

**PROJECT INFORMATION DOCUMENT (PID)**  
**APPRAISAL STAGE**

Report No.: PIDA1001

<b>Project Name</b>	Africa Higher Education Centers of Excellence Project (P126974)
<b>Region</b>	AFRICA
<b>Country</b>	Africa
<b>Sector(s)</b>	Tertiary education (50%), Agricultural extension and research (15%), Health (15%), Oil and gas (10%), Other Mining and Extractive Industries (10%)
<b>Theme(s)</b>	Education for the knowledge economy (70%), Technology diffusion (20%), Health system performance (10%)
<b>Lending Instrument</b>	Specific Investment Loan
<b>Project ID</b>	P126974
<b>Borrower(s)</b>	Governments
<b>Implementing Agency</b>	Universities, Ministry of Higher Education, National University Commission, Nigeria, Agency: National Commission for Tertiary Education, NCTE, Ghana, Ministry of Higher Education, Senegal, Ministry of Higher Education, Togo, Ministry of Higher Education, Benin, Ministry of Higher Education, Burkina Faso, Economic Community of West Africa (ECOWAS), Ministry of Basic and Secondary Education, Association of African Universities
<b>Environmental Category</b>	B-Partial Assessment
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<b>Estimated Date of Appraisal Completion</b>	30-Jan-2014
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<b>Decision</b>	

## **I. Project Context**

### **Country Context**

1. Sub-Saharan Africa has an unprecedented opportunity for transformation and sustained growth. GDP growth has accelerated from an average annual rate of 2 percent during the 1990s to 5.5 percent in the last decade. The economies outside of South Africa grew in 2012 at a robust rate of 5.8 percent-higher than the average developing country. Several West African countries are among the fastest growing countries in the world, notably Sierra Leone, Niger, Cote d'Ivoire, Liberia, Burkina Faso, and Ghana. This remarkable economic turnaround is the result of increasing macroeconomic stability, of reforms which have whittled away market imperfections and most

consequently, of rapidly increasing global demand for the natural resource based commodities exported by sub-Saharan countries. Coming after more than two decades of stagnation, the recent spurt of economic growth is an encouraging development.

2. Despite this strong economic growth, West and Central Africa faces significant development challenges. Key among them is an undiversified production structure. Adding value to production and diversifying national economies by stimulating development of new competitive sectors is a significant challenge. The countries need to capitalize on the commodity boom to ensure domestic economic spillovers in the form of well-paid jobs and seek to move into more knowledge and technology-intensive activities that add value. Furthermore, while progress on the Millennium Development Goals (MDGs) has been rapid in some countries, significant challenges remain, especially with regards to the health MDGs such as Maternal Health, where Mortality rate is 500 per 100,000. And despite improvements in recent years, 3.8 million children below the age of five continue to die annually in Africa. Low rates of skilled birth attendance, high fertility rates; infectious diseases such as malaria and HIV/AIDS, and prevalence of neglected tropical diseases (most commonly affecting the poor) continue to impair population health, as well as economic productivity and growth. Malnutrition, lack of food security and low productivity in agriculture is another considerable challenge in Western and Central Africa, especially in the Sahel countries where an estimated 20 million people are at risk of food security. Additionally, weak governance, state fragility, youth unemployment and climate change are substantial development challenges facing African countries.

3. There are immediate skill shortages in addressing development challenges and poverty reduction in West and Central Africa. This skills shortage is severe in the growing sectors of extractive industries, energy, water, and infrastructure; and in service sectors, such as health and ICT. The scientific and technological capacity embodied in this demanded knowledge and well-trained human resources is critical to transforming African economies. For instance, extractive industries demand specialized civil, electrical and petroleum engineers as well as geologists, and environmental and legal specialists. These positions are currently, to a large extent, filled by expatriates. Most importantly, the lack of skills for the extractive industries prevents African countries from establishing local suppliers that generate domestic economic spillovers and additional jobs. Another example of critically needed skills is the lack of health workers with the necessary training to oversee pregnancies and deliveries (Maternal and Child Health – MDG4&5), or treat infectious and chronic diseases. A key constraint is the lack of specialized skills in Obstetrics, Pediatrics or General Surgery, infectious diseases, neglected tropical diseases and reproductive health (required in particular for faculty to train health workers). Further, Africa needs a green revolution, and agriculture has also experienced a revival in investments. However, these investments have not been accompanied by development of related human capital. In Brazil, masters programs in agricultural sciences and problem-oriented research centers boosted agriculture productivity. For African economies to undertake a similar transformation to move from a net importer to net exporter, post-farm high yielding technologies need to be adapted. The lack of crop and animal scientists, as well as veterinarians, and agronomists has become a bottleneck in transforming agriculture in the region. For example, plant breeders and crop scientists with specialization in African indigenous crops such as sorghum, millet, cassava etc. that are of little or no importance to agriculture schools in the developed world, are required. In sum, a number of development challenges will not be overcome without initiatives to produce the necessary quality and relevant skilled labor. West and Central Africa would benefit substantially if the region's higher education institutions trained more graduates with these demanded skills and that these

