

## Terms of Reference for Potential Study Agreement

This document serves to provide an overview of the underlying project relevant to the Subnational Climate Fund (SCF), context on data availability and goals of the mandate, as well as an estimated scope of work requested from the consultant. Final details of the mandate should be covered by the subsequent proposal submitted by the consultant.

### 1. The Subnational Climate Fund

The SCF is a blended finance impact fund formed to pursue attractive risk-adjusted returns for private investors while generating measurable and certified environmental and social impacts. The Fund is focused exclusively on pursuing investments in mid-size climate infrastructure with nature-based solutions in various developing countries across Latin America and the Caribbean, Africa, the Mediterranean, and Asia. The Fund is managed by Pegasus Capital Advisors, a commercial Private Equity impact fund manager and further benefits from a separate, grant-funded Technical Assistance facility managed by The International Union for the Conservation of Nature (IUCN) and implemented by R20, IUCN, and Gold Standard.

### 2. Context of the Potential Study Agreement

Black soldier fly (BSF) is an interesting organic waste treatment method due to the high waste reduction potential while producing marketable high value products. The SCF is considering a potential investment opportunity relating to the treatment of organic waste by black soldier flies in East Africa. The SCF's Technical Assistance Facility is commissioning various feasibility studies to support the company's growth and is calling for proposals from qualified consultants for the work outlined in Section 3.

### 3. Feasibility studies

	<u>Study 1</u>	<u>Study 2</u>	<u>Study 3</u>	<u>Study 4</u>
<b>Scope</b>	Assessment of 3 new sites in East Africa	Design of canine feed formulations	Conduct an independent commercial crop trial to test organic fertiliser on arable crops	Research work to increase breeding rates of BSF larvae
<b>Duration</b>	4 months	3 months	6 months	3 months
<b>Deliverable</b>	1 Report	1 Report	1 Report	1 Report

Please see the detailed scope & qualification requirements for each study below.

#### Study 1: Assessment of potential new sites

**Scope of Work:** The consultant is expected to provide the following assessment:

- Provide a feasibility study for 3 new sites in East Africa to support the company's expansion plans. The following tasks should be conducted:

- Conduct a market analysis to assess the size and growth potential of each target market, including an analysis of waste availability in each market, waste composition and population growth trends.
- Research and meet potential partners/competitors including waste producers and collectors.
- Find waste sources with high calorific value and waste with a high protein content: brewery waste, fish waste, expired foodstuff, etc.
- Develop a strategic plan for entering each target market including best locations with estimates of the price of land and CAPEX per site.
- Deliverables should include a full analysis of the three sites chosen as well as a presentation of the findings.

**Qualifications:** The work is to be undertaken by a qualified expert with experience in the waste management sector and in the management of BSF projects in Sub-Saharan Africa. Experience in other regions will be accepted, if the team can demonstrate that their experience is relevant and applicable to Sub-Saharan Africa.

**Timeline:** Work is expected to commence immediately after the consultant is appointed. The work is expected to be completed within 4 months after signing the service contract.

## **Study 2: Design of canine feed formulations**

**Scope of Work:** The consultant is expected to provide the following assessment:

- Identify 3 canine diets using ingredients available in Tanzania that use insect protein as the main source of protein in the diet.
- 3 Diets being for 3 stages of the canine lifecycle;
  - Young
  - Adult
  - Old
- Each Recipe will need its own labelling and packaging. This should include identifying if local packaging materials are of a satisfactory quality. Packaging should target as low a carbon footprint as possible.
- Asses each recipe for;
  - Palatability
  - Shelf Life

**Qualifications:** The work is to be undertaken by a qualified expert with experience in the design of canine feed formulations. Ideally the expert would have experience using insect protein in formulations for canine diets.

**Timeline:** Work is expected to commence immediately after the consultant is appointed. The work is expected to be completed within 3 months after signing the service contract.

### **Study 3: Organic Fertilizer Trials**

**Scope of Work:** The consultant is expected to provide the following assessment:

- Conduct an independent commercial crop trial to test the company's organic fertiliser<sup>1</sup> on arable crops (eg. maize, canola, wheat, barley, potatoes). The fertiliser would be tested against regular farmer practices and should include comparisons to chemical fertilisers.

**Qualifications:** The work is to be undertaken by a qualified expert with experience in farming practices in the East African context. They should have documented experience managing trials to test the efficacy of fertilisers on multiple crops under irrigation.

**Timeline:** Work is expected to commence immediately after the consultant is appointed. The work is expected to be completed within 6 months after signing the service contract.

### **Study 4: Research work to increase breeding rates of BSF larvae**

**Scope of work:** The consultant is expected to provide the following assessment:

- Conduct research on the company's different sites and develop recommendations to increase the breeding rates of the BSF larvae.
- Recommendations should where possible avoid large capital expenditure. Any changes suggested should be relative to the teams delivering the changes on the ground.
- Efficiency improvements should focus on improving each step of the breeding process; flies, egg clutches, fertilised eggs, hatching rates, 7-day old survival rate, pupation, emergence at a minimum.

**Qualifications:** The work is to be undertaken by a qualified expert with substantial research experience in the waste management and BSF sector. The expert is expected to have documented experience working with breeding sites that have produced more than ten million larvae per day. The team should understand and be able to work with breeding systems that have little to no control on the climate conditions under which the breeding is taking place.

**Timeline:** Work is expected to commence immediately after the consultant is appointed. The work is expected to be completed within 3 months after signing the service contract.

## **4. Deliverables**

For each study, the consultant(s) should provide a final report consisting of the following elements:

- Executive Summary
- A table of acronyms
- Main report
- Bibliography
- Follow the SCF's template for TA studies
- Word Format

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<sup>1</sup> The fertilizer is made from residues remaining from the larvae feeding process (leftovers of BSF larvae bioconversion).

## 5. Form of Proposal & Requirements

Please prepare a brief proposal for the performance of this work, including the scope of work, project team and qualifications, and estimated costs. Proposals can be submitted either for the entire work package (single source) covering all the 4 studies, or for individual studies, depending on the skillset of the consultant(s).

**1) Scope of Work:** The scope of work should include a description of the specific activities that will be performed in order to accomplish the required tasks stated in Section 3. This should include any proposed site visits/reconnaissance, documents to be reviewed, interviews, etc. If the Consultant feels that additional tasks or components within a required task are suggested or warranted, these should be stated and delineated as “Optional Tasks”.

**2) Project team and qualifications:**

This should include the name of the principal staff members and any sub-contractors, and a brief description of their role within the project team. Qualifications of staff should include relevant technical capabilities, full CVs, specific previous experience similar to this assignment, specific in-country experience and knowledge.

**3) Estimated costs:**

A total time and expenses cost estimate (not to be exceeded), in US Dollars, must be provided for the required scope of work. A breakdown of the estimated costs by task must also be presented in tabular format and should include Direct Labour Costs (number of hours or days per staff and their associated unit costs) and Indirect Labour Costs (i.e. travel, sub-contractors, etc.). Please note that R20 is exempt from VAT. Your financial proposal should therefore not include VAT. **Conflicts of interest:**

As part of the proposal, the Consultant shall also confirm that they do not have a conflict of interest and that they are in a position to provide an adequate, accurate and objective review.

## 6. Submission

Please submit your proposal by 25 May 2023 to [project@regions20.org](mailto:project@regions20.org).