

This Document highlights three sections:

1. **Lessons Learned From ACE I and Reflected in the Project Design of ACE Impact**
2. **Matrix Comparing DLIs for ACE I, ACE II and ACE Impact**
3. **ACE Impact DLI definitions**

#### A. **Lessons Learned From ACE I and Reflected in the Project Design of ACE Impact**

The ACE Impact projects benefit from lessons learned under the ACE I and ACE II projects as well as other World Bank-financed projects in other regions and global best practices. Key drivers for successful ACEs have been: capable faculty teams; strong government and university ownership; and visionary center directors that have attracted relevant international partners as well as additional donor funding. Despite these achievements, the development impact of these centers can be further strengthened through: more targeted selection of centers to more effectively respond to the regional demands for skills and research; improved upfront linkages to industry; increased institutional impact on the ACE host university; and better coordination with regional and international partners. The outcome of consultations with ACE I center leadership, experts involved in evaluating the current centers, national governments, Ministers of education, and World Bank staff (both at the country and GP levels) were incorporated into the design of the ACE Impact I project (see Table 5 for the summary of stakeholders consulted during project preparation). Lessons learned which have been incorporated into the project's design, particularly in the Call for Proposals stage, evaluation and selection processes, the DLI disbursement and verification protocol and project implementation, include, *inter alia*:

- (i) **Strengthened regional focus:** While ACE I centers have been successful in recruiting regional students (approaching the ACE I project set target of 30 percent), there continues to be a need for stronger regional engagement of centers, including improved industry/sectoral partnerships and strengthened political buy-in. The ACE Impact projects will incorporate a strong regional engagement through various channels, including ECOWAS' participation on the PSC, and the introduction of a two-tiered regional steering committee wherein the Committee meets annually at the Ministerial level and more frequently at the government representative level.
- (ii) **Stronger national government and ministerial ownership:** It was evident during the preparatory phase of the proposed project that some Ministers responsible for higher education and from countries participating in the ACE I project were not fully aware of the ACE I project nor the accomplishments of their national ACE I centers. ACE Impacts in addition to the national steering committees (NSCs) will convene an annual Ministerial PSC meeting to ensure that Ministers are fully informed of the progress of the overall program and to ensure stronger ownership of the achievements of their national centers. It is envisioned that each participating government, as part of the mandate of its NSC, will develop a national plan aimed at supporting the sustainability of their centers beyond the World Bank's funding. The NSC and national focal points will be critical in ensuring bottlenecks affecting their ACEs are solved at the country level.
- (iii) **Improved institutional ownership:** In the ACE I project, there appears to be a reasonable correlation between an ACE center's success and the institutional support they receive. In the ACE Impact selection process, there will be a stronger focus on the evaluation of institutional support for proposed centers, and the design of DLIs that provide incentives to encourage institutional support for center activities.

- (iv) **Strengthened institutional impact:** Successful ACE I centers implemented policies and practices aligned with global best practices for higher education. However, there is limited evidence that operational excellence of these centers has positively influenced institutional transformation beyond the centers. ACE Impact will proactively encourage institutional impact: each proposal must identify specific anticipated interventions; and DLIs will reward the adoption of best practices at the institutional level. At least 10 percent of each center's funding will be allocated to activities at the ACE host institutional level. In addition, under Component 1 substantial additional funding will be available to selected Colleges of Engineering and/or Technology – beyond that provided to the ACE Impact centers – with the specific purpose of strengthening the institutional impact of the project.
- (v) **Improved sectoral commitment to ACE Impact centers:** Given the scope of ACE Impact centers, a rapid implementation startup is essential to successfully complete the proposed workplan and achieve the DLR targets. The ACE Impact projects require that proposed centers (including the Emerging centers) identify upfront:
- **A Sectoral Advisory Board (SAB)** to help guide the academic and applied research programs of the center;
  - **Industry/sectoral partners**, who will collaborate on applied research, provide internships for students, hire program graduates, and contribute financially to the long-term sustainability of the center; and
  - **Regional and Global Academic collaborators**, who contribute the necessary technical expertise to deliver the proposed teaching and research activities of the center.