graduates were of higher quality.

4. In the medium run, sustained economic growth and competitiveness for Africa requires an increase in science and technology capacity, more skilled labor and applied research to increase technology absorption, raise total factor productivity, and generate new competitive sectors. Unsurprisingly, Africa is at the bottom of almost every knowledge economy indicator. For instance, it contributes 0.07 percent of global patents applications, an indication of the continent's lack of technological leadership. The region has some of the lowest researcher-to-population ratio in the world with 17 researchers in R&D per million people in Ghana, 38 in Nigeria and 45 in Burkina Faso compared to an average of about, 481 in Latin America, 1,714 in East Asia and Pacific and 2,664 in Europe and Central Asia. Improving these indicators is a concern for knowledge-based economic growth in Africa, and a gradual improvement should be targeted while addressing specific immediate skill shortages. Such investment would generate high quality professionals with higher order skills, entrepreneurial spirit, and research capacity, especially within science and technology fields. Part of the driving force of the East-Asian economic miracle was a dramatic buildup of a technical and technological workforce prepared by an ever-improving education and applied research system, in close coordination with well thought-out national and sector policies. These are also capacities which SSA requires for sustaining and further accelerating economic growth, and to address both health and agriculture related challenges. These capacities will also be important for diversifying the sub-Saharan African economies by increasing the likelihood of new economic growth sectors with higher value added. Few foresaw the creation of a US\$100 billion IT-Business Processing Outsourcing industry capable of sustaining an estimated 12 million middle-income jobs in India, when four Indian Institutes of Technology were established in the 1950s. There are, therefore, considerable medium and long term gains if the higher education institutions in West and Central Africa step up to the challenge and respond to immediate skills demands and needs.

### **Sectoral and institutional Context**

5. West and Central African countries face particular shortage of human resources and capacity within science, technology, engineering, and mathematics as well as agriculture and health disciplines. The current pattern of skills production does not match labor market demand or development needs. The percentage of graduates in areas of engineering, agriculture, health and science is extremely low. The result is that while graduates of many West and Central African higher educational institutions go unemployed, substantial shortages of skilled labor persist. The challenge is to increase both the quantity and the quality of graduates through investments in laboratories and human resources for these disciplines, improve the link with employers to raise relevance and foster strong international collaboration to raise quality.

6. Higher education in Western and Central Africa is under-developed and has been a low priority for the past two decades. Access to higher education for the relevant age group remains 5 percent, the lowest regional average in the world, just one-fifth of the global average of about 25 percent. Further, women are underrepresented in higher education, in particular in the science and technology fields. In regards to quality, not a single Western and Central African university features in the rankings of the world's best 500 academic institutions. Further, a backlog of reforms has accumulated over the last decades. A key consequence of underdeveloped higher education institutions is also high rates of outmigration of talent out of Africa in pursuit of training and research opportunities abroad. For example, the lack of post graduate training opportunities for

health workers in Africa within Obstetrics, Pediatrics, Infectious Diseases, General Surgery and Reproductive Health, are a primary reason why many health workers migrate abroad.

7. Lack of investment has meant that higher education institutions of West and Central Africa are currently not capable of responding to the immediate skill needs or supporting sustained productivity-led growth in the medium term. The reasons are a disconnect with the needs and skill demands of the economy, no critical mass of quality faculty, insufficient sustainable financing, and shortcomings in governance and leadership. More broadly, there is inadequate regional specialization of the higher education systems in Western and Central Africa. The full project documentation elaborates further on the causes and the opportunities for improvements.

