

**African Centers of Excellence - II Project proposal**

**Environment and Social Management Plan (ESMP)**



**Project title: Establishment of an East African Center for Crop Improvement at Makerere University (MaCCI), Uganda**

**January 2016<sup>1</sup>**

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<sup>1</sup> Stakeholder consultation took place on 12 January 2016

## **PART I: Activity Description**

### **1. Introduction**

Low agricultural productivity in Eastern and Southern Africa leads to recurrent, chronic food insecurity, poor nutrition, and poverty for a significant proportion of the population. This low productivity can result from unimproved crop varieties; biotic and abiotic stresses; a lack of access to quality seeds, fertilizer, and other inputs; and poor agronomy. Conversely, the use of improved crop varieties by Africa's smallholder farmers can substantially boost their production in response to local and international demand for food and nutritional security. However, there is a critical shortage of well-trained crop scientists and plant breeders at the PhD level, in particular considering the multiple crops and agro-climatic zones in the region. The proposed *Makerere University Center for Crop Improvement* (MaCCI) will strengthen and expand a regional PhD program in Plant Breeding and Biotechnology that was initiated in 2008 by Makerere University and its partners. Makerere's MSc program has been highly successful, but a lack of funding and other resources have prevented the PhD program from reaching its full potential.

### **2. Project Objective**

The overarching goal of the MaCCI is to expand, strengthen, and transform the PhD PBB program following the pattern of the highly successful MSc PBSS. Thus, the Center will provide Eastern and Southern African (ESA) nations with industry-ready plant breeders who can use cutting-edge science to develop and deliver new food crop varieties. These breeders are urgently needed throughout this region in order to improve food security, nutrition, rural incomes, poverty reduction, and economic development. Specifically, MaCCI will (1) Strengthen the training and research capacity in plant breeding and biotechnology within the region, and enhance regional and international collaboration, (2) Improve the content and delivery of the curriculum, in order to provide a strong theoretical and scientific foundation with an applied focus on product delivery. The curriculum will serve both the ESA private and public sectors (3) Increase the capacity and sustainability of Makerere University's regional program in plant breeding, in order to bring expertise together in one place. This will transform the program into the premier post-graduate training center of excellence for crop improvement in Africa (4) Train 30 new PhD-level plant breeders from the ESA region. Some students will be selected for full funding, and others will enroll with part or all of their own funding.

### **3. Project description:**

Basic training and teaching infrastructure exist at the project location at the University's Research Institute at Kabanyolo. However, these need to be expanded and/renovated to better support teaching excellence. The following facilities have been identified for renovation and rehabilitation, namely, Seed quality Lab, students and visiting staff accommodation, Screen-houses, improvements and equipment at existing Molecular Biology & Microbiol labs.

The creation of a seed quality/plant health laboratory is important to enhance teaching excellence in plant breeding. Consultants from Iowa State University's Seed Science Center (ISU SSC) and experts from North Carolina State University (NCSU) will visit the Makerere campus and assist in identifying objectives and developing a plan for a seed testing facility. This facility will be used to train students in the basics of seed testing and seed health as well as to meet the needs of local researchers. The consultants will recommend appropriate seed testing equipment, facilitate the procurement process, advice on installation and procedures, and ensure that the facility is fully operational. Once operational, MaCCI leadership will assess the feasibility of making services publicly available for a fee.

An enhanced Bioinformatics Training Facility will be added at the existing molecular biology laboratory in addition to general improvements to building. This will be used to incorporate local learning exercises into the PhD Bioinformatics course, and be available for an MSc-level short course. Consultants from Cornell University and elsewhere will help plan and procure the equipment, identify the local staff training required, and be involved in continuing assessments and improvements of equipment needs, staff capabilities, procedures, and training methods. With advice from consultants, other facilities related to seed handling and storage will be improved to contribute to the teaching and research programs. These include a greenhouse, seed store, molecular lab, and field equipment (e.g., irrigation systems).

To contribute to the distance learning component of course delivery, MaCCI will develop videoconferencing capabilities in consultation with Cornell University and others. This activity will define the needs and costs, identify specific equipment and services, and identify providers of bandwidth. After initial setup, activities will focus on improving performance and seeking a lower-cost bandwidth provider if needed. Videoconferencing will also facilitate meetings of the student guidance committees or other meetings involving participants from other locations.

