Projet de Centre d'Excellence Africain
Plan de gestion environnementale et social
/
Africa Centers of Excellence Project
Environment and Social Management Plan

For low-risk topologies, an alternative to the commonly used "full text" EMP format is to have a checklist approach. The goal is to provide a more streamlined approach to preparing EMPs. This checklist-type format is a "pragmatic good practice" approach to be user friendly and compatible with safeguard requirements.

The checklist-type format attempts to cover typical mitigation approaches to common low-risk topologies with minimal temporary localized impacts. It is anticipated that this format provides the key elements of an Environmental Management Plan (EMP) to meet World Bank Environmental Assessment requirements under World Bank safeguard policies.

The EMP template format has two parts:

- **Part I:** constitutes a descriptive part ("site passport") that describes the project specifics in terms of physical location, the institutional and legislative aspects, the project description, inclusive of the need for a capacity building program and description of the public consultation process. This section could be up to two pages long. Attachments for additional information can be supplemented if needed.
- **Part II:** includes the environmental and social screening in a simple Yes/No format (Section A) followed by proposed mitigation measures for any given activity (Section B) and a template for a monitoring plan for activities during project construction and implementation (Section C). It retains the same format required for standard World Bank EMPs.

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 rational 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.

Part II :	**EMP Checklist for Activities**

AFRICA CENTER OF EXCELLENCE (ACE) PROJECT

S/N	Center Name	Status	Issues	Additional Ref. Section	Mitigation Measures
1	**SENEGAL -**Centre d'Excellence Africain : SANTE DE LA MERE ET DE L'ENFANT (CEA-SAMEF),	Yes[√]	1. Réhabilitation de bâtiment • Trafic de véhicules propre au site • Augmentation du volume de poussière et de bruit en raison des activités de démolition et/ou construction Déchets de construction	section **B** (*Activités générales de réhabilitation et/ou de construction)*	Qualité de l'air : (a) Pendant les activités de démolition d'intérieur, des dispositifs de collecte de débris doivent être utilisés à partir du premier étage (b) Les débris de démolition doivent être maintenus dans une zone contrôlée et de l'eau doit être pulvérisée afin de réduire la poussière des débris (c) Éliminer la poussière pendant les activités de forage pneumatique et de destruction des murs moyennant vaporisation continue d'eau et/ou installation d'écrans anti-poussière sur le site (d) Maintenir le milieu environnant (trottoirs, routes) libre de débris, afin de minimiser la quantité de poussière (e) Aucun feu à l'air libre de matériaux de construction/déchets ne sera effectué sur le site. Les véhicules de construction ne s'attarderont pas excessivement sur les sites
					Bruit : (a) Le bruit des activités de construction sera restreint à l'horaire convenu dans le permis (b) Pendant leur fonctionnement, les couvercles des moteurs des générateurs, des compresseurs d'air et d'autres équipements mécaniques devront être fermés, et les équipements seront placés aussi loin que possible des zones résidentielles.
					Qualité de l'eau : (a) Le site mettra en place des mesures appropriées de contrôle de l'érosion et des sédiments, comme des balles de foin et/ou des barrières de limons afin de prévenir le déplacement des sédiments du site et la génération d'une turbidité excessive dans les cours d'eau et rivières avoisinantes.