8. A regional approach to higher education in Africa offers the best way to build and sustain excellence in higher education in African economies. Few, if any, Western and Central African countries have the persistent means to fund internationally competitive centers of excellence in the broad range of areas required for their economy. Regional specialization and coordination of investments is the only way that West and Central African countries can financially and academically develop quality provision of higher education in this broad range. Without coordinated investments, the region risks investing very scarce resources within the same areas, competing for the same faculty and producing similar knowledge. This would lead to wastage, failure to take advantage of economies of scale within higher education, and more importantly, leave the region with a number of lacunas in skill, knowledge and technology. A regional specialization of higher education will: (i) concentrate the limited available top-level faculty into a critical mass that can attain academic excellence; (ii) establish and sustain the necessary number centers of excellence to support the region's demand for specialized human capital and knowledge and (iii) generate increased knowledge and student flow across borders.

9. A regional approach would work best to focus on the few dynamic institutions with pockets of quality faculty that have already been responding innovatively by offering quality, fee-based, courses to students across West and Central Africa. Success factors for regional collaboration in higher education are (i) gains from collaboration through specialization, (ii) political emphasis on common standards, in the form of accreditation, and (iii) willingness to promote mobility of students and faculty. Institutions and centers within universities across West and Central Africa that already specialize in offering high level training in the areas of Science, Technology, Engineering and Mathematics (STEM), Agriculture and Health Sciences. Supporting these institutions will allow them to assist lifting quality of education in the region within their fields through partnerships, and allow them to compete with institutions based in high-income countries for African students capable of paying for quality education.

#### C. Higher Level Objectives to which the Project Contributes

10. The higher order objective is to meet the labor market demands for skills within specific areas where there are skill shortages affecting development, economic growth and poverty reduction. This will be monitored through the employment rate of graduates of supported institutions. Further, the project will, on a demand basis, invest in well performing universities that can start building a foundation for Africa to increase knowledge and technology absorption, and build knowledge-based competitive advantages. The project design is innovative and cross-sectoral. It is envisioned to herald in a new wave and modality of support to African higher education. The project will generate lessons on the impact of the following key aspects for Africa's higher

education: (i) creating a pattern of regional specialization among African universities; (ii) assisting African higher education institutions to tightly link their education and research with the region's development needs; (iii) results-based financing; (iv) develop dynamic institutions that gradually become more independent financially, managerially, and administratively, and (v) help African institutions meet international quality standards. Subsequent operations in West and Central or in Eastern and Southern Africa would benefit from these lessons.

11. The proposed higher education project is aligned with all the regional, country and World Bank strategies, notably: under Pillar 1 of the World Bank Africa Strategy Strengthening Competitiveness and Employment. This pillar includes a focus on investments in “areas of highest growth potential, a healthy and skilled workforce, women’s empowerment, and regional integration programs”. Consultations for the strategy revealed that education was the area in which the World Bank could make the biggest difference in helping Africa create jobs, confirming the urgent need to improve universities, increase academic contact with countries outside Africa, develop technical programs, and provide means to expand access to higher education. As the only regional project investing into human capital, it complements the current infrastructure-heavy portfolio of regional projects. The project forms part of the Regional Integration Assistance Strategy which coordinates interventions for regional public goods. This project is also included in the relevant Country Partnership Strategies for West Africa. Finally, the project is also aligned with the World Bank Strategy for Education: Learning for All. The project aligns with strategies of regional African organizations of ECOWAS and WAEMU. National development strategies across West and Central Africa increasingly emphasize higher education for development.

12. The World Bank is well placed to help West and Central African countries fill skills and knowledge needs through a systematic, targeted, and regional capacity building project with a longer term vision. First, the Bank currently supports four governments in the region within higher education. This gives an opportunity to integrate regional aspects into national programs, direct access for policy dialogue, and implementation support on the ground. Second, through its medium-term program for higher education, substantial expertise on financing, government and employability has been built up within higher education Africa-wide and can draw upon lessons from reform experiences in Latin America, and South and East Asia. Third, the Bank can pull together a cross-sectoral team with knowledge of specialized sector skill shortages, contacts to sector partners and companies. With this knowledge and cross-sectoral team, the Bank has developed a model to integrate an education program with regional and national sector programs within agriculture, health, extractive industries etc. Fourth, the Bank has a mandate from the African Union and collaborates with ECOWAS, WAEMU, among others, to support initiatives towards regional integration, and has harvested a number of lessons from regional projects in other sectors that has benefited the design of this program. Lastly, the Bank is collaborating with traditional bilateral development partners as well as new governmental and non-governmental development partners within this project.

