

# Africa Centers of Excellence Project

## Environment and Social Management Plan

### PART I: Activity Description

#### A. Country and Sector Context

1. **The proposed regional project is a response to several individual requests from African governments, regional institutions, and universities. It is motivated by the rise in demand of specialized human capital within rapidly growing development sectors,** such as the extractive industries, energy, water, environment, infrastructure, and in service sectors, such as hospitality, banking, and ICT. This is a very positive development that drives up return to education and give opportunities for higher incomes. However, the African economies need to meet this unmet demand for highly skilled technicians, engineers, medical professionals, agricultural scientists and researchers, particularly in fast growing economies, in order to reap the high returns. Further, Africa trails other parts of the world in higher education and research. This is a medium term constraint for increased productivity and technology absorption, and for developing new competitive economic sectors that over time can diversify the African economies.

2. **The extractive industry is one of several examples, where almost all skilled positions (engineers, geologists, topologists etc) are currently filled by expatriates, and where governments sorely lack supervisory expertise.** The energy sector is also experiencing sustained demand for specialized engineers in the fields of hydropower, renewable energy and related fields. Another example is the lack of specialized health workers in critical areas like Maternal and Child Health – MDG4&5, or in treatment of infectious diseases. The lack of specialized human capital also pertains to the agricultural sector, where crop and animal scientists, as well as veterinarians, agronomists and biotechnologists within post farm areas of expertise have become a bottleneck in transforming agriculture in Africa.

3. **Current higher education systems in Africa lack the capacity to respond to these immediate skills needs.** The reasons are routed in the weak state of the under-developed tertiary education systems in Africa which expanded rapidly over the last two decades without matching increased funding and reforms in curricula, governance and management. Lack of a critical mass of quality faculty and excellence, insufficient sustainable financing, inappropriate governance and leadership, disconnect with the demands of the economy, inefficient and inadequate regional specialization and integration are key factors limiting capacity to respond to meet these skills needs. A number of countries have made important policy and funding changes to overcome these barriers, and in a few countries higher education has expanded significantly, such as Mauritius and Kenya, and flagship institutions are gradually emerging.

**4. With the progress in basic education and strong economic growth, strategic investments in quality higher education to address critical skills shortages is needed in order to sustain this growth.** Given resource limitations, investment in select universities to generate high quality professionals with higher order skills, entrepreneurial spirit, and establish a minimum research capacity, especially within life sciences, hard sciences, engineering and technology is inevitable.

**5. A regional approach to higher education in Africa offers a cost effective approach to build responsiveness and excellence in higher education in Africa in priority areas such as Science Technology, Engineering and Mathematics (STEM), Agriculture and Health Sciences.** It would encourage regional specialization, concentrate the limited top-level faculty, generate knowledge spill-over, and be cost-efficient by leveraging economies of scale. This is not easily attainable at the country wide level, especially as quality universities require expensive equipment and facilities, as well as a critical mass of high-quality faculty. Few if any African countries will have the persistent means to fund centers of excellence. Regional collaboration and division of labor/investments can enable groups of African countries to financially sustain quality universities in the range of specific disciplines required for their development. Without coordinated regional specialization-for example if each countries were to invest in an uncoordinated manner-the region risks investing very scarce resources for higher education within the same areas, fighting for the same faculty and producing similar knowledge. This would lead to overlap and more importantly, leave the region with a number of skill, knowledge and technology gaps. Regional centers of excellence would have a specific mandate to educate regionally, share knowledge, education know-how, and access to expensive learning resources regionally. The value of regional collaboration in higher education has long term been recognized in Africa particularly at the Bachelor (first degree levels), but the experienced has been mixed. A renewed regional approach will therefore have to take these lessons into account.

## **B. Project Development Objectives**

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

## **C. Project Description**

7. **The project consists of two components.** Component 1 will aim to strengthen the capacity of competitively selected institutions to establish Africa Centers of Excellence (ACE). These ACEs will deliver regional, demanded, quality training and applied research in partnerships with regional and international academic institutions and in partnership with relevant employers and industry. Component 2 consists of regional activities to build capacity, support project implementation, monitor and evaluate, and develop regional policies. Further, component 2 will, in a demand-driven manner, finance the ACEs strengthened under component 1 to scale-up support to selected West African countries without any Africa Centers of Excellence.