					Gestion des déchets : (a) Les voies d'acheminement et les sites pour la collecte et l'élimination des déchets seront identifiées pour les principaux types de déchets habituellement générés par les activités de démolition et de construction. (b) Les déchets minéraux de construction et de démolition seront séparés des déchets généraux, des déchets organiques, liquides et chimiques moyennant un tri effectué sur le site et seront placés dans des conteneurs appropriés. (c) Les déchets de construction seront recueillis et éliminés de manière appropriée para des ramasseurs agréés (d) Des registres d'élimination des déchets seront maintenus comme justificatifs pour la gestion appropriée prévue. (e) Les cas échéant, le contractant réutilisera et recyclera les matériaux appropriés et viables (à l'exception de l'amiante)
		Yes[√]	2. Substances dangereuses ou toxiques[1] • Retrait et élimination de déchets de démolition et/ou construction toxiques et/ou dangereux Entreposage d'huiles et lubrifiants pour machines	section **F** (*Substances toxiques*)	Gestion de l'amiante : (a) Si de l'amiante est détectée sur le site du projet, elle doit être signalée clairement comme substance dangereuse (b) Si possible, l'amiante sera confinée de manière appropriée et scellée afin de minimiser l'exposition (c) Avant son retrait (si un tel retrait est nécessaire), l'amiante sera traitée avec un agent humidifiant afin de minimiser la quantité de poussière d'amiante (d) L'amiante sera traitée et éliminée par des professionnels qualifiés et expérimentés (e) Si des matériaux contenant de l'amiante doivent être entreposés de manière temporaire, les déchets doivent être placés en toute sécurité dans des conteneurs fermés et signalés de manière appropriée L'amiante retirée ne sera pas réutilisée
					Gestion des déchets toxiques/dangereux : (a) L'entreposage temporaire sur le site de toutes substances dangereuses ou toxiques sera effectué dans des conteneurs sûrs indiquant les données de composition, les propriétés et les informations de manipulation desdites substances (b) Les conteneurs de substances dangereuses doivent être placés dans un conteneur étanche aux fuites afin de prévenir tout écoulement et toute fuite (c) Les déchets sont transportés par des transporteurs spécialement agréés et sont éliminés sur un site habilité à cet effet. Les peintures contenant des ingrédients ou des solvants toxiques ou les peintures à base de plomb ne seront pas utilisées

[1] Les substances toxiques/dangereuses comprennent, à titre non exhaustif, l'amiante, les peintures toxiques, les produits d'élimination de peinture à base de plomb, etc.

2	**Cameroun -** Centre d'excellence en Technologies de l'Information et de la Communication (CETIC) de l'Université de Yaoundé I,	Yes[√]	1. Réhabilitation de bâtiment • Trafic de véhicules propre au site • Augmentation du volume de poussière et de bruit en raison des activités de démolition et/ou construction • Déchets de construction	section **B** (*Activités générales de réhabilitation et/ou de construction*)	Qualité de l'air : (a) Pendant les activités de démolition d'intérieur, des dispositifs de collecte de débris doivent être utilisés à partir du premier étage ***Oui, en se conformant aux pratiques standards*** (b) Les débris de démolition doivent être maintenus dans une zone contrôlée et de l'eau doit être pulvérisée afin de réduire la poussière des débris ***Oui, en se conformant aux pratiques standards*** (c) Éliminer la poussière pendant les activités de forage pneumatique et de destruction des murs moyennant vaporisation continue d'eau et/ou installation d'écrans anti-poussière sur le site ***Oui, en se conformant aux pratiques standards*** (d) Maintenir le milieu environnant (trottoirs, routes) libre de débris, afin de minimiser la quantité de poussière ***Oui, en se conformant aux pratiques standards*** (e) Aucun feu à l'air libre de matériaux de construction/déchets ne sera effectué sur le site ***Oui, en se conformant aux pratiques standards*** (f) Les véhicules de construction ne s'attarderont pas excessivement sur les sites ***Prévoir des fiches de check in à l'entrée et de check out à la sortie des véhicules de sorte à apprécier la durée de séjour sur le site de chacun d'eux et à réajuster en cas de nécessité***
					Bruit : (a) Le bruit des activités de construction sera restreint à l'horaire convenu dans le permis ***On se conformera à la typologie des activités en fonction des impacts produits. Ce qui consistera à placer certaines activités dans des créneaux horaires précis.*** (b) Pendant leur fonctionnement, les couvercles des moteurs des générateurs, des compresseurs d'air et d'autres équipements mécaniques devront être fermés, et les équipements seront placés aussi loin que possible des zones résidentielles