Furthermore, in the proposal evaluation phase, the expert evaluators will consider sectoral commitment both in the written proposal and through meetings with sectoral stakeholders during the on-site evaluations of potential ACE centers.

- (vi) **Strengthened strategic networking:** University-based research centers, whether in Africa or globally, rely upon networking to deliver on their work plans. Building relationships to recruit students, to strengthen capacity and impact across West and Central Africa, and to disseminate research results that address development challenges is integral to the success of ACE centers. The design of DLIs will provide incentives to ensure that centers focus on these critical activities.
- (vii) **Increased gender-balance focus:** While progress is being made, targets for female postgraduate students under the ACE I project are not being fully achieved. There are also no female directors of ACE I centers, and female faculty members are rare participants in ACE activities. At least two ACE Impact center directors will be female. Addressing gender imbalances is an explicit part of the design of the Call for proposals template, implementation plans and the design of the selected DLIs will provide incentives to encourage greater female participation in all aspects of the centers.
- (viii) **Stronger World Bank Global Practice engagement:** In addition to the evolution of expectations for ACE Impact centers based on lessons learned from the ACE I project, the World Bank ACE Impact team has prioritized greater internal World Bank GP engagement to strengthen the focus of ACE Impact centers in addressing key development challenges. During the project preparation phase, the project team worked closely with other GPs (and other stakeholders) to develop Terms of Reference for 10 targeted priority thematic areas. During project implementation, it is anticipated that GPs will be involved in providing implementation support to centers within their sector. At the center level, the inclusion of GPs in implementation support will result in stronger linkages with ongoing World Bank-financed projects, improved

knowledge transfer, and career opportunities for graduates. Such engagements will complement national projects in higher education and other sectors. A working group composed of GP focal points will further disseminate implementation results and strengthen regional and cross-disciplinary knowledge sharing among ACE Impact centers.

- (ix) **Inclusion of unallocated funds.** During the implementation of the ACE I project, at mid-term, it was determined that four centers had been performing below expectations. Although it was in the project's and governments' interest to reduce these centers' funding and reallocate the funds to better performing centers within the same country, this proved to be a difficult process. Consequently, under the ACE Impact I project, each center will receive a smaller funding envelope at the beginning of implementation, and then well-performing centers in need of additional funding will be rewarded with the unallocated funds at the mid-term point in project implementation.
- (x) **M&E improvements.** The proposed improvements to the ACE I project M&E process to be considered in the ACE Impact projects include: (a) a closer review by the RFU of the center submitted data for the reporting; (b) institutionalizing a Call and Email Test by the centers prior to the submission of results for verification; (c) maintaining strong and regular communication with the M&E officers at the centers throughout the verification process; (d) deepening the DLIs/DLRs definitions, expectations and scope of measurement (setting up a list of Frequently Asked Questions); (e) the RFU undertaking regular communication and coordination with the third party verifiers, (f) shortening the process for the verification of Short Term students (a protocol and guidance for this is proposed); (g) institutionalizing M&E help desks and clinics for specific M&E challenges faced by centers; (h) breaking down language barriers by financing regional university collaboration and a flow of students assisted by scaling-up language course; (i) redefining the process for research publication verification and (j) setting up an online M&E database platform with features for data submission, analysis and reporting.
- (xi) **FM-Related DLIs:** During the verification of the FM DLRs in the ACE I project, many challenges were identified. Opportunities to address these challenges have been incorporated into the ACE Impact projects and cover strengthening web transparency, audit committees and internal audit units.
- (xii) **Other FM lessons:** While the ACE I regional workshops provide an opportunity to clarify many aspects of the FM arrangements, further efforts will be made to ensure the transfer of knowledge from the ACE Impact *renewal centers* under Sub-component 1.2 to the new centers under Sub-components 1.1 and 2.1 by leveraging and establishing knowledge sharing platforms (periodic workshops, secured online sharing of files, and Questions & Answers).
- (xiii) **Procurement DLIs:**
- **The timely submission of procurement audits DLI under the ACE I project** has worked well and there have been consistent improvements in these audits over the course of the ACE I project. This DLI has been incorporated into the ACE Impact I project.
  - **Improved incentivization of procurement planning:** Based on the ACE I experience, the ACE Impact I project will consider improving the incentivizing of procurement planning and procurement attribution
  - **Upfront hiring of project management and procurement capacity** will be considered as part of the first DLI to ensure adequate capacity.