The expected increased number of students will require, expanded accommodation and lecture space. There are about 6-8 old buildings whose structures appear sound but that would need to be over-hauled - including but not limited to power & plumbing installation, painting and other improvement as found appropriate. Similar, a small guest-house that cater for visiting professors participating in the program will need to be renovated to take care of about 4 - 5 visitors at any one time at the project campus.

#### **4. Environment and social Footprint/Impact**

The project aims at training students using modern instructional methods and developing their core skills. To do this, appropriate teaching and research infrastructure needs to be built. The environmental footprint of the proposed activities is mainly local while the social footprint will extend regionally when the center is fully operational. The project site is in an existing training institution located the Makerere University Agricultural Research Institute at Kabanyolo (MUARIK) about 21 km from main campus and the location has no local or international conflicts or disputes, is accepted by the local host and workers in the location. Given the size of the proposed project and its location, the foreseen environmental and social risks and impacts are very minimal to negligible. The negative impacts are localized, site specific and easily manageable.

## **5. Policy, Legal and Administrative Framework**

The phases of the proposed project that include preparation, construction and implementation are guided by national environmental legislation and the World Bank operational safeguard policies OP/BP 4.01 and OP/BP 4.12. The project will maintain compliance to the above requirements throughout the project lifecycle.

## **6. Relevant World bank Policies**

Two World Bank operational safeguard policies OP/BP 4.01 (*Environmental Assessment*) and OP/BP 4.12 (*Involuntary Resettlement*) are applicable to this project, due to minor civil works and temporary resettlement of the residents of the houses to be renovated under the project. The prepared ESMP therefore is a demonstration of compliance to the World Bank safeguard requirements.

## **7. Implementation Arrangements**

The Center's general management will be administered through the College of Agricultural and Environmental Sciences at Makerere University. The Principal of the College, designated as the Center Director (CD), will provide overall oversight to MaCCI activities. Day-to-day operations will be managed by the Deputy Center Director (DCD), who is the Project Manager (PI). The DCD will provide regular technical and financial reporting as prescribed by the ACE II program. The DCD will oversee administrative procedures, coordinate academic affairs, and organize regular meetings with all collaborating partners, especially in regard to the students' progress toward their research goals in the various collaborating breeding programs.

The CD/Principal of the College of Agricultural and Environmental Sciences is the designated accounting officer for MaCCI at Makerere University. He/she will be kept abreast of progress through regular meetings with the DCD, personal participation in project meetings,

and receipt of project technical and financial reports. Using experience in previous projects, the MaCCI management team has identified the following improvements to existing management structures that will increase administrative efficiency.

First, a steering committee will be convened that is composed of representatives from Makerere University, U.S. partnering institutions, partner universities, National Agricultural Research Institutes (NARIs), seed companies, and CGIAR centers. The steering committee will meet at least once a year to guide the project planning, implementation, and progress in delivering critical outputs and outcomes. Regional organizations such as AGRA and RUFORUM, which are already heavily involved on capacity building, will be included in the steering committee leadership.

The Center management will follow an implementation plan that addresses both Makerere University and ACE II reporting requirements, as well as arrangements agreed upon with cooperating partners.

A competent Administrative Officer (AO) will be recruited to support the DCD in human resource management. The AO will be involved in the following duties:

- (1) Supporting students/partners with guidance on routine university procedures such as student registration, linkage to faculty internet, library access, etc.
- (2) Supporting students/partners in their compliance with immigration issues, obtaining appropriate medical insurance, and banking access
- (3) Arranging for students/partners accommodations and other conveniences
- (4) Arranging logistics for visiting lecturers
- (5) Making logistical arrangements for key functions of the Center, e.g., proposal defenses, progress reports, seminars, and other functions

The DCD, with the help of the AO, will be responsible for regular financial reporting following ACE II's reporting schedule. A standard accounting package, Ledger Works, will be acquired to improve management of project funds. A separate project bank account will be opened and maintained throughout the life of the project.

There may also be modest quarterly advances of funds to project partners (where students are attached for research) for costs incurred by students during field work, based on the mutual agreement of the partners. A separate detailed agreement of cooperation with the partners for such remittances will be developed, limiting the total remittance to an amount that will permit other necessary research expenses without exceeding the amount designated for each student's research costs.

