 

**Farmer-to-Farmer East Africa**

**Volunteer Assignment Scope of Work**

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| **Summary Information** |
| Assignment code | ET-109 |
| Country | Ethiopia |
| Country Project | Livestock production and sector support |
| Host Organization  | ATVET Colleges (multiple locations) and Universities |
| Assignment Title | Dairy Cattle Nutrition short course |
| Preferred Dates | Nov 2017- June 2018 (Flexible) |
| Assignment objectives | * To provide dairy nutrition short course to staffs and students of ATVET Colleges and University, government staff, and farmers
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| Desired Volunteer’ Skill/Expertise | * Graduate knowledge/skills and experience in dairy nutrition and management activities.
* Experiences in dairy farms
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1. **BACKGROUND**

The Farmer-to-Farmer (F2F) East Africa program is a program that leverages US volunteer’s expertise to assist smallholder farmers and small scale processors in East Africa to improve their business practices through volunteer assignments conducted with host organizations. Through F2F intervention, CRS will improve the livelihoods and nutritional status of significant numbers of low income households by: i) broadening their participation in established commodity value chains as producers and service providers; ii) strengthening community resilience to shocks such as droughts that adversely affect livelihoods; and iii) preserving/enhancing natural resources upon which most rural communities depend. CRS will also increase the American public’s understanding of international development programs and foster increased cross-cultural understanding between host countries and US volunteers.

Agriculture is the foundation of Ethiopia’s economy, accounting for half of [gross domestic product](https://en.wikipedia.org/wiki/Gross_domestic_product) (GDP), 83.9% of [exports](https://en.wikipedia.org/wiki/Export), and 80% of total employment. In the agriculture sector, livestock play a crucial economic role in the country. Ministry of Finance and Economic Development (MOFED) estimates place livestock’s contribution at about 25% of total agricultural GDP. If the value of ploughing services is included, the sector contributes up to 45% of agricultural GDP.

Livestock are an important and integral part of farming systems in Ethiopia. Almost the entire rural population in the highlands and lowlands is involved in some form of animal production, which provides food, cash, traction, transportation and fuel. In lowland pastoral and agro-pastoral areas, livestock form the main source of livelihood and social prestige. They are also a 'living savings bank' and serve as a financial reserve for periods of economic distress and crop failure. Increasing 'urbanization' and income growth are also changing food consumption patterns of people living in and around major cities, often leading to an increase in the consumption of livestock products.

Ethiopia has a huge potential for dairy development in Africa. The large and diverse livestock genetic resources, existence of diverse agro-ecologies suitable for dairy production, increasing domestic demand for milk and milk products, better market opportunity, and proximity to international markets indicate the potential and opportunities for dairy development in the country. Dairy production in the country depends mainly on indigenous livestock genetic resources; more specifically on cattle, goats, camels and sheep. Cattle have the largest contribution (81.2%) of the total national annual milk output (CSA 2014).

Despite its potential dairy development has been hampered by multi-faceted, production system-specific constraints related to genotype (low genetic potential of the indigenous national herd), feed resources and feeding systems, livestock husbandry, access to services and inputs, low adoption of improved technologies and marketing are the major once. Even though Ethiopia has the largest inventory of milk producing animals (cattle, sheep, goats and camels), per capita consumption of milk is low compared to many sub-Saharan Africa countries.

To advance the livestock sector, improving the capacity of extension agents and farmers have paramount importance. The ATVET colleges in Ethiopia are the sources of knowledge and skills to enhance agricultural productivity and transfer technologies among the subsistent farmers. ATVET Colleges function as institutions that provide technical trainings for students who will become potential development agents (DAs). Majority of the students after completing their study will be hired by Ministry of Agriculture and Natural Resources (MoANR) to work at ‘kebele[[1]](#footnote-1)’ level where they would directly live and work with smallholder farmers at grass root level.

1. **ISSUE DESCRIPTION**

Though Ethiopia has huge potential for livestock, the contribution of the sector to the rural economy has not been commensurate with the number of animals or the extent of land resources available. Thus, in order to mitigate challenges that limit productivity and thereby exploit the untapped potential, it is necessary to identify major constraints along the value chains and devise pertinent and practical strategies to alleviate the problem and improve dairy production in the country.

