German Financial Cooperation with the Global Crop Diversity Trust

**Project:** Capitalisation of the endowment fund of the Global Crop Diversity Trust and strengthening of national seedbanks

Consultancy: Assessment of status quo and provision of technical specifications for upgrading the infrastructure, equipment and services of five national genebanks in Africa

**IMPORTANT CLARIFICATIONS**

**Employer:**
Global Crop Diversity Trust

August 2021

**BMZ Nr.:** 2018 01 141
Request for Proposals (RFP): 
Assessment of status quo and provision of technical specifications for upgrading the infrastructure, equipment, and services of three national genebanks in Africa

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Title: Finance and Procurement Officer
Email Address: procurement@croprust.org

RESPONSE DUE:
31 August 2021 23:59 CET
1 **OBJECTIVE OF THIS CLARIFICATION**

The objective of this Clarification is to bring more clarity to the TORs with respect to the expected outputs of the consultancy.

2 **SECTIONS OF THE TORs AFFECTED**

A summary of the affected sections is presented below:

<table>
<thead>
<tr>
<th>SECTION NO. and DESCRIPTION</th>
<th>CLARIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. DESCRIPTION OF LOTS, TASKS, TENTATIVE TIMEFRAMES AND DELIVERABLES</td>
<td>Removal of two bullet points on Lot 2 - Kenya and Lot 3 - Zambia. The concerned bullet points have been indicated by stricken out. See pages 8 and 10. Lot 1 – Ethiopia has not been affected because these had already been removed. Effect: The scope of the work will not include assisting Crop Trust in the evaluation of the Tender for the equipment to be procured after this consultancy.</td>
</tr>
<tr>
<td>3. DESCRIPTION OF LOTS, TASKS, TENTATIVE TIMEFRAMES AND DELIVERABLES</td>
<td>On Deliverables for ALL Lots: Addition of a row outlining the Minimum Expectations, which are: i. For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO; ii. For all repair or works-related items: clear sub-itemised Bills of Quantities indicating unit cost for each input in EURO; iii. For all designs, a complete set of drawings; and iv. Drawings of any proposed infrastructure improvements.</td>
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</tbody>
</table>
PART A: TERMS OF REFERENCE (TORs)

CLARIFICATION DETAILS
TERMS OF REFERENCE (TORs) – Extracts of affected sections

3 DESCRIPTION OF LOTS, TASKS, TENTATIVE TIMEFRAMES AND DELIVERABLES

This work, splits into three lots, will be done at three national genebanks, namely Ethiopia, Kenya, and Zambia over an estimated ten (10) working days per national genebank. The ten days comprises six (6) days for work at the national genebank and four (4) days for remote work including planning and preparation of report.

Lot 1 - ETHIOPIA

The work is in three components namely a) refrigeration and air-conditioning consultancy, b) solar energy assessment and c) fire alarm, maintenance, and risk management assessment.

a) Refrigeration and air-conditioning assessment

The refrigeration and air-conditioning consultant is to provide written specialist advice on:

- the status of the existing Munters dryers of the drying chamber (is it serviceable with a further five years lifespan and if so, what repairs are necessary?).
- the status of the chilling within the drying circuit of the drying chamber (is it serviceable with a further five years lifespan?).
- the status of the refrigeration plant for cold rooms 1, 2 and 3. Refer Figure 1 below. Are they serviceable with a further five years lifespan and if so, what repairs are necessary?
- the status of the thermal and moisture insulation properties of the drying chamber and cold rooms 1-6.
- the status of the control unit for the drying chamber and cold rooms.
- the air-conditioning for the room selected to act as the germination room.
- the external control boxes.
- the 'outside of condition' alarms and external sounders for drying chamber.
- the required servicing of the equipment and the stock of spare parts that should be held.
- the replacement of the drying chamber (currently 24m²) in its existing space (?) to include: walls and ceiling constructed of interlocking high quality insulated panels (200 mm would provide maximum insulation) and incorporating an air lock; an insulated floor; insulated doors with vision panels; paired Munters dryers feeding into the room via ductwork and a chilling system; an external control panel linking to outside of condition alarms and sounders; LED lighting and electrical sockets. The room needs to be capable of maintaining 15% (± 5%) relative humidity and 15°C (± 3°C).
- the replacement of cold rooms 1 (53m³), 2 (73m³) and 3 (100m³) in their existing spaces (possible?) to include: walls and ceiling constructed of interlocking high quality insulated panels; an insulated non-slip floor; insulated doors with vision panels; paired refrigeration systems for each room; de-icing drains; pressure-equalisation valves; an external control panel linking to 'outside of condition alarms and sounders; and low temperature lighting.
- The practicalities of replacing the oldest three rooms (rooms 1-3) and likely cost as a notional cost to cover importation of the construction materials and equipment. With Rooms 1-3 wedged between Rooms 5 and 4, removal of the middle three rooms could cause structural damage to the surrounding rooms. It should be noted that replacement of these rooms would not provide any extra storage space. With the proposed doubling of the collection during the next 20 years, EBI needs to consider where this expansion space will be located.