## **8. Environmental and Social Screening, assessment and management**

The preparation of the ESMP was based on the Environment and Social Management Plan for ACE, specifically sections C,D and E and the Screening form in Part II and Annex A(public Consultations)

## **9. Potential Environmental and Social Impacts**

The impacts are mainly site specific in nature, localized and are negligible. Potential impacts include domestic wastes because of anticipated increase in student population, laboratory wastes, dust and noise. The ESMP has adequate provision for the mitigation of all possible impacts.

## **10. Environment and Social management Approach**

The ACE proposal has attached EMP checklist that has been completed and disclosed at the institutional website to comply with environmental and social safeguard. The project team at Makerere University will work in consultation with the World Bank team to implement the ESMP. The Team at Makerere University has adequate knowledge on safeguard to implement the ESMP recommendations. Furthermore the contractor for the project will be required, as a part of contract, to implement specific environment and social mitigations during construction phases of the project. Since the site already has workers and other nearby activities such as a school, the community will be involved through awareness programme on safety and health to avoid accidents and other anticipated impacts. The construction work areas will be restricted, vehicle/trucks movements controlled, hazard and safety signposts installed, noise and dust levels minimized by implementing appropriate mitigation measures.

## **11. Monitoring and reporting**

Monitoring and evaluation activities within MaCCI will contribute to all four project objectives, ensuring that development objectives are achieved. The results of the MaCCI Cmonitoring and evaluation activities will be the accomplishment of performance-based indicators, such as number of students enrolled and staff hired, facilities becoming fully operational, etc. Disbursement of funding will depend on meeting these indicators to the extent feasible.

*Strengthen training and research capacity and enhance regional and international collaboration*, will be evaluated by documenting the increase in staff; the capacity of active facilities and their usage in teaching and research (measured by hours of use, number of personnel

using each facility, and projects using each facility); and the increase in enrolled students from the region and an evaluation of the quality of their research projects. This data will be collected annually. Regional and international partnerships will also be documented.

*Improve the content and delivery of curriculum*, will be evaluated by the number of revised and new courses offered (residential or blended), the number of students taking each course, the content of each course, and feedback on the quality of courses based on student and faculty surveys. This data will be collected after the end of each course offering.

Increase the capacity and sustainability of Makerere University's regional program in plant breeding, will be measured by the number of new staff members who were initially grant funded but were moved to Makerere's payroll, the quality of staff as evaluated by University evaluation policies, and the activity of regional and international partners. This data will be collected annually. At the end of the project, industry, university, and employer partners will be surveyed on the quality of the students' education and research.

*Train 30 new PhD-level plant breeders* will be measured by graduation rates. The level of sponsorship of these students will be documented.

For overall Center activities, the monitoring and evaluation strategy (M&E) will address issues of compliance, progress monitoring, and learning within the project and with other actors. Specifically, by assessing adaptive competencies and resulting outcomes of performance, the M&E framework will assure (1) continued project relevance to outcomes, and (2) project quality. Continuous reference will be made to the Center's overall activities, input, and outcome framework using various levels of project results to ensure that key milestones are efficiently achieved. This will ensure the greatest impact on education and research excellence and a strong regional program and collaborative partnerships.

The Principal Investigator and Deputy Center Director (Dr. Richard Edema) will manage the project. The DCD will promote frequent contact (telephone, e-mails, visits, meetings) between the students and supervisors to monitor student progress, to facilitate the student's ongoing research, and to provide additional training experiences for the student. Collaborating partners, who include leading scientists and managers of seed companies, will host student research and other training activities as part of the students' training. In close collaboration with the University supervisors and project core team, these partners will backstop and provide all necessary technical

guidance for conducting field research activities. Regular scientific interaction will be ensured through monthly meetings, or as may be necessary, to assure quality of research and to address any scientific matters arising during the course of the study. These meetings will monitor progress and achievement of targets by individual students and their field supervisors.

