

**Farmer to Farmer East Africa**

**Volunteer Assignment Scope of Work**

**NOTE: THIS SCOPE OF WORK AWAITING FINAL EDITS**

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| **Summary Information** |
| Assignment Code  | UG96 |
| Country | Uganda |
| Country Project | Flex-Livestock/Dairy |
| Host Organization | Kyeyo Farm |
| Type of Volunteer Assistance: | **Technology Transfer (T)**  |
| Type of Value Chain Activity: | **Information and Input Support Services (S)** |
| Assignment Title | Animal Feed Formulation |
| Assignment preferred dates | October – December 2016 |
| Assignment objective | Build the capacity of Kyeyo Farm management in animal feed formulations   |
| Desired volunteer skills/ expertise | Knowledge and hands-on experience in feed formulation practices |

1. **BACKGROUND**

Kyeyo Farm, located 23 miles (37 km) West of Kampala City along Hoima road is a private enterprise owned by Mrs. Lucy Mbonye, a progressing local farmer. The farm sits on a total land area of 280 acres with currently has 227 improved (Friesian breed) dairy cows comprising of 40 milking cows, 30 dry herds and the rest as young stock including calves. The farm also boasts of 54 improved goats, 60 ducks/geese and over 2,000 layer-birds. Milk production currently averages 19-22 liters per cow per day making a daily total milk production range of about 450 to 500 liters per day. Approximately 180 acres of the total farm area are utilized for planting corn (maize) or forage grass for animal feeding; The rest (100 acres) lies fallow with native pasture.

In addition, Kyeyo farm has a poultry section which has been in existence for two years now. Kyeyo Farm however has faced challenges of feed formulation resulting into high egg damages/ losses, but importantly, low average production of about 54 %.

For over the two years now, Kyeyo Farm has had challenges of feed formulation resulting into high egg damages/ losses, low production of about 54 %. The farm manager resorted to local on-farm feed formulation after the farm management observed negative farm productivity with consistent feeding of the animals on industry-processed feeds in Kampala. Although the negative trend in productivity has now been fairly reversed, the resulting change in farm operations brought with it another dimension of challenges. The biggest challenge associated with this practice has been inconsistent feed quality and an unpredictable feed composition that is daily fed to the animals. As a result, farm productivity is very erratic and this affects sound decision-making. In respect of the above, Kyeyo farm has requested CRS technical services to help them improve their local on-farm feed formulation techniques in order to stabilize dairy and poultry production.

1. **ISSUE DESCRIPTION**

Agriculture is the backbone of Uganda’s economy; 95 % of the population farms (both crops and livestock) on small farms for food and cash income, and on fairly large farms including ranches, of an average size of 1,200 ha and crop farms (5-20 ha). Agriculture contributes over 40 % to the Gross Domestic Product (GDP) and over 90 % to the country’s foreign exchange earnings. It also contributes over 60% of the total Government revenue collection, in addition to employing more than 80% of the total labor force and providing over half of the total income for the bottom three-quarters of the population.

The major livestock species in Uganda include cattle, sheep, goats, pigs, rabbits and poultry. Livestock production is an important sub-sector of agriculture contributing about 7.5% to total GDP or 17% to AGDP. Livestock production continue to grow in response to increasing demand for milk as new milk plants open up, and increased demand for meat in the local market. Uganda statistics (2009-2012 for livestock numbers (,000,000) were 11,797,000 indigenous cattle (93.1 percent) compared to 861,000 (6.7 percent) exotic ones. Regarding Poultry; indigenous were 39,644,000 (86 percent) while exotic were 6,257,000 constituting 14%. The poultry industry in the country continues to be popular and as such has grown rapidly due to concerted efforts by both government and the private sector to set up more hatcheries and to import day-old chicks.

The most common family poultry flock size of between 5 to 20 birds seems to be the limit that can be kept by a family without special inputs in terms of feeding, housing and labor. These small flocks scavenge sufficient feed in the surroundings of the homestead to survive and to reproduce. Any significant increase in flock size often leads to malnutrition if no feed supplement is provided. In addition, larger flock sizes must forage at greater distances which may involve damage to neighbors’ vegetable gardens. Any move to fence in or enclose the poultry then involves the need to provide a balanced ration.

Livestock production in Uganda is limited among other factors by feed availability throughout the year. Research so far done has shown the potential of crop residues, molasses/urea blocks and poultry waste as ruminant livestock feedstuffs. These results together with forage conservation in the form of silage can be used to formulate a strategy for livestock feeding during dry season. The use of these research findings has been limited by the weakness in the extension system in the country. An overwhelming majority of the ruminant animals depend wholly on grazing and crop residues for the quantity and quality of herbage available. The climate is characterized by two rainy seasons during which periods there is luxuriant growth of vegetation and two dry seasons when pasture is scarce. Supplementation with compounded feeds is, therefore, necessary to maintain the animals and sustain production during the dry season.

Poultry feed formulation in the country is highlighted as one major challenge. For that matter, the farm management at Kyeyo resorted to local on-farm feed formulation to minimize costs due to inconsistencies associated with using industrially-processed feeds around Kampala. With adoption of on-farm formulations, the negative trend in productivity has been fairly reversed. The current challenge associated with this practice, is the inconsistent quality of inputs such as Brans and protein sources leading to unpredictability of feed composition fed. As a result, farm productivity is very erratic and this affects sound decision-making. In respect of the above, Kyeyo farm has requested CRS technical services to help them improve their local on-farm feed formulation techniques in order to stabilize dairy and poultry production.