Figure 1: EBI cold room’s plan
Core tasks to be carried out by the consultant:
- Short visit to the premises of the EBI, to understand the performance requirements expected of the improvements in infrastructure, power supply and new equipment in operating the drying and cold rooms (6 days including travel)
- technical specifications (for tenders)
- advise for which pieces of equipment manufacturer should be required
- reconcile the specifications with selected project consultants and responsible staff at the Crop Trust

b) Solar energy assessment
To facilitate the shift to energy efficiency and alternative energy sources, the design of a solar energy system is required. Such design should consider the feasibility and applicability of solar energy for the genebank, recommend investment into energy efficiency and alternative energy options with the full cost as well as providers.

c) Fire alarm, maintenance, and risk management assessment
The design of a fire alarm system is needed including the provision of the fire alarms, external sounders, and the required maintenance schedule:

This design should address:
- the provision of fire alarms & external sounders.
- their required maintenance schedules.
- staff capacity building needs in fire procedures

Deliverables:
## Deliverables (in English):

<table>
<thead>
<tr>
<th>Re: Refrigeration and Air Conditioning Assessment</th>
<th>Minimum Expectations</th>
<th>Deadlines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Written specialist advice and technical specification on:</td>
<td>For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO</td>
<td>Three weeks after contract signature</td>
</tr>
<tr>
<td>• Existing Munters dryers</td>
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<td>• Chilling within the drying circuit of the drying chamber</td>
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<tr>
<td>• Refrigeration plant for cold rooms 1, 2 and 3</td>
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<tr>
<td>• Status of the thermal and moisture insulation properties of the drying chamber and cold rooms 1-6</td>
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<tr>
<td>• Control unit for the drying chamber and cold rooms.</td>
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<td>• Air-conditioning for the germination room.</td>
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<tr>
<td>• External control boxes.</td>
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<tr>
<td>• Alarms and external sounders for drying chamber.</td>
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<tr>
<td>• Equipment servicing and spare parts stock</td>
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<tr>
<td>• Upgrade of the drying chamber</td>
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<tr>
<th>Re: Fire Alarm, Maintenance and Risk Management Assessment</th>
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<tbody>
<tr>
<td>The design of the fire alarm system should address:</td>
<td>For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO</td>
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<tr>
<td>• The provision of fire alarms &amp; external sounders.</td>
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<td>• Their required maintenance schedules.</td>
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<td>• Staff capacity building needs in fire procedures</td>
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<tr>
<th>Re: Solar Energy Assessment</th>
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<th>Deadlines</th>
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<tbody>
<tr>
<td>• Design of a proposed solar energy system.</td>
<td>For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO</td>
<td>Three weeks after contract signature</td>
</tr>
<tr>
<td>• Make an estimate of the solar energy potential at the site of the National Genebank and provide technical specifications of the recommend investment into energy efficiency and an alternative energy option with the full cost as well as providers.</td>
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<tr>
<td>• Identify adequate solar power equipment according to the potential and needs identified.</td>
<td>For all repair or works-related items: clear sub-itemised Bills of Quantities indicating unit cost for each input in EURO</td>
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<td></td>
<td>For the design of the solar energy system: a complete set of drawings</td>
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</table>
Lot 2 - KENYA

The work is in four components namely a) refrigeration and air-conditioning, b) solar energy, c) fire alarm and d) structural survey assessments.

a) Refrigeration and air-conditioning assessment
The refrigeration and air-conditioning consultant will provide specialist expertise on resolving the issues for the drying unit, cold rooms, germination room, growth room, any short-term storage, generator, alarms, and sounders that is described in this section.