					Qualité de l'eau : (a) Le site mettra en place des mesures appropriées de contrôle de l'érosion et des sédiments, comme des balles de foin et/ou des barrières de limons afin de prévenir le déplacement des sédiments du site et la génération d'une turbidité excessive dans les cours d'eau et rivières avoisinantes. ***Tout ce qui est diluant, huiles usagés, restes de peinture sera rangé dans des récipients appropriés. Une structure compétente sera chargée de la récupération et du traitement selon un périodicité précisée ou en fonction des quantités produites.***
					Gestion des déchets : (a) Les voies d'acheminement et les sites pour la collecte et l'élimination des déchets seront identifiées pour les principaux types de déchets habituellement générés par les activités de démolition et de construction. (b) Les déchets minéraux de construction et de démolition seront séparés des déchets généraux, des déchets organiques, liquides et chimiques moyennant un tri effectué sur le site et seront placés dans des conteneurs appropriés. (c) Les déchets de construction seront recueillis et éliminés de manière appropriée para des ramasseurs agréés (d) Des registres d'élimination des déchets seront maintenus comme justificatifs pour la gestion appropriée prévue. (e) Les cas échéant, le contractant réutilisera et recyclera les matériaux appropriés et viables (à l'exception de l'amiante) ***Tous les types de déchets produits en fonction des différentes activités seront identifiés. Leurs quantités seront évaluées ainsi que les moyens de traitement appropriés. Les bacs spécialisés et les récipients appropriés sont prévus aux lieux indiqués*** ***Des mesures seront prises pour prévenir les déversements accidentels et le cas échéant les prendre en charge promptement***

		Yes[√]	2. Substances dangereuses ou toxiques[2] • Retrait et élimination de déchets de démolition et/ou construction toxiques et/ou dangereux Entreposage d'huiles et lubrifiants pour machines	section **F** (*Substances toxiques*)	Gestion de l'amiante ***(NON APPLICABLE) :*** (a) Si de l'amiante est détectée sur le site du projet, elle doit être signalée clairement comme substance dangereuse (b) Si possible, l'amiante sera confinée de manière appropriée et scellée afin de minimiser l'exposition (c) Avant son retrait (si un tel retrait est nécessaire), l'amiante sera traitée avec un agent humidifiant afin de minimiser la quantité de poussière d'amiante (d) L'amiante sera traitée et éliminée par des professionnels qualifiés et expérimentés (e) Si des matériaux contenant de l'amiante doivent être entreposés de manière temporaire, les déchets doivent être placés en toute sécurité dans des conteneurs fermés et signalés de manière appropriée L'amiante retirée ne sera pas réutilisée Gestion des déchets toxiques/dangereux ***(Peinture et diluant uniquement) :*** (a) L'entreposage temporaire sur le site de toutes substances dangereuses ou toxiques sera effectué dans des conteneurs sûrs indiquant les données de composition, les propriétés et les informations de manipulation desdites substances (b) Les conteneurs de substances dangereuses doivent être placés dans un conteneur étanche aux fuites afin de prévenir tout écoulement et toute fuite (c) Les déchets sont transportés par des transporteurs spécialement agréés et sont éliminés sur un site habilité à cet effet. Les peintures contenant des ingrédients ou des solvants toxiques ou les peintures à base de plomb ne seront pas utilisées
3	**Ghana** West African Center for Cell Biology of Infectious Pathogens (WACCBIP)	Yes[√]	3. New construction • Excavation impacts and soil erosion • Increase sediment loads in receiving waters • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	**Section B** *General Rehabilitation and /or Construction Activities*	Air Quality (a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (side walks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites

[2] Les substances toxiques/dangereuses comprennent, à titre non exhaustif, l'amiante, les peintures toxiques, les produits d'élimination de peinture à base de plomb, etc.

					Noise (a) Construction noise will be limited to restricted times agreed to in the permit 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
					Water Quality (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
					Waste Management (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
		Yes[√]	4. Handling / management of medical waste • Clinical waste, sharps, pharmaceutical products (cytoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste • On site or √off-site disposal of medical waste	**Section H** *Disposal of medical waste*	Infrastructure for medical waste management (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: ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal: a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational

4	**Ghana:** Regional Water and Environmental Sanitation Centre, Kumasi	Yes[√]	5. Building rehabilitation • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste 6. New construction • Excavation impacts and soil erosion • Increase sediment loads in receiving waters • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	**Section B** *General Rehabilitation and /or Construction Activities*	Air Quality (a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (side walks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites
5	**Ghana:** African Centre of Excellence for training plant breeders, seed scientists and seed technologists	Yes [√]	7. Building rehabilitation • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste		Noise (a) Construction noise will be limited to restricted times agreed to in the permit 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
					Water Quality (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.