The country is constantly faced with problems related to formulation of balanced rations for adequate feeding. Use of concentrate rations based on cereal grains such as maize, sorghum, millet or root crops as energy feeds and grain legumes such as soybean, peas and groundnuts has led to direct competition with man for the same food resources. The animal feed industry is Uganda is dominated by small-scale roadside feed mixers scattered in Kampala suburbs, while upcountry depend on supplies from Kampala’s two main feed producers namely; Ugachick poultry breeders and Formula Feeds. For upcountry stations, this has implication in terms of availability and increased cost per kilogram due to transport. For example a kilogram cost 800 Uganda shillings in Kampala, but a kilogram goes for between 900 and 100 Uganda shillings in far rural areas. This coupled with poor transport system upcountry, it becomes very difficult and expensive to rely on Kampala supplies.

Kyeyo Farm therefore requests for a volunteer consultant with extensive experience in poultry nutrition. The consultant shall be expected to offer advice on best on-farm layer-poultry feed formulation practices.

**OBJECTIVES OF THE ASSIGNMENT**

The main objective of the assignment is to empower Kyeyo farm in feed formulations to meet production efficiency of poultry and dairy cows.

* To enhance the farms’ capacity for adequate feed formulation.
* To train farm management in adequate feed formulation and adopt an adequate feeding regime for poultry and other livestock on the farm
* To develop capacity for the farm to effectively utilize available crop residues in both fresh and preserved forms
* To improve the farm’s capacity to calculate and effectively apply recommended daily feeding regimes to their livestock on the farm.

**Host contribution** – Kyeyo Farm has committed to avail staff involved in feed formulation to attend the trainings to be conducted by the volunteer. Kyeyo Farm will also provide volunteer transport.

1. **ANTICIPATED RESULTS FROM THE ASSIGNMENT**

The anticipated deliverables include:

* Trainings conducted and people trained
* Feed formulation guidelines/manual developed
* Debriefing with USAID and in country group presentations after assignment
* Field trip report and expense report
* Outreach activity, press release or a media event back in US
1. **SCHEDULE OF VOLUNTEER ACTIVITIES IN UGANDA**

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| Day | Activity |
| Day 1 | Travel from home to US international airport |
| Day 2 | Arrival at Uganda Entebbe Airport, picked by Airport shuttle to Kampala and check in at Hotel. |
| Day 3 | At 9.00 am, the volunteer is greeted at the hotel by CRS staff and thereafter go to CRS office for introductions and briefings including host brief, logistics and expectations and anticipated outcomes. Hand-outs will be prepared at CRS offices.  |
| Day 4 | Travel to Wakiso district to commence the assignment.  |
| Day 5 | In the morning CRS introduces the volunteer to the Kyeyo Farm management team. Together with CRS and the management, the volunteer will review and finalise the work-plan. The action plan should include group presentations to be done after the assignment.  |
| Day 6-10 | Design feed formulation program and feeding regime. Develop a training program for demonstration in formulation and feeding techniques. |
| Day 10-14 | Undertake a practical training sessions for farm management staff. Develop a comprehensive code of good practice for feed formulation and feeding regimes.  |
| Day 15 | Wrap up trainings and emphasize key concepts of feed formulation and feeding regime assignment. Participants evaluate the training and together with the volunteer discuss final report recommendations.  |
| Day 16 |  Volunteer travels back to Kampala |
| Day 17 | Debriefing at CRS office with USAID Mission and CRS staff.Volunteer will finalize his/her reporting at CRS office and fill out all necessary M&E forms as well finalize advances and expenditures with finance. |
| Day 18 | Depart for USA |
| TBD | Outreach event in the US |

1. **DESIRABLE VOLUNTEER SKILLS**

The volunteer will have the following qualifications and competencies:

Technical Experience: Formal qualifications in Poultry Nutrition are a prerequisite. Practical knowledge of feed formulation using computer generated models for poultry is essential.

Training Skills: Excellent training skills to adult audience are necessary.

Writing Skills: Good writing and analytical skills

Country Experience**/**  Previous knowledge of poultry feeding practices

 in developing related tropical countries would be preferred as well as previous practical experience as animal nutrition consultant

1. **ACCOMMODATION AND OTHER IN-COUNTRY LOGISTICS**

The volunteer will stay at Fairway hotel, www.fairwayhotel.co.ug. The volunteer will be provided with a modem from the CRS field office for internet access.

CRS will pay for hotel accommodation, and provide volunteer with per diems to cater for meals and other incidentals. The volunteer may get an advance which has to be cleared before departing Uganda. For more information, please refer to country information that will be provided.

**G. RECOMMENDED ASSIGNMENT PREPARATIONS**

**i) Before leaving U.S.:**

* Learn about different dairy feeding options in tropical climates
* Review relevant literature on feed formulation techniques for the different dairy cattle
* Acquire analytical instrumentation for use during feed formulation

**ii) In-country activities/tasks**

* Assess current production levels, management procedures and feeding regimes practiced at the farm and neighboring farms
* Together with management, undertake practical demonstrations and training on feed formulation using different options and computer generated feed ration programs.
* Train in calculation and feeding regimes of dairy cattle in different growth cycles
* CRS-F2F designs assignments with the assumption of some pre-departure preparation by the volunteer. Actual preparation time will vary based on the experience of the volunteer, as well as informational or training resources the volunteer has readily available. CRS relies on the volunteer to assess the tasks outlined in this SOW and to make his or her own judgment about how much and what kind of preparation is needed prior to arriving in Uganda
* The volunteer should prepare materials for hand out which can be printed at CRS office in Kampala before commencement of the assignment. Flip charts, markers, masking tapes can be obtained at CRS offices.
* CRS strongly recommends that the volunteer become familiar with CRS programs in Uganda, especially the maize country project description and other information in the briefing pack before arrival to Uganda
1. **Key Contacts**
2. **KEY CONTACTS**

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