# Regenerative Agriculture Consultant

## Kenya Coast Region

## Terms of Reference

**Closing Date:** Position will remain open until filled.

**Target Starting Date:** Second quarter 2018.

**Time Commitment:** At least 2 months initially, with 2 – 3 follow up visits a year there after of 3 – 6 weeks each, combined with limited, but continual remote support and desk work billed on an hourly basis. **Total annual commitment 3-7 months declining over time for a 2-3-year period.**

## Background and Site Details

LTS seeks an experienced consultant who has worked with diverse cover crops and is adept at determining appropriate cover crops and cash crops given the local agro-ecological zones, setting up trials, working with LTS permanent staff on site, training and empowering staff and providing remote support.

Livestock Trade Services (LTS) is a start-up that will be operating in the livestock export / import sector principally in the Kenya (and Horn of Africa) – Arabian Peninsula and Middle East market axis. Our principal exports will be livestock (sheep, goats, cattle, and camel) and livestock feed. However, we may expand into horticulture and fruit products depending on production economics and market conditions. We will strictly emphasize animal welfare and low stress production and transport to the greatest possible extent.

LTS will develop and operate two state-of-the-art livestock export quarantines and a large farm to raise livestock feed for the export.

In addition, LTS will develop a farm to scale (15,000 – 20,000 Ha over 5 years) at the edge of the Tana River Delta region, north of Malindi and possibly a second smaller one in in Taita-Taveta County near Voi.

The principle type of agriculture to be practiced will be Regenerative Agriculture, a term that has has many definitions, but which we define by adhering to the following key parameters.

1. **Disturbing the soil as little as possible** --> no-till agriculture will be the norm.

2. **Developing and maintaining significant amounts of soil armor** (to increase precipitation infiltration and reduce soil temperatures, encouraging increased soil microbe and annelid [earthworm] diversity and quantity).

3. **Minimal use of synthetics** (fertilizer, herbicides, pesticides)

4. **Maintaining highly diverse plant ecology** through livestock palatable (chiefly) and non-palatable cover crops - 20+ species will be regularly planted in any given field. These will be a combination of grasses, legumes, brassicas, and broadleaf plants selected in part to attract highly beneficial predator insects to control crop pests.

5. **Maintaining living roots at various depths year around**

6. **Intense, mob-grazing of cover crops** where approximately 1/3 of the biomass is consumed by livestock and 2/3 of the cover crop biomass is knocked down to become soil armor and feed the soil microbes, fungi and other soil life.

We will undertake a combination of center-pivot irrigation for cover and livestock feed production, and grassland regeneration using a combination of diverse seeded cover crops with the other parameters outlined above.

We will be engaging some precision agriculture techniques including soil and crop mapping (likely using a combination of ground-based sleds, drones, irrigation and tractor mounted equipment and satellite imagery), soil moisture reading and IoT applications (Internet of Things).

**The local equatorial, tropical climate is as follows:**

**1. average rainfall of 600 - 700 mm of rain** in a bimodal fashion (March to June and October - December). Rainfall can be highly variable (300 - 1,000 mm annually and increasingly comes in intense rains.

**2. Ave humidity 40-70%**

**3. Average daylight hours 12 - 13 hours** (Latitude is approximately 3 degrees South).

**4. Temperatures range from 66 - 100 degrees F**

**5. Soil is a mix of river delta, sandy loam, and some clay with what we call black cotton.**

**6. Soil cover is very poor naturally with a lot of hardpan**. So, we may initially have to use a yeoman plow (unless you have another suggestion).

**We plan 2 approaches. However, we are open to all suggestions.**

**1. Irrigated fields probably using center-pivot irrigation systems.**

**2. Native grassland Development Regeneration and Development.** We may consider using a mobile center pivot to help in the establishment of our annual cover crops until we get to a situation where the soil health is sufficiently improved to retain water.

**The land is largely virgin bushland / grassland and has never been tilled.**

## Responsibilities and Duties

1. Participation in recruitment of a Regenerative Agriculture and Farm Manager if that post has not been filled.
2. Overall supervision of the entire Regenerative Agriculture and Farm Manager in all aspects related to agriculture and livestock feed production.
3. Leading, training, motivating, empowering, and managing the Regenerative Agriculture and Farm Manager and through him or her, all agriculture related staff, creating a harmonious work environment.

4. Planning and designing and training LTS staff in the collection of soil tests, plant health tests including BRIX measurements, and precision agriculture techniques to ensure the most cost-effective and efficient crop production.
5. Special emphasis on developing and maintaining high quality soils under center-pivot irrigation systems and on regenerated grasslands.
6. Guiding the selection, procurement (in collaboration with LTS staff) sufficient seeds and other crop inputs (as necessary) to ensure that sufficient livestock feed is produced to meet current demands and maintain a reserve (grazing and feed) for future livestock and in the event of a drought, the implementation of the LTS drought response program to serve loyal LTS pastoral livestock suppliers.
7. In addition to Regenerative Agriculture, the Consultant shall also guide and supervise conventional agriculture practices on selected fields under center-pivot irrigation using fertilizer and pesticides and herbicides as necessary. This is to provide adequate livestock feed for our animals while the soil health in neighboring fields is being improved.
8. Supervise and assist in the development annual budgets and manage the budget to prevent any cost over-runs.
9. Guide the selection of farm equipment for use in the LTS Regenerative Agriculture and conventional agriculture programs.

## Key Qualifications and Experience

1. Extensive agriculture experience, especially in conservation, sustainable, or regenerative agriculture which emphasizes no-till or limited tillage combined with special emphasis on building soil health through diverse cover cropping.
2. Experience on medium to large-scale enterprises is strongly preferred.
3. A first and or graduate degree in agriculture is preferred, but not required.
4. Center-pivot Irrigation system experience is preferred.
5. Precision agriculture experience is preferred.
6. Extensive experience in diverse cover crop selection and management with a cash crops overlay that will be harvested for livestock feed.
7. Extensive experience in developing and managing budgets.
8. Solid staff management experience.
9. Impeccable integrity and job references.
10. Value-driven leadership qualities with experience leading and motivating skilled and unskilled staff.
11. Self-starting personality
12. Highly communicative to staff and superiors.
13. A curious nature with a research orientation, always seeking a better, more efficient and cost-effective way.
14. Solid computer literacy.

## Duty Station

The duty station will be either or both of the LTS activity sites, 1) the Tana River Delta region, north of Malindi or 2) the Bachuma - Voi region in Taita Taveta County. Limited time will be spent in Nairobi.

## Reporting Responsibilities

As a consultant, the incumbent shall report to the CEO while informing other senior staff and may be making occasional appearances and presentations at Board of Director Meetings.

## Remuneration and Benefits

1. Consultant fees will be highly competitive and based on industry standards as well as the Consultants proven remuneration history.
2. Housing, international and local travel will be provided as necessary.

Additional information on LTS may be found on the LTS website http://LTS-LivestockTradeServices.com and more information on the LTS Regenerative Agriculture Program may be found by contacting Dr. Chip Stem at the email address below.

**Send applications including a cover letter summarizing experience and stating availability plus an up-to date CV with references to** HR@LivestockTradeServices.com .