## **II. Proposed Development Objectives**

The Project Development Objective is to promote regional specialization among participating universities in areas that address regional challenges by strengthening the capacities of these universities to deliver quality training and applied research.

## **III. Project Description**

### **Component Name**

Component 1: Strengthening Africa Centers of Excellence –US\$ 264 Million (97 percent of project cost) – IDA US\$ 132 Million (94 percent of IDA)

**Comments (optional)**

Component 1 -will strengthen 18 Centers of Excellence in selected higher education institutions to produce highly skilled graduates and applied research to help address specific regional development

**Component Name**

Component 2: Enhancing Regional Capacity, Evaluation and Collaboration – US\$ 8 Million (3 percent of project cost) - IDA US\$ 8 million (6 percent of IDA)

**Comments (optional)**

Component 2.1: Enhancing Regional Capacity and Evaluation (US\$ 5 Million)

Component 2.2 Demand-driven Regional Education Services (US\$ 3 Million)

#### IV. Financing (in USD Million)

Total Project Cost:	272.00	Total Bank Financing:	140.00
Financing Gap:	0.00		
<b>For Loans/Credits/Others</b>			<b>Amount</b>
BORROWER/RECIPIENT			132.00
International Development Association (IDA)			140.00
Total			272.00

#### V. Implementation

##### A. Institutional and Implementation Arrangements

22. Each selected institution will implement its own Africa Centers of Excellence sub-project. An ACE team is established, led by a Center leader who is a recognized educator/researcher within the primary discipline of the ACE and supported by senior faculty from the relevant engaged departments. Further, administrative capacity, most often from the institutions' central administration will assist with the fiduciary tasks. Partners, including international academics, are often represented in an advisory committee. Box 1 provides one typical example. Each ACE will sign a partnership agreement with its partners laying out the agreed partner activities for the project, and an annual workplan will agreed upon yearly.

The ACE will be headed by the Center Leader (CL), who will be in charge of the day-to-day running of the Center and will be assisted by the deputy Center Leader. The CL is based in the Center's Management Office (CMO), also home to 3 leaders representing the three research units working on the NTDs and the capacity building unit. They will be responsible for the management of the technical, scientific, and reporting aspects of their specific units. The ACE will operate semi-autonomous within the general structure of ABU in terms of day-to-day administration and financial management. Several departments and faculty of Admadu Bello University will contribute with complementary expertise in molecular research on selected NTDs to the research and training program of the ACE: Biochemistry, Biological Sciences, Veterinary Public Health & Preventive Medicine, Veterinary Medicine, Pharmaceuticals, Microbiology, Veterinary Parasitology and Entomology, and Pathology. The research, training and other academic activities of the Center will be planned and guided by a Steering Committee, which will be comprised of representatives on each NTD and key partner institutions, and an international scientific advisory board comprised of high

level international experts.

23. Each government will constitute a National Review Committee through the ministry or agency responsible for higher education. It is tasked with a semi-annual review of performance, withdrawal applications, and implementation planning and support, but with no day-to-day implementation or approvals. This committee will include members from Ministry of Finance, as well as relevant line ministries based on the focus area of the ACEs (e.g. agriculture, health, oil and gas etc.)

24. A Regional Facilitation Unit (RFU) hosted by the Association of African Universities (AAU) will be responsible for regional activities financed through component 2.1. A grant agreement between the World Bank and the AAU lays out the key activities of the RFU. Further, an annual workplan will be agreed between the WB, the ACEs, and the AAU, which details the AAU's expected work on capacity building, M&E, and convening of ACE meetings, including steering committee meetings. The RFU in AAU relies upon existing staff and resources in AAU and add specific required staffing, including an ACE deputy project facilitator that will be the day-to-day responsible for project implementation.