## **Component 1: Strengthen Africa Centers of Excellence – IDA US\$ 138 million**

8. **Component 1 will strengthen 15 Centers of Excellence in selected higher education institutions to produce highly skilled graduates and applied research to help address specific regional development challenges.** Centers of Excellence draw on specialized departments and faculty in higher education institutions (universities) in West and Central African countries in disciplines related to STEM, Agriculture and Health. The number of Centers of Excellence per country and sector supported and strengthened under this component is shown below. The maximum grant amount awarded to each Centre of Excellence is US\$ 8 million.

9. **Selected institutions will implement their own Centre of Excellence proposal aiming to help address a specific regional development challenge through preparation of professionals (education), applied research and associated outreach activities with partners.** Each selected institution will sign a performance and funding contract with the government which states the following: At least 15 percent of the funding must be invested in the partnerships, and at least 10 percent must be invested in partnerships activities with non-national African partners. Further, civil works will be limited to 25 percent of the grant. This agreement will include the government's planned commitments for continued funding of institutional staff as part of the funding and performance agreement. Within that, institutions will have autonomy to implement their own institutional specific proposal which encompasses the following five elements:

- Enhance capacity to deliver regional high quality training to address the development challenge.
- Enhance capacity to deliver applied research to address the regional development challenge.
- Build and use industry/sector partnerships
- Regional and international academic partnerships
- Enhance governance and management

## **Component 2: Enhancing Regional Capacity Building, Evaluation, Facilitation and Collaboration – IDA US\$ 7 million**

- **Component 2.1 Enhancing Regional Capacity Building and Evaluation.** This sub-component will support: (i) capacity building, knowledge sharing and coordination; (ii) undertake regional monitoring and evaluation; (iii) build capacity for regional policy making, and (vi) activities required for regional project facilitation and steering.
- **Component 2.2 Demand-driven Regional Education Services.** This sub-component seeks to increase regional use and benefit from the strengthened ACEs under component 1 in a demand-driven manner.

### **D. 4. Project location and salient physical characteristics relevant to the safeguard analysis (if known)**

The Project will be located in the following 14 institutions of higher learning:

Nigeria:

- African Centre of Excellence for Genomics of Infectious Diseases, Redeemers University, Mowe, Ogun State/University of Ibadan

- PAN African Materials Institute (PAMI), African University of Science and Technology, Abuja,
- Centre for Agricultural Development and Sustainable Environment, Federal University of Agriculture, Abeokuta
- Centre of Excellence on Neglected Tropical Diseases and Forensic Biotechnology, Ahmadu Bello University, Zaria
- Phytomedicine Research and Development, University of Jos
- Centre for Excellence in Reproductive Health and Innovation, University of Benin
- ACE Centre for Oil Field Chemicals, University of Port Harcourt

Ghana:

- West African Center for Cell Biology of Infectious Pathogens (WACCBIP), University of Ghana Legon
- Developing WACCI into an African Centre of Excellence for training plant breeders, seed scientists and seed technologists, University of Ghana, Legon
- Regional Centre of Excellence for Water and Environmental Sanitation, Kumasi, Kwame Nkrumah University of Science and Technology, Kumasi

Senegal:

- Centre d'Excellence Africain : SANTE DE LA MERE ET DE L'ENFANT, Université Cheikh Anta Diop Dakar

Togo:

- Centre d'excellence régional sur les sciences aviaires (CERSA), Université de Lomé Lomé, Togo

Benin:

- Centre d'Excellence Africain en Sciences Mathématiques et Applications du Bénin, Université d'Abomey– Calavi, Porto-Novo

Burkina Faso:

- Centre d'Excellence pour la formation et la recherche en Sciences et Technologies de l'Eau, l'Energie et l'Environnement en Afrique de l'Ouest et du Centre, International d'Ingénierie de l'Eau et de l'Environnement (2iE), Ouagadougou

Cameroon:

- Centre d'excellence en Technologies de l'information et de la Communication (CETIC), Université de Yaoundé I Yaoundé

## E. Institutional and Implementation Arrangements

10. **Each selected institution will implement its own Africa Centers of Excellence proposal.** Further, administrative capacity, most often from the institutions' central administration will assist with the fiduciary tasks. 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 faculty from the relevant engaged departments. The university will be responsible for the implementation of the environment management plan under the supervision of the national review committee and the World Bank team. In countries where a related project implementation unit with experience of World Bank safeguard guidelines exists, this unit will provide guidance to the implementing university.

11. **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 and implementation support, including approvals of withdrawal applications and implementation planning (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.).