**(Details contacts of persons involved to be provided once project is initiated)**

<b>PART A: INSTITUTIONAL &amp; ADMINISTRATIVE</b>	<b>ESMP monitoring arrangements (names, Title, contact )</b>		
Institutional arrangement (Name and Contact	ACE-II RUF/WB officer	Center Director/ DCD-PI of Project	Others - contractor & service providers
Implementation Arrangement (Name & Contacts)	Safeguard supervision (ACE-II RUF/WB officer)	Center Director/ DCD-PI of Project	Others - contractor & service providers
Site Description: Makerere University Research Institute, Kabanyolo (MUARIK)			
<b>Name of Site</b>			
Location of site	<ul style="list-style-type: none"> <li>• Rural</li> <li>• Planned</li> <li>• Low income surrounding</li> </ul>	GPS reference NA36-14.	
Land ownership	Land is owned by Makerere University		
Geographical description	The location at Kabanyolo is in Wakiso District close to Kampala City (21 km). It is easily assessable via the city road network. However the road within Kabanyolo is unpaved		
<b>Legislation</b>			

Identify nation-al & local legislation & permits that apply to project activity	The policy and legislation is presented below – in separate table
Public Consultation	
	Public consultation used participatory appraisal and it was conducted on 12 January 2015 at Kabanolo. Stakeholders involved were the workers, students.

### Policy and legislation relevant to the project activities

	<b>ACT/STATUTE</b>
1	The Constitution of the Republic of Uganda, 1995
2	The National Environment Act CAP 153, 2000
4	The Water Act CAP 152, 2000
5	The Public Health Act 2000
9	Local Governments Act, 1997
10	The National Wetland Policy, 1995
11	Land Act 1998
16	Water Resources regulation, 1998
17	Water Supply Regulations, 1999
18	The Water (Waste Discharge Regulations), 1998

	<b>STANDARDS/REGULATIONS</b>
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i)	The Environmental Impact Assessment Regulations, 1998
ii)	The National Environment (waste Management) Regulations, 1999
iii)	The National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations, 1999
iv)	The National Environment Instrument (Delegation of Waste Water Discharge Functions), 2000
vi)	The National Environment (Designation of Environmental Inspectors) Notice, 2001
vii)	The National Environment (Management of Ozone Depleting Substances and Production) Regulations, 2001
viii)	The Sewerage Regulations, 1999
ix)	The National Environment(Noise Standards and Control) Regulations, 2004
x)	Agricultural chemicals (Registration and control) Regulations 1994
Xi	Employment Act CAP 219, 2000
xii	National Social Security Fund Act CAP 222, 2000
xiii	Trade Union Act CAP 224, 2000

## PART II

<b>ENVIRONMENTAL and SOCIAL SCREENING</b>			
	<b>Activity and potential issues and/or impacts</b>	<b>Status</b>	<b>Additional references</b>
	1. Building rehabilitation	[ X ] Yes [ ] No	See Section B below

Will the site activity include/involve any of the following issues and/or impacts:	<ul style="list-style-type: none"> <li>• Site specific vehicular traffic</li> <li>• Increase in dust and noise from demolition and/or construction.</li> <li>• Construction waste</li> </ul>		
	2. 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>	[ X ] Yes [ ] No	See Section B below
	3. 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 off-site disposal of medical waste.</li> </ul>	[ ] Yes [X ] No	See Section E below
	4. Hazardous or toxic materials <ul style="list-style-type: none"> <li>• Removal and disposal of toxic and/or hazardous demolition and/or construction waste</li> <li>• Storage of machine oils and lubricants</li> <li>• Storage , removal and disposal/ incineration of laboratory wastes</li> </ul>	[ X ] Yes [ ] No	See Section D below

	<ul style="list-style-type: none"> <li>• Storage, removal and disposal of old equipment</li> </ul>		
	5. Domestic solid waste <ul style="list-style-type: none"> <li>• Storage, removal/transportation and disposal</li> <li>• Treatment of domestic waste</li> </ul>	[ X ] Yes [ ] No	See Section D & E below
	6. Traffic and Pedestrian Safety <ul style="list-style-type: none"> <li>• Site specific vehicular traffic</li> <li>• Site is in populated area (working and schooling area)</li> <li>• Traffic accidents, dust and noise</li> </ul>	[ X ] Yes [ ] No	See Section F below
	7. Individual wastewater treatment system <ul style="list-style-type: none"> <li>• Effluent and / or discharges into receiving waters</li> </ul>	[ X ] Yes [ ] No	See Section C below
	8. Land and Water <ul style="list-style-type: none"> <li>• Creation of standing water pools on construction site</li> <li>• Water abstraction for construction work</li> <li>• Land use practices associated with the project</li> </ul>	[ X ] Yes [ ] No	See Section G below