The basis of the refrigeration and air-conditioning consultancy is to assess the following:

- the status of the existing Munters dryer of the drying unit (is it serviceable with a further five years lifespan?).
- the status of air cooling within the drying unit.
- the status of the refrigeration plant for the cold rooms (is it serviceable with a further five years lifespan?).
- the status of the thermal and moisture insulation properties of the drying unit and cold rooms.
- the status of the control units for the drying unit and cold rooms.
- provision (if needed) of air-conditioning for the room selected to act as the germination room.
- provision (if needed) of air-conditioning for the area selected for seed reception / short-term storage.
- the status of the growth room and what would be required to make it serviceable with controlled temperature.
- provision of 'outside of condition' alarms and external sounders for drying unit and cold rooms.
- advise on the status of the generator and on the provision of fire alarms and sounders.
- the required servicing of the equipment and the stock of spare parts that should be held on site.

Core tasks to be carried out by the consultant:
- short visit to the premises of GeRRI, in order to understand the performance requirements expected of the improvements in infrastructure, power supply and new equipment in operating the drying and cold rooms within the timeframe as above.
- technical specifications (for tenders)
- advise for which pieces of equipment manufacturer should be required
- reconcile the specifications with the selected project consultant and responsible staff at the Crop Trust
- provide support to the Crop Trust in answering technical questions from bidders during the tendering process that will be organised by the Crop Trust
- in the evaluation of the tender, assess whether deviations of bidders from the specifications are minor or major and allocate a price to the deviations

b) Solar energy assessment
A solar energy assessment needs to be conducted to facilitate the shift to energy efficiency and alternative energy sources. The task of this consultancy is to estimate the solar energy potential at the site of the national genebank, conducting an energy audit, recommend investment into energy efficiency and an alternative energy option with the full cost as well as providers.

c) Fire alarm assessment
There are no functioning alarms within the current building which is a particular concern with respect to fire. A fire alarm consultancy is needed to provide written specialist advice on the provision of fire alarms and external sounders and the required maintenance schedule.

d) Structural survey assessment
A structural survey consultancy to provide written advice on the structural soundness of the conservation unit, including the proposed seed handling area and the installation of external door(s) and windows in the seed packaging station is needed.

Deliverables:
### Deliverables (in English): Minimum Expectations Deadlines

#### Re: Refrigeration and Air Conditioning Assessment

Written specialist advice and technical specification on:
- Assessment report on existing equipment and needed replacement, repair/renovation, construction.
- List of manufacturer/supplier/service provider for each equipment to be tendered

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#### Re: Fire Alarm Assessment

The design of the fire alarm system should address:
- The provision of fire alarms & external sounders.
- Their required maintenance schedules.
- Staff capacity building needs in fire procedures

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<td>For the design of a fire alarm system: a complete set of drawings</td>
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</table>

#### Re: Solar Energy Assessment

- Design of a proposed solar energy system.
- Providing technical descriptions and recommend investment into energy efficiency and an alternative energy option with the full cost as well as providers.
- Identify appropriate solar power equipment according to the potential and needs identified

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<td>For the design of the solar energy system: a complete set of drawings</td>
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RFP: Technical specifications for upgrading the infrastructure, equipment and services of five national genebanks in Africa

Terms of Reference (TORs)

Re: Structural Survey Assessment
Written advice and technical descriptions on the structural soundness of the conservation unit including the proposed seed handling area and the installation of external door(s) and windows in the seed packaging station, including the construction of the proposed seed handling area.

For all items to be replaced and/or procured: clear quantities and technical specifications for the equipment recommended for purchase and where possible an estimated cost in EURO

For all repairs-related items: clear Bills of Quantities sub-itemising the works to be done and an estimated cost in EURO

Drawings of the proposed infrastructure improvements.

Three weeks after contract signature

Lot 3 - ZAMBIA

The work is in four components namely a) generator and electrical, b) refrigeration and air-conditioning, c) solar energy, and d) fire alarm assessments.

a) Generator and electrical assessment
Investigate the faulty automatic switch-over and propose the best technical solution. In the regular maintenance regime, record keeping by introducing a check list for inspection is of importance to be instituted. Furthermore, make a list of spare parts needed to be procured.

b) Refrigeration and air-conditioning assessment
The refrigeration and air-conditioning assessment should provide written specialist advice on:

Drying room
The consultant will focus on upgrades to get the drying room functioning by:
- determining the problems with the control panel
- determining the serviceability of the components (dryer, refrigeration, insulation, control panel and alarms) of this drying room
- addressing the need for technical advice across a range of equipment and facilities that need to be upgraded.