## B. Matrix Comparing DLIs for ACE I, ACE II and ACE Impact

DLIs	ACE I	ACE II	ACE Impact
<b>1. Institutional readiness conditions</b>	<ul style="list-style-type: none"> <li>• Completion of effectiveness condition in each legal agreement</li> <li>• PSC members endorse resolution for regional specialization</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of effectiveness condition in each legal agreement</li> <li>• Development of implementation plan</li> </ul>	<ul style="list-style-type: none"> <li>• Completion of effectiveness condition in each legal agreement</li> <li>• Set up of ACE's Bank account; website; audit committee; internal audit unit; sectoral and academic advisory boards</li> <li>• Core ACE staff are in place, implementation plan approved; student handbook developed, and ACE Impact center is formally launched</li> </ul>
<b>2. Development Impact of ACE Center</b>	NA	NA	<ul style="list-style-type: none"> <li>• Performance in an independent, external evaluation of the development impact of the ACE at years 3 and end of project</li> </ul>
<b>3. Quantity of students with focus on gender and regionalization</b>	<ul style="list-style-type: none"> <li>• Number of PhD, master's and short-term students enrolled</li> </ul>	<ul style="list-style-type: none"> <li>• Number of PhD, master's and short-term students enrolled</li> </ul>	<ul style="list-style-type: none"> <li>• Number of PhD, master's and short-term students enrolled</li> <li>• Number of undergraduate students enrolled (particularly for the Emerging centers and colleges of engineering)</li> </ul>
<b>4. Quality of Education and research through regionalization</b>	<ul style="list-style-type: none"> <li>• Accreditation (international, regional, national) of education programs; gap assessment, self-evaluation</li> <li>• ACE related research publications in internationally recognized peer reviewed journals</li> <li>• Meeting milestones for civil works and major equipment purchase</li> </ul>	<ul style="list-style-type: none"> <li>• Accreditation (international, regional, national) of education programs; self-evaluation</li> <li>• ACE related research publications in internationally recognized peer reviewed journals</li> </ul>	<ul style="list-style-type: none"> <li>• Accreditation (international, regional, national) of education programs; gap assessment, self-evaluation</li> <li>• ACE related research publications in internationally recognized peer reviewed journals</li> <li>• Meeting milestones for civil works and major equipment purchase</li> </ul>
<b>5. Relevance of Education and Research</b>	<ul style="list-style-type: none"> <li>• Externally generated revenue</li> <li>• Number of outreach periods, at least 1-month (internships) for faculty, master's and PhD students</li> </ul>	<ul style="list-style-type: none"> <li>• Externally generated revenue</li> <li>• Number of faculty and PhD exchanges for at least 2 weeks to other institutions or host faculty and PhD students from other institutions</li> </ul>	<ul style="list-style-type: none"> <li>• Externally generated revenue</li> <li>• Number of students and faculty with at least 1-month period internships/ apprenticeship in relevant industry/ institutions</li> </ul>

