, but it’s not really in the classroom.”



Caroline Kwenah (center, seated),
with her CASD classmates

Caroline Kwenah is a 36-year-old female, senior NRM student from Gbarnga. She shared the above story during a focus group discussion about entrepreneurship support, explaining how she and her classmates are saving money to purchase land along the Gbarnga highway, on which they plan to grow fruit trees and other food crops. Caroline’s idea suggests an innovative strategy for developing the next generation of Liberian cooperative farms, through the provision of university- facilitated support for entrepreneurship development, developing a key growth sector for Liberia, and promoting female livelihoods.

The evaluation team recommends CASD to institutionalize Caroline’s model in the classroom, according to the following strategy:

Group CASD freshmen into teams, with two representatives from each discipline, that work together to **establish a mock farm cooperative**. This would be a facilitated activity for which students receive course credits, that continues throughout the four years of study.

Provide entrepreneurship training and facilitate applied learning activities in the field, with teams mentored by CASD staff and visiting lecturers (e.g., CARI staff).

Host a competition at the end of the junior year in which top-performing teams are awarded an **opportunity to farm on CU land** during the final year of study. Their revenues provide **seed money to start a farming cooperative** after graduation.

Establish a student-run VSLA program to support students to save money to start their own farming cooperatives after graduation.

Offering an applied learning opportunity on this scope would be a huge step forward in institutionalizing the development of agricultural entrepreneurs, and would offer the most innovative education strategy available in Liberia, as the Center of Excellence aims to do. It would also provide the kind of practical, hands-on classroom environment that CASD students need and demand.