Seed storage
Six upright deep-freezers will be added to the seed storage unit, therefore a consultancy is needed for:
- checking and assessing the adequacy of the electrical circuitry in the building, with more deep freezers included
- propose the best solution for dissipating the excess heat produced by the deep-freezers from the seed storage room(s), natural convection has to be reinforced by air-conditioners, with sufficient capacity for the planned increase of deep freezers during the next 10 years. The room should be supplied with a high temperature alarm linked to an external sounder.

Core tasks to be carried out by the consultant:
- short visit to the premises of the NPGRC, in order to understand the performance requirements expected of the improvements in infrastructure, power supply and new equipment in operating the drying and cold rooms
- technical specifications (for tenders)
- advise which pieces of equipment manufacturer should be required
- reconcile the specifications with the selected project consultant and responsible staff at the Crop Trust
- provide support to the Crop Trust in answering technical questions from bidders during the tendering process
c) Solar energy assessment
The objective of the solar energy assessment is to estimate the solar energy potential at the site of the national genebank, conduct an energy audit, recommend investment into energy efficiency and an alternative energy option with the full cost as well as provider.

d) Fire alarm assessment
The nearest fire station is 20 km away. Therefore, tackling any fire (if safe to do so) needs to be done locally by staff and security. Currently, there is only one fire extinguisher. Sufficient and adequate firefighting equipment to deal with electrical and other fires needs to be provided and staff and security trained accordingly.

A fire alarm assessment should provide written specialist advice on the provision of fire alarms and external sounders as well as the required maintenance schedule.

**Deliverables:**

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<tr>
<td>• The status of the existing Munters dryer of the drying room (is it serviceable with a further five years lifespan?).</td>
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<tr>
<td>• The status of the chiller plant within the drying circuit of the drying room (is it serviceable with a further five years lifespan?).</td>
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<tr>
<td>• The status of the thermal and moisture insulation properties of the drying room. Repair or replacement of the control unit for the drying room.</td>
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<tr>
<td>• The status of air-conditioning in the seed store containing the deep freezers (is it sufficient for the task and is their sufficient spare capacity in the event of one unit breaking down?).</td>
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<tr>
<td>• Provision (if needed) of air-conditioning for the room selected to act as the germination room.</td>
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<td>• Provision of 'outside of condition' alarms and external sounders for drying room and seed store.</td>
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For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO

For all repair or works-related items: clear sub-itemised Bills of Quantities indicating unit cost for each input in EURO
**Re: Generator and Electrical Assessment:**
- The status of the existing generator and the auto switch-over mechanism.
- The required maintenance schedule and stock of spare parts that should be held on site.
- The adequacy of the electrical circuitry in the building to accommodate more deepfreeze units and extra lighting (LED) for the germination room.
- Design of an electrical circuitry to accommodate more deepfreeze units and extra lighting (LED) for the germination room.

For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO

For all repair or works-related items: clear sub-itemised Bills of Quantities indicating unit cost for each input in EURO

Complete set of drawings of the electrical circuitry design.

Three weeks after contract signature

**Re: Solar Energy Assessment**
- Design of the proposed solar energy system,
- Provide technical specifications and recommend an investment into energy efficiency and an alternative energy option with the full cost as well as provider
- Identify adequate solar power equipment according to the potential and needs identified

For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO

For all repair or works-related items: clear sub-itemised Bills of Quantities indicating unit cost for each input in EURO

For the design of the solar energy system: a complete set of drawings.

Three weeks after contract signature

**Re: Fire Alarm Assessment:**
- Provide technical specifications and advice on the provision of fire alarms and external sounders as well as the required maintenance schedule.
- Staff capacity building needs in fire procedures
- Design of a proposed fire alarm system

For all items to be replaced and/or procured: clear unit quantities, technical specifications and estimated unit prices in EURO

For all repair or works-related items: clear sub-itemised Bills of Quantities indicating unit cost for each input in EURO

For the design of a fire alarm system: a complete set of drawings.

Three weeks after contract signature