		<ul style="list-style-type: none"> <li>• Number of partnerships for collaboration in applied research and training (signed MoUs for at least 2-year collaboration)</li> </ul>	<ul style="list-style-type: none"> <li>• Meeting milestones for establishing or strengthening technology transfer office and internship/co-operative education office; developing entrepreneurship and innovation programs</li> </ul>
<b>6. Fiduciary enhancement</b>	<ul style="list-style-type: none"> <li>• Timely withdrawal application for the period</li> <li>• Functioning audit committee</li> <li>• Functioning internal audit unit</li> <li>• Web Transparency on Financial management</li> <li>• Timely procurement audit</li> <li>• Timely and satisfactory procurement progress</li> </ul>	<ul style="list-style-type: none"> <li>• Timely withdrawal application for the period</li> <li>• Functioning audit committee</li> <li>• Functioning internal audit unit</li> <li>• Web Transparency on Financial management</li> <li>• Timely procurement audit</li> <li>• Timely and satisfactory procurement progress</li> </ul>	<ul style="list-style-type: none"> <li>• Timely financial reporting for the ACE account</li> <li>• Functioning audit committee</li> <li>• Functioning internal audit unit</li> <li>• Web Transparency on Financial management</li> <li>• Timely procurement audits</li> <li>• Timely and satisfactory procurement progress</li> </ul>
<b>7. Institutional Impact</b> (to be accomplished by ACE host institution)	NA	<ul style="list-style-type: none"> <li>• Participates in the benchmarking initiative</li> </ul>	<ul style="list-style-type: none"> <li>• Develops and endorses a university- wide regional strategy</li> <li>• Undertakes competitive selection of department heads and university management</li> <li>• Undertakes institution wide international accreditation, gap assessments and self-evaluations</li> <li>• Participates in the PASET Regional Benchmarking initiative and submits data on the required indicators and based on results, submits intervention plan to improve performance</li> <li>• Meeting milestones towards institutional impact</li> </ul>

### C. DLI Definitions

<b>Verification Protocol Table: Disbursement Linked Indicators</b>	
<b>DLI 1</b>	Institutional readiness
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR# 1.1: Basic Readiness: Financing agreement is effective; Approved Implementation Plan and Procurement and Financial Management Manuals. Core center staff designated</li> <li>• DLR# 1.2: Full Readiness: At least one leading center team member possesses a project management certification; Center’s website is functional, with student handbook on website; sectoral advisory board (SAB) constituted and has endorsed the Implementation Plan.</li> </ul>
<b>Data source/ Agency</b>	Centers’ progress reports and websites (documents including: FM/procurement manuals, student handbooks, Implementation plans)
<b>Verification Entity</b>	RFU
<b>Procedure</b>	<p>Disbursed when center submits evidence of achievement to RFU including:            For DLR 1.1: Basic readiness: Financing Agreement is effective; The RFU has approved of the center’s Implementation Plan and the Procurement and Financial Management Manuals. Official designation of the core team members (Center leader, Deputy Center leader, FM responsible, procurement responsible, M&amp;E responsible and sectoral liaison). Further, the Center has designated a non-staff student representative to the RFU, and</p> <p>For DLR 1.2: Full readiness: Project Management certification for at least one leading team member; Functional center website (a link to the center’s website); Student handbook on the website with policies for sexual harassment and scholarships; and Sectoral Advisory Board (SAB) constituted and its endorsement of the Implementation Plan</p>
<b>DLI 2</b>	Development Impact of ACE Center
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR#2: Independent, external evaluation of the development impact of the ACE Impact center conducted in Year 3 and beginning of Year 4. Renewals will however have their assessment in Year 2 and Year 4.</li> </ul>
<b>Data source/ Agency</b>	Centers’ progress reports; SAB reports; and Interviews
<b>Verification Entity</b>	RFU/External Evaluators
<b>Procedure</b>	Independent, external evaluation of the development impact of the ACE center conducted during Year 3 (Year 2 for renewals) and end of Year 4 of project implementation. External evaluators assess and score development impact of the center. In Year 3, score is based upon progress towards development impact. In Year 4, score is based upon development