ANNEX VI: EHELD AND USAID/LIBERIA CDCS RESULTS FRAMEWORKS

Table I: EHELD Results Framework

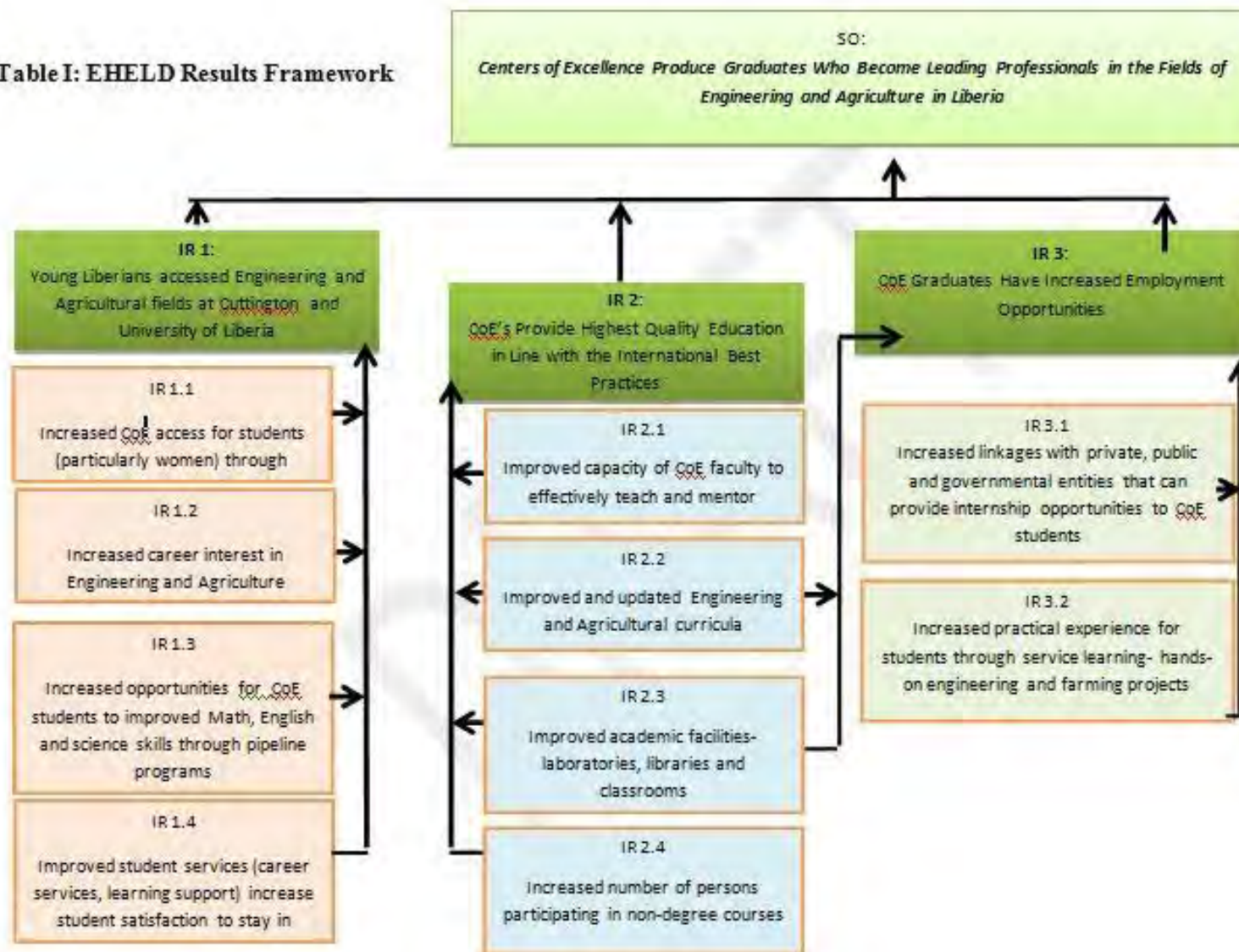
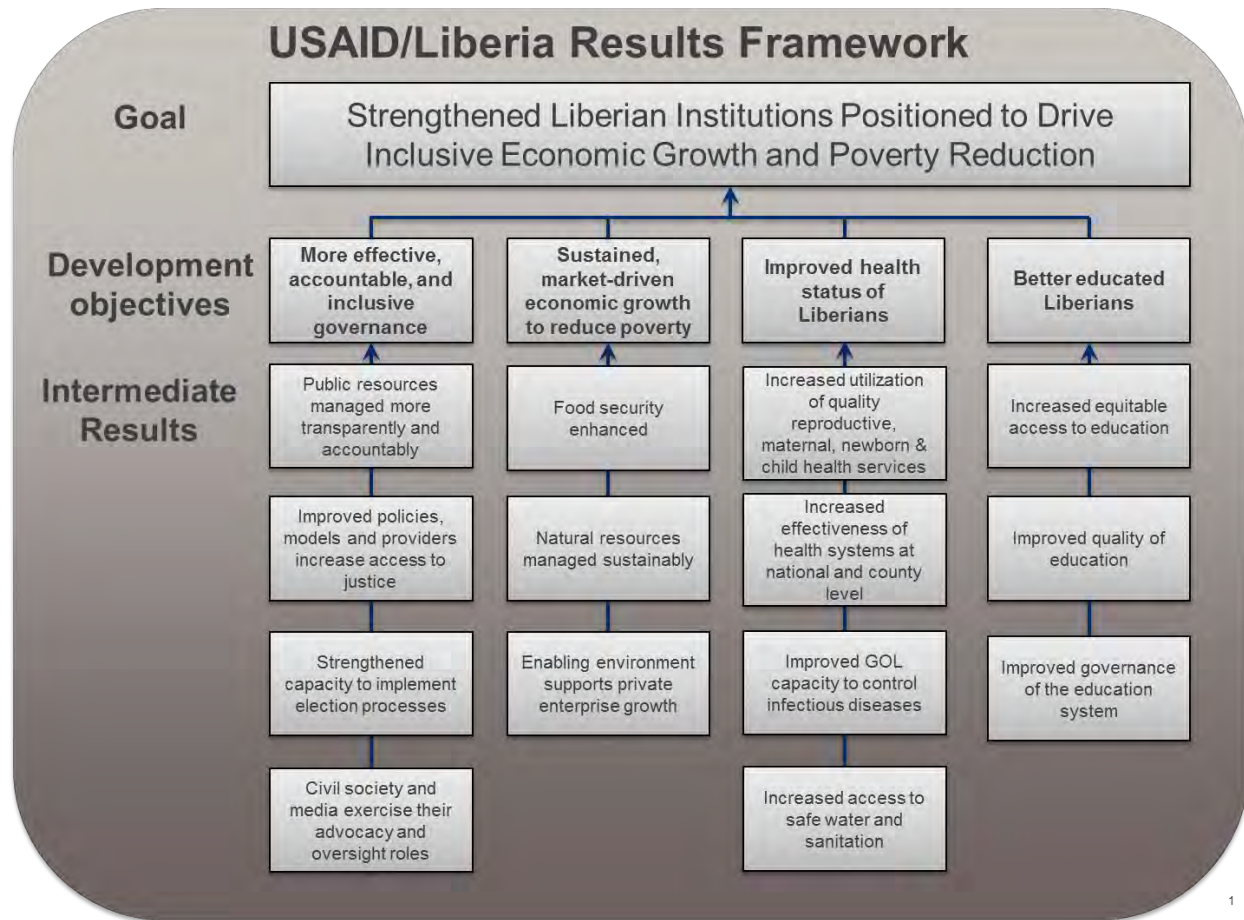


Table 2: USAID/Liberia CDCS Results Framework 2011-2017



U.S. Agency for International Development - Liberia
502 Benson Street
Monrovia, Liberia