					Waste Management (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)
6	**Nigeria-**Center of Excellence in Phytomedicine-University of Jos	Yes[√]	8. Building rehabilitation • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	**Section B** *General Rehabilitation and /or Construction Activities*	Air Quality (a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (side walks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites
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					Waste Management (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)

		Yes[√]	9. Handling / management of medical waste • Clinical waste, sharps, pharmaceutical products (cytoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste • On site or √off-site disposal of medical waste	**Section H** *Disposal of medical waste*	Infrastructure for medical waste management (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: ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal: a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and ▪ If the activity includes facility-based treatment, appropriate disposal options are in place and operational
7	**Nigeria-**Centre of Excellence in Reproductive Health and Innovation (CERHI)-University of Benin, Benin City. Nigeria	Yes[√]	10. New construction • Excavation impacts and soil erosion • Increase sediment loads in receiving waters • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	**Section B** *General Rehabilitation and /or Construction Activities*	Air Quality (a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (side walks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites

		Yes[√]	11. Handling / management of medical waste • Clinical waste, sharps, pharmaceutical products (cytoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste • On site or √off-site disposal of medical waste	**Section H** *Disposal of medical waste*	Infrastructure for medical waste management (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: ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal: a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and (b) If the activity includes facility-based treatment, appropriate disposal options are in place and operational
					Water Quality (a) The site will establish appropriate erosion and sediment control measures such as e.g. hay bales and / or silt fences to prevent sediment from moving off site and causing excessive turbidity in nearby streams and rivers.
					Waste Management (a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities. (b) Mineral construction and demolition wastes will be separated from general refuse, organic, liquid and chemical wastes by on-site sorting and stored in appropriate containers. (c) Construction waste will be collected and disposed properly by licensed collectors (d) The records of waste disposal will be maintained as proof for proper management as designed. Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)

8	**Nigeria**-African Center of Excellence for Genomics of Infectious Diseases (ACEGID)-Redeemers University	Yes[√]	12. New construction • Excavation impacts and soil erosion • Increase sediment loads in receiving waters • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	**Section B** *General Rehabilitation and /or Construction Activities*	Air Quality (a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (side walks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites
					Noise (a) Construction noise will be limited to restricted times agreed to in the permit 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
			13. Handling / management of medical waste • Clinical waste, sharps, pharmaceutical products (cytoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste • On site or √off-site disposal of medical waste	**Section H** *Disposal of medical waste*	Infrastructure for medical waste management (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: ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal: a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and (b) If the activity includes facility-based treatment, appropriate disposal options are in place and operational
9	**Nigeria**-Africa Center of Excellence for Neglected Tropical Diseases and Forensic Biotechnology-ABU Zaria	Yes[√]	14. Building rehabilitation • Site specific vehicular traffic • Increase in dust and noise from demolition and/or construction • Construction waste	**Section B** *General Rehabilitation and /or Construction Activities*	Air Quality (a) During interior demolition use debris-chutes above the first floor (b) Keep demolition debris in controlled area and spray with water mist to reduce debris dust (c) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site (d) Keep surrounding environment (side walks, roads) free of debris to minimize dust (e) There will be no open burning of construction / waste material at the site There will be no excessive idling of construction vehicles at sites

					Noise (a) Construction noise will be limited to restricted times agreed to in the permit 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
10	**Nigeria-**Pan African Materials Institute -AUST	Yes[√]	Individual wastewater treatment system		Water Quality (a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Monitoring of new wastewater systems (before/after) will be carried out
		Yes[√]	15. Hazardous or toxic materials • Removal and disposal of toxic and/or hazardous demolition and / or construction waste • Storage of machine oils and lubricants	**Section F** *Toxic Materials*	Toxic / hazardous waste management (a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching (c) The wastes are transported by specially licensed carriers and disposed in a licensed facility. Paints with toxic ingredients or solvents or lead-based paints will not be used
		Yes[√]	16. Handling / management of medical waste • Clinical waste, sharps, pharmaceutical products (cytoxic and hazardous chemical waste), radioactive waste, organic domestic waste, non-organic domestic waste • On site or √off-site disposal of medical waste	**Section H** *Disposal of medical waste*	Infrastructure for medical waste management (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: ▪ Special facilities for segregated healthcare waste (including soiled instruments "sharps", and human tissue or fluids) from other waste disposal: a. Clinical waste: yellow bags and containers b. Sharps – Special puncture resistant containers/boxes c. Domestic waste (non-organic): black bags and containers ▪ Appropriate storage facilities for medical waste are in place; and (e) If the activity includes facility-based treatment, appropriate disposal options are in place and operational