	<p>impact. The criteria for evaluation will include: (i) Relevance and impact of graduates on society, including the share of graduates hired in the target sector and feedback from key employers; (ii) relevance and impact of research on society; (iii) progress on DLIs; (iv) SAB annual reports; and (v) interviews with center graduates and sectoral stakeholders. The detailed scoring rubrics will be defined in the Regional Operations Manual.</p>
<b>DLI 3</b>	Quantity of students with focus on gender and regionalization
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR#3.1: New eligible PhD students</li> <li>• DLR#3.2: New eligible master’s students</li> <li>• DLR#3.3: New eligible professional short course students</li> <li>• DLR#3.4: For CoEngg &amp; Emerging centers - New eligible first degree students</li> </ul>
<b>Data source/ Agency</b>	Centers’ enrolment reports; progress reports; and student surveys
<b>Verification Entity</b>	External verifier
<b>Procedure</b>	<p>Centers submit report with names and contacts of students to RFU. RFU submits information to external verifier. Verifier contacts students to validate list Center submits enrolment and progress reports with names and contacts of students to RFU. RFU submits information to external verifier. Verifier contacts students to validate list.</p> <p>Number of new eligible doctoral and master’s degree students as well as short-course professional students of whom at least 30 percent combined must be regional students. For institutions receiving support to CoEngg and emerging centers, first degree students are eligible as well. The 30 percent requirement on regional students does not apply to emerging centers. The regional operations manual and the approved. Implementation Plan will define what constitutes an eligible student for each type of center and degree level.</p> <p>For PhD students: US\$10,000 per male national student, US\$12,500 per female national student, US\$12,500 per male regional student, and US\$15,600 per female regional student. For Master students: US\$2,000 per national student, US\$2,500 per female student, US\$4,000 per regional student and US\$5,000 per regional female student. For short-course professional students: US\$400 per national male student, US\$500 per female national student, US\$800 per regional male student, and US\$1,000 per female regional student. For first degree students: US\$1,000 per national male student, US\$1,500 per national female student</p>

<b>DLI 4</b>	Quality of Education and Research through Regionalization
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR#4.1: Towards International accreditation with inputs from center's advisory boards</li> <li>• DLR#4.2: ACE Impact related research publications in internationally recognized peer reviewed journals;</li> <li>• DLR#4.3: Completion of milestones for improved learning and research infrastructure specified in the approved Implementation Plan of each center.</li> </ul>
<b>Data source/ Agency</b>	Centers' progress reports; student survey results; verifiers' reports; accreditation certificates and other assessment reports
<b>Verification Entity</b>	RFU/External Verifier
<b>Procedure</b>	<p>Center submits annual report to RFU and RFU coordinates verification of results.</p> <p>DLR 4.1 disbursement occurs if the center shows evidence (copy of certificate, email confirmation) of achievement of a specific accreditation or assessment (international, national, regional, gap assessment, self-evaluation); US\$500,000 per program internationally accredited; US\$100,000 per program nationally/regionally accredited; US\$100,000 per gap-assessment/self-evaluation undertaken; US\$50,000 for new/revamped courses meeting international standards</p> <p>DLR 4.2 is achieved if the article is accepted and published in an internationally recognized peer-reviewed journal acceptable to the World Bank and the RFU and in addition, an independent subject matter expert confirms that an ACE Impact student or staff is a co-author and that the article is in an area related to the specialization of the center. US\$10,000 per article co-authored by ACE Impact student/faculty and national partners; US\$15,000 per article co-authored with regional partners.</p> <p>DLR 4.3 is achieved if external verifiers confirm approved onsite civil works and equipment purchase, installation and usage. Each center will formulate its civil works and large equipment purchase (including installation and usage) milestones which will be reviewed and approved by the World Bank US\$300,000 per milestone</p>
<b>DLI 5</b>	Relevance of Education and Research
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR#5.1: Externally generated revenue;</li> <li>• DLR#5.2: Number of students and faculty with at least 1-month period internship in relevant sector institutions;</li> <li>• DLR#5.3: Meeting milestones for developing entrepreneurship, innovation, start-up companies, and commercialization support programs</li> </ul>
<b>Data source/ Agency</b>	Centers' progress reports; Centers' accounts details and faculty/students survey reports