ACTIVITY	PARAMETER	GOOD PRACTICES MITIGATION MEASURES CHECKLIST
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<b>A. General Conditions</b>	Notification & Worker Safety	<ul style="list-style-type: none"> <li>(a) Consult with the Regional Steering Committee and World Bank Task Team to discuss activities and the due diligence requirements</li> <li>(b) The local construction and environment inspectorates and communities have been notified of upcoming activities</li> <li>(c) The public has been notified of the works through appropriate notification in the media and/or at publicly accessible sites (including the site of the works)</li> <li>(d) All legally required permits (to include not limited to land use, water use, resource use, dumping, sanitary inspection permit) have been acquired for proposed activity</li> <li>(e) All work will be carried out in a safe and disciplined manner designed to minimize impacts on the environment and neighbouring residents</li> <li>(f) Workers' personal protective equipment (PPE) will comply with international good practice (always hardhats, as needed masks and safety glasses, harnesses and safety boots)</li> <li>(g) Appropriate signposting of the sites will inform workers of key rules and regulations to follow.</li> </ul>
<b>B. General Rehabilitation and /or Construction Activities</b>	Temporary resettlement	<ul style="list-style-type: none"> <li>(a) Moving assistance to be provided to the residents temporary relocated from the houses to be rehabilitated under the project. Assistance is to be provided and reported on before beginning of civil works on these houses.</li> </ul>
	Air Quality	<ul style="list-style-type: none"> <li>(b) During interior demolition use debris-chutes above the first floor</li> <li>(c) Keep demolition debris in controlled area and spray with water mist to reduce debris dust</li> <li>(d) Suppress dust during pneumatic drilling/wall destruction by ongoing water spraying and/or installing dust screen enclosures at site</li> <li>(e) Keep surrounding environment (sidewalks, roads) free of debris to minimize dust</li> <li>(f) There will be no open burning of construction / waste material at the site</li> <li>(g) There will be no excessive idling of construction vehicles at sites</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>(a) Construction noise will be limited to restricted times agreed to in the permit</li> <li>(b) 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</li> </ul>
	Water Quality	<ul style="list-style-type: none"> <li>(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</li> </ul>

	Waste Management	<p>(a) Waste collection and disposal pathways and sites will be identified for all major waste types expected from demolition and construction activities.</p> <p>(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.</p> <p>(c) Construction waste will be collected and disposed properly by licensed collectors</p> <p>(d) The records of waste disposal will be maintained as proof for proper management as designed.</p> <p>(e) Whenever feasible the contractor will reuse and recycle appropriate and viable materials (except asbestos)</p>
<b>C.</b> Individual waste water treatment system	Water Quality	<p>(a) The approach to handling sanitary wastes and wastewater from building sites (installation or reconstruction) must be approved by the local authorities</p> <p>(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</p> <p>(c) Monitoring of new wastewater systems (before/after) will be carried out</p>
<b>D.</b> Toxic Materials	Asbestos management	<p>(a) If asbestos is located on the project site, mark clearly as hazardous material</p> <p>(b) When possible the asbestos will be appropriately contained and sealed to minimize exposure</p> <p>(c) The asbestos prior to removal (if removal is necessary) will be treated with a wetting agent to minimize asbestos dust</p> <p>(d) Asbestos will be handled and disposed by skilled &amp; experienced professionals</p> <p>(e) If asbestos material is be stored temporarily, the wastes should be securely enclosed inside closed containments and marked appropriately</p> <p>(f) The removed asbestos will not be reused</p>
	Toxic / hazardous waste management	<p>(a) Temporarily storage on site of all hazardous or toxic substances will be in safe containers labelled with details of composition, properties and handling information</p> <p>(b) The containers of hazardous substances should be placed in an leak-proof container to prevent spillage and leaching</p> <p>(c) The wastes are transported by specially licensed carriers and disposed in a licensed facility.</p> <p>(d) Paints with toxic ingredients or solvents or lead-based paints will not be used</p>
<b>E.</b> Disposal of medical waste	Infrastructure for medical	<p>(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:</p>