11	**Nigeria** Center for Agriculture Development and Sustainable Development-Federal University of Agriculture, Abeokuta	Yes[√]	17. Hazardous or toxic materials • Removal and disposal of toxic and/or hazardous demolition and / or construction waste • Storage of machine oils and lubricants	**Section F** *Toxic Materials*	Toxic / hazardous waste management (a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labeled with details of composition, properties and handling information (b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching (c) The wastes are transported by specially licensed carriers and disposed in a licensed facility. Paints with toxic ingredients or solvents or lead-based paints will not be used
		Yes[√]	Individual wastewater treatment system		Water Quality (a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities (b) Before being discharged into receiving waters, effluents from individual wastewater systems must be treated in order to meet the minimal quality criteria set out by national guidelines on effluent quality and wastewater treatment (c) Monitoring of new wastewater systems (before/after) will be carried out

12	**Togo**: Centre d'excellence regional sur les sciences aviares	Yes[√]	18. Réhabilitation de bâtiment • Trafic de véhicules propre au site • Augmentation du volume de poussière et de bruit en raison des activités de démolition et/ou construction • Déchets de construction 19. Réhabilitation de bâtiment • Impacts de l'excavation et érosion des sols • Augmentation des charges sédimentaires dans les eaux réceptrices • Trafic de véhicules propre au site • Augmentation du volume de poussière et de bruit en raison des activités de démolition et/ou construction Déchets de construction	section **B** (*Activités générales de réhabilitation et/ou de construction)*	Qualité de l'air : (a) Pendant les activités de démolition d'intérieur, des dispositifs de collecte de débris doivent être utilisés à partir du premier étage (b) Les débris de démolition doivent être maintenus dans une zone contrôlée et de l'eau doit être pulvérisée afin de réduire la poussière des débris (c) Éliminer la poussière pendant les activités de forage pneumatique et de destruction des murs moyennant vaporisation continue d'eau et/ou installation d'écrans anti-poussière sur le site (d) Maintenir le milieu environnant (trottoirs, routes) libre de débris, afin de minimiser la quantité de poussière (e) Aucun feu à l'air libre de matériaux de construction/déchets ne sera effectué sur le site. Les véhicules de construction ne s'attarderont pas excessivement sur les sites
					Bruit : (a) Le bruit des activités de construction sera restreint à l'horaire convenu dans le permis (b) Pendant leur fonctionnement, les couvercles des moteurs des générateurs, des compresseurs d'air et d'autres équipements mécaniques devront être fermés, et les équipements seront placés aussi loin que possible des zones résidentielles.

					Qualité de l'eau : (a) Le site mettra en place des mesures appropriées de contrôle de l'érosion et des sédiments, comme des balles de foin et/ou des barrières de limons afin de prévenir le déplacement des sédiments du site et la génération d'une turbidité excessive dans les cours d'eau et rivières avoisinantes.
					Gestion des déchets : (a) Les voies d'acheminement et les sites pour la collecte et l'élimination des déchets seront identifiées pour les principaux types de déchets habituellement générés par les activités de démolition et de construction. (b) Les déchets minéraux de construction et de démolition seront séparés des déchets généraux, des déchets organiques, liquides et chimiques moyennant un tri effectué sur le site et seront placés dans des conteneurs appropriés. (c) Les déchets de construction seront recueillis et éliminés de manière appropriée para des ramasseurs agréés (d) Des registres d'élimination des déchets seront maintenus comme justificatifs pour la gestion appropriée prévue. (e) Les cas échéant, le contractant réutilisera et recyclera les matériaux appropriés et viables (à l'exception de l'amiante)