<b>Verification Entity</b>	RFU/External Verifier
<b>Procedure</b>	<p>For DLR 5.1, eligible sources of revenue include tuition fees, other student fees, joint research, research consultancies, fund raising and competitive grants (from governments and development partners) or other external sources. Evidence submitted to the RFU will be in the form of signed/formal funding award letters and verification by financial auditors showing transfer of the funds to the respective center. US\$1 for each US\$1 generated from national, or international non-firm sources; US\$2 for each US\$ 1 generated from regional or from private/ sectoral sources;</p> <p>DLR 5.2 is achieved if external verifier validates the list of students/faculty that have participated in at least 1-month period internships in relevant industry/ sector-relevant institutions (by country/region). US\$1,000 per period in country and US\$1,500 per period in region</p> <p>DLR 5.3 is achieved if external verifiers confirm pre-determined and approved milestones have been met. One milestone. US\$100,000 for the milestone</p>
<b>DLI 6</b>	<b>Timeliness and Quality of Fiduciary Reporting</b>
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR#6.1. Timely fiduciary reporting including timely submissions of IFRs and of financial and procurement audit reports for the period for the center \</li> <li>• DLR#6.2. Functioning internal audit unit and functioning audit committee (under the university’s council) that would support the center and the ACE Impact host university;</li> <li>• DLR#6.3. Web Transparency on Fiduciary reports for the center and the ACE Impact host university;</li> <li>• DLR#6.4. Quality of Procurement planning. Share of the originally approved procurement plan that was executed.</li> </ul>
<b>Data source/ Agency</b>	Centers’ progress reports, websites and time stamp of submission of documents
<b>Verification Entity</b>	RFU
<b>Procedure</b>	<p>DLR 6.1 is achieved if there is a time stamp evidence of timely submission of the IFR, financial and procurement audit reports in the ACE Impact online data portal or copy of email submission to RFU if online portal is offline at time of submission. US\$15,000 per year</p> <p>DLR 6.2 is achieved if the center submits weblink to internal audit report or attachment of report and a weblink to audit committee minutes or attachment of minutes which mention a review of the audit reports as well as a review by the university Board of the ACE hosting. US\$15,000 per year</p>

	<p>DLR 6.3 is achieved if there is self-confirmation by the center that the budget, annual work plan, IFRs, project financial and procurement audit reports are visibly accessible on the center's and host institution's websites. US\$15,000 per year</p> <p>DLR 6.4 The share is calculated in terms of value of contracts (not procurement activities).; Amount US\$15,000 per year for Quality of procurement planning</p>
<b>DLI 7</b>	<b>Institutional Impact</b>
<b>Description</b>	<ul style="list-style-type: none"> <li>• DLR#7.1: ACE Impact host institution develops and endorses a meaningful university- wide regional strategy (including student affairs).</li> <li>• DLR#7.2: ACE Impact host institution undertakes open, merit-based competitive selection of department heads related to the ACEs and university head.</li> <li>• DLR#7.3: ACE Impact host institution undertakes institutional wide international accreditation, gap assessments and self-evaluations</li> <li>• DLR#7.4: ACE Impact host institution participates in the PASET Regional Benchmarking initiative and submits data on the required indicators and based on results, submits intervention plan to improve performance</li> <li>• DLR#7.5: Meeting milestones for promoting institutional impact.</li> </ul>
<b>Data source/ Agency</b>	Centers' progress reports; reports from host universities, accreditation certificates and other assessment reports (from independent verifiers); PASET benchmarking exercise report
<b>Verification Entity</b>	RFU
<b>Procedure</b>	<p>DLR 7.1 is achieved if independent experts verify that a new or existing strategic plan for regionalization is in place for the ACE Impact host institution. The strategy will include policies and interventions that would ensure that the institution becomes regionally competitive (if not globally), highlighting, for example, how to attract and retain more regional students and partners (both from industry and academia). US\$100,000</p> <p>DLR 7.2 is achieved if ACE Impact host institution submits evidence that department heads/deans related to the ACEs and university head are recruited through open, merit-based competitive selection. US\$200,000 for university head recruitment and US\$50,000 for dean/department heads</p> <p>DLR 7.3 is achieved if the ACE Impact host institution submits evidence of achievement of a specific accreditation or assessment. The accreditation agency used must be acceptable to the World Bank and the RFU. US\$ 200,000 for international accreditation; US\$75,000 each for gap assessment/self-evaluation</p> <p>DLR 7.4 is achieved if the PASET Benchmarking host institution confirms the participation of the ACE Impact host institution in the benchmarking exercise and its submission of an acceptable intervention plan. US\$ 50,000 for each year the university</p>

participates (up to 2 years)

DLR 7.5 is achieved when an ACE Impact host institution completes the agreed on milestones and the milestones are verified. Each approved Center Implementation Plan contains milestone(s) of results and activities to improve institutional impact US\$ 200,000 per institutional impact milestone