12. The regional ACE Steering Committee will provide overall guidance and oversight for the project.

**F. Environmental screening, assessment and management and World Bank applicable environment policies**

13. **Environmental impacts are expected to be low to moderate.** The Environmental Assessment category is B (Partial Assessment), and OP/BP 4.01(Environmental Assessment) is triggered. There will be some rehabilitation and extensions of the selected institutions. The need for new construction will be assessed as part of the project preparations. There will be no new land acquisition for the Centers of Excellence; the project will select existing institutions. In general, the project will focus on quality enhancements of the Centers of Excellence, which primarily requires "softer items" i.e. faculty and curriculum development, and learning resources, while construction will be capped at maximum 25 percent of the funding, and the rationale for proposed new construction will be scrutinized to ensure such construction is critical for excellence. A clear rule on the maximum extent of civil works allowed under the project will be established in the operational manual and the subsidiary agreements between the governments and the universities. Further, ESMPs have been prepared and disclosed for each candidate institution to manage environmental and social impacts based on the submitted proposals. For in some cases (3 out of the 15 regionally-funded Centers), the civil works are so minor and localized that they can be guided by national and local laws and procedures, and therefore no ESMP has been developed. The prepared ESMPs are disclosed in country and on the World Bank infoshop website. In addition, a general set of best practice guidelines for environmental and social management was disclosed in the region in the early stages of project preparation.

**G. Environmental Management Approach**

14. **For all regionally funded ACE proposals the attached EMP checklist has been completed and disclosed at the institutional website to comply with environmental safeguards.** In some cases (3 out of the 15 regionally-funded Centers), the civil works are so minor and localized that they can be guided by national and local laws and procedures, and therefore no ESMP has been developed

**H. Monitoring and reporting**

15. **Each Africa Center of Excellence will have its own monitoring and reporting requirements.** This will be consolidated and reported through the general reporting requirements for the national review committee and the World Bank supervisory team to monitor on a regular basis.

## AFRICA CENTER OF EXCELLENCE (ACE) PROJECT

S/ N	Center Name	Status	Issues	Additional Ref. Section	Mitigation Measures
1	<b>Nigeria</b> -African Center of Excellence for Genomics of Infectious Diseases (ACEGID)-Redeemers University	Yes[ <input checked="" type="checkbox"/> ]	1. New construction <ul style="list-style-type: none"> <li>• Excavation impacts and soil erosion</li> <li>• Increase sediment loads in receiving waters</li> <li>• Site specific vehicular traffic</li> <li>• Increase in dust and noise from demolition and/or construction</li> <li>• Construction waste</li> </ul>	<b>Section B</b> <i>General Rehabilitation and /or Construction Activities</i>	Air Quality <ul style="list-style-type: none"> <li>(a) During interior demolition use debris-chutes above the first floor</li> <li>(b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust</li> <li>(c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site</li> <li>(d) Keep surrounding environment (side walks, roads) free of debris to minimize dust</li> <li>(e) There will be no open burning of construction / waste material at the site</li> </ul> There will be no excessive idling of construction vehicles at sites
					Noise <ul style="list-style-type: none"> <li>(a) Construction noise will be limited to restricted times agreed to in the permit</li> </ul> During operations the engine covers of generators, air compressors and other powered mechanical equipment should be closed, and equipment placed as far away from residential areas as possible
			2. Handling / management of medical waste <ul style="list-style-type: none"> <li>• Clinical waste, sharps, pharmaceutical products (cytotoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste</li> <li>• On site or <input checked="" type="checkbox"/> off-site disposal of medical waste</li> </ul>	<b>Section H</b> <i>Disposal of medical waste</i>	Infrastructure for medical waste management <ul style="list-style-type: none"> <li>(a) In compliance with national regulations the contractor will insure that newly constructed and/or rehabilitated health care facilities include sufficient infrastructure for medical waste handling and disposal; this includes and not limited to:                             <ul style="list-style-type: none"> <li>▪ Special facilities for segregated healthcare waste (including soiled instruments “sharps”, and human tissue or fluids) from other waste disposal:                                     <ul style="list-style-type: none"> <li>a. Clinical waste: yellow bags and containers</li> <li>b. Sharps – Special puncture resistant containers/boxes</li> <li>c. Domestic waste (non-organic): black bags and containers</li> </ul> </li> <li>▪ Appropriate storage facilities for medical waste are in place; and</li> </ul> </li> <li>(b) If the activity includes facility-based treatment, appropriate disposal options are in place and operational</li> </ul>