25. The full project documentation describes in detail the following implementation arrangements: An implementation unit in the Ministry of Primary and Secondary Education, government of The Gambia, will implement the sub-component 2.2, demand driven regional services. The ACE Steering Committee provides overall guidance and oversight for the project. ECOWAS participates in the Steering Committee and will lead the policy studies and capacity building on regional mobility of skilled labor and policy coordination within higher education. African diaspora are heavily integrated into implementation. Project implementation equally draws heavily on a large number of international, regional and national partners to achieve academic and development objectives. There is a strong willingness in Europe, Asia, and America to support African higher education. This project through the partnership funding and implementation arrangements seeks to provide a framework with accountability, clarity and large-scale investment to complement the tremendous potential of gains from academic exchange between African and other academics, both in terms of academic knowledge, but also in academic administration and teaching practices. The project also has a partnership with Carnegie Corporation for capacity building, as well as govt. of Australia within skills for mining.

## VI. Safeguard Policies (including public consultation)

<b>Safeguard Policies Triggered by the Project</b>	<b>Yes</b>	<b>No</b>
Environmental Assessment OP/BP 4.01	<b>x</b>	
Natural Habitats OP/BP 4.04		<b>x</b>
Forests OP/BP 4.36		<b>x</b>
Pest Management OP 4.09		<b>x</b>
Physical Cultural Resources OP/BP 4.11		<b>x</b>
Indigenous Peoples OP/BP 4.10		<b>x</b>
Involuntary Resettlement OP/BP 4.12		<b>x</b>
Safety of Dams OP/BP 4.37		<b>x</b>
Projects on International Waterways OP/BP 7.50		<b>x</b>
Projects in Disputed Areas OP/BP 7.60		<b>x</b>

## Comments (optional)

### VII. Contact point

#### World Bank

Contact: Andreas Blom  
Title: Lead Education Economist  
Tel: 458-7351  
Email: ablom@worldbank.org

#### Borrower/Client/Recipient

Name: Governments  
Contact:  
Title:  
Tel:  
Email:

#### Implementing Agencies

Name: Universities  
Contact:  
Title:  
Tel:  
Email:  
  
Name: Ministry of Higher Education  
Contact: Marcel Fouda  
Title: Advisor to the Minister of Higher Education  
Tel:  
Email: marcel.fouda@yahoo.fr

Name: National University Commission, Nigeria  
Contact: Joshua Attah  
Title: Director  
Tel: 2348058205408  
Email: joshatah@gmail.com

Name: Agency: National Commission for Tertiary Education, NCTE, Ghana  
Contact: Mahama Duweija  
Title: Executive Secretary  
Tel: 233-21-214-4100  
Email: mahama\_duwejua@yahoo.com

Name: Ministry of Higher Education, Senegal  
Contact: Oumar Sock  
Title: Director General  
Tel: 221-33-991-6813  
Email: oumarsock@yahoo.fr

Name: Ministry of Higher Education, Togo  
Contact: Prof. Koffi Mawunyo Agbenonto  
Title: Secretary General



Tel: 228-223-33-00  
Email: mlaurenta@yahoo.fr

Name: Ministry of Higher Education, Benin  
Contact: Martin Ogoussan  
Title: Deputy Director of Planning and Prospective  
Tel: 229-21-30-5857  
Email: ogoussanmartin@yahoo.Fr

Name: Ministry of Higher Education, Burkina Faso  
Contact: Ouiminga Salifou K  
Title: Directeur Recherche et Cooperation Universitaire  
Tel: 226-5049-6300  
Email: Salifou\_ouiminga@univ-ouaga.bf

Name: Economic Community of West Africa (ECOWAS)  
Contact: Roland Kouakou  
Title: Principal Programme Officer in charge of Science and Technol  
Tel: 234-805-820-5408  
Email: rolandkouakou1966@gmail.com

Name: Ministry of Basic and Secondary Education  
Contact: Baboucarr Bouy  
Title: Permanent Secretary  
Tel:  
Email: bbouy26@gmail.com

Name: Association of African Universities  
Contact: Etienne Ehile  
Title: Secretary General  
Tel: 233-21-214-100  
Email: Eehile@aau.org

#### **VIII. For more information contact:**

The InfoShop  
The World Bank  
1818 H Street, NW  
Washington, D.C. 20433  
Telephone: (202) 458-4500  
Fax: (202) 522-1500  
Web: <http://www.worldbank.org/infoshop>