	waste management	<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> <p>If the activity includes facility-based treatment, appropriate disposal options are in place and operational</p>
<b>F. Traffic and pedestrian safety</b>	Direct or indirect hazards to public traffic and pedestrians by construction activities	<p>(a) The contractor shall provide the University with a traffic management plan including temporary loss of roadway, blockage due to deliveries and site related activities, including a description of the anticipated service disruptions, community information plan, and traffic control strategy to be implemented so as to minimize the impact to the surrounding community. This plan shall consider time of day for planned disruptions, and shall include consideration for access to essential services such as medical, disaster evacuation, and other critical services. The plan shall be approved by the participating university and RFU.</p> <p>(b) In compliance with national regulations the contractor will insure that the construction site is properly secured and construction related traffic regulated. This includes but is not limited to access and near-site heavy traffic. Provision of safe passages and crossings for pedestrians where construction traffic interferes with people or livestock movement</p>
<b>G. Land and Water</b>	General land and water uses	<p>(a) Under no circumstances shall the contractor permit the collection of standing water as a consequence of contractor activities without the approval of the University.</p> <p>(b) Internationally accepted good land use practices in place to minimize land degradation, and /or siltation in waterways</p> <p>(c) Minimize excessive groundwater extraction and put in place appropriate conservation of water measures which can contribute to significant water savings</p>

<b>PART C: MONITORING PLAN</b>							
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<b>Phase</b>	<b>What ( Is the parameter to be monitored)</b>	<b>Where ( Is the parameter to be monitored)</b>	<b>How ( Is the parameter to be monitored)</b>	<b>When (Define the frequency / or continuous?)</b>	<b>Why( Is the parameter being monitored)</b>	<b>Cost ( If not included in project budget )</b>	<b>Who ( Is responsible for monitoring)</b>
During activity preparation	Resettlement of persons living in the houses to be renovated Safe disposal of used equipment and other items	Onsite and new residences  Onsite	Measure of acceptability after resettlement  Numerical counts and inspection of safe disposal	Once  Once	Proof of resettlement  For safe disposal of items with possible harm to environment		Project manager, Makerere university official  Project manager Used equipment disposal expert
During activity implementation	Water quality  Air quality  Waste disposal	Offsite/nearby streams and rivers  Onsite and areas surrounding the site	Water quality tests including mineral load and microorganisms population enhancement  Air quality indicators such as percentage of dust/carbon	Twice a year during the project life time  Twice monthly	Ensure safe water for use by downstream populations  Environmental experts		Hydrological and water quality experts Project manager  Project manager Site engineer

		On site Dumping site/land fills	monoxide and other industrial gases.  Identify type and amount of waste and if properly disposed	Monthly especially after dumping	Soil experts Environm ental experts		Site engineer Project manager
During activity supervision	All the arising issues during preparation and implementation	Onsite/offsite	Inventory of mitigation measures and environmental management plans	Once	All teams		Project manager and consultant

## ANNEX A : PUBLIC CONSULTATIONS

Uganda – East African Center for Crop Improvement	Date of consultative meeting	Stakeholders present	Issues raised	Response to the issues
	12-1-16	Tweyambe C- (Assistant Farm Manager)	Issues raised are summaries in table on « Environmental and Social Screening »	Issues raised are summaries in table on « Environmental and Social Screening »
	12-1-16	Wesiga Jimmy- (Farm Manager)		
	12-1-16	Dr. Stephen Lwasa (Assistant Farm Manager)		
	12-1-16	Ahangaana Julius (Assistant Farm Manager)		
	12-1-16	Achola Esther (MSc.Student)		
	12-1-16	Msiska Mercy (PhD Student)		
	12-1-16	Alice Candia (Project Administrative Assistant)		
	12-1-16	Oriba Alice (MSc Student)		
	12-1-16	Namasaka Roy (MSc Student)		
	12-1-16	Alladassi M.Elyse Boris (MSc Student)		
	12-1-16	Awio Bruno (MSc Student)		
	12-1-16	Agoyi Eric(PhD Student)		
	12-1-16	Saul Eric Mwale(MSc Student)		
	12-1-16	Winnifred Akech ( Laboratory Technologist)		