The overall productivity is generally low mainly because the country in general is characterized by traditional production systems that rely on indigenous livestock genetic resources, and poor quality feeds. Especially feed shortage in both quality and quantity is a major constraint affecting animal production in the highland areas. The major roughage feed resources for dairy animals across all the different production systems include natural pasture/grasslands, crop residues, non-conventional feed resources (e.g. leaf and stem of enset[[2]](#footnote-2), banana and sugarcane; crop thinning) and crop aftermath (with the exception of urban dairy producers). The contribution of these feed resources, however, depends up on the agro-ecology, the types of crop produced, accessibility, and production system.

Even the available natural pasture which is the dominant feed resources for dairy animals is hampered due to various factors, of which overgrazing and invasion by weeds are the main ones. And the crop residues are characterized by high fiber fraction, low digestibility and low available nutrients such as crude protein and metabolizable energy, which hardly support dairy animal performance. In addition, there is lack of awareness in feed conservation which is one of the components of feed management to ensure year-round feed availability. Therefore, the sector is generally challenged by shortage of roughage feeds, unavailability of quality concentrate feed, feed treatment and conservation the likes.



Figure 1: Fogera breed Figure 2: Zebu breeds Figure 3: cross-bred

1. **OBJECTIVES OF THE ASSIGNMENT**

Livestock play a crucial economic role in Ethiopia. The Livestock Sector Analysis results shows there are about 11.4 million livestock producing households in Ethiopia in 2013 (CSA, 2013). The livelihoods of large numbers of food insecure households both in the highland and low land parts are based on livestock. In spite of the enormous livestock resource and great potential for increased livestock production, the productivity is disproportional lower. Hence, improving livestock productivity and increasing farmers’ incomes are key to achieving food security and improve nutritional status at household level.

Therefore, the objective of this particular volunteer assignment is to provide a short course on applied dairy nutrition to College staffs, students, government staffs and farmers. The volunteer may touch upon some of the following dairy Nutrition information:

* Application of basic principles of nutrition in developing rations Emphasis appropriate use of forages, ration formulation techniques, development of profitable rations, and ration delivery
* Diet formulation and evaluation
* Dairy meal preparation
* Nutritional evaluation of dairy rations and feeding management
* Body condition scoring
* Feeding techniques of dairy cows
* Interactions of diet and feeding management
* Fiber digestibility and its use in ration formulation
* Formulating for improved nitrogen and amino acid efficiencies

Although the host and CRS have developed such hinting SOW, the volunteer can fine-tune through her/his professional qualification to successfully carryout this Dairy nutrition short course program.

**Host contribution**

ATVET Colleges/ the university will select attendants from lecturers and agricultural students/candidate and farm technicians, government staffs, and adjacent farmers. Prior to lecturing hours, the College will provide the volunteer with the course topics and outlines where the volunteer will integrate into her/his prior prepared training and advising materials from overseas. The college will also ensure that the necessary class rooms and local training aids and other teaching materials are in place. The host will also provide the volunteer with guesthouse (free or with subsidized fee) and facilitate the volunteer for meal services. The college will also assign a focal person who can guide and facilitate the volunteer specialist during the assignment period. The host will also provide office space and office furniture as well as vehicle if any travel is required during the assignment duration. Fuel and any other essential costs of this assignment incurred for the volunteer can be reimbursed against receipts and financial procedure of CRS.

1. **ANTICIPATED RESULTS FROM THE ASSIGNMENT**

As a result of the volunteer assistance, it is anticipated that this assignment will result in Capacity building of the college through a livestock nutrition short course. Thereby staffs, students and farmers understand the nutrient requirements of dairy cows at various stages of lactation and able to mixing and delivery of rations.

* The course is provided for three institutions at three sites: Kombolcha ATVET College, Alage ATVET College, and Debre Berhan University. Depending on the available time, the course will be given to additional institutions too. And/or pull some staffs to the training site.
* 90 College staffs, students and government staffs (30 from each) undertake the dairy nutrition course
* 18 farmers from the three location ( six from each site) attend hands on training
* These farmers technically assisted/advised on forage/pasture improvement.
* The farmers’ training will be in their FTCs/house to house or at the College

The anticipated deliverables include:

* Initial presentation done (outlines/list of activities, plan, approach, etc.),
* Training module for this dairy course prepared and discussed with the College/university fraternity for review and adoption as a training curriculum for this course
* Proceedings for Dairy Nutrition Short courses prepared and shared
* Field Report with recommendation submitted to CRS,
* Presentation to CRS staff and USAID;
* Completed trip reports
* Outreach events conducted in the US.
1. **ASSIGNMENT DELIVERABLES**

It is anticipated that the volunteer transferred up-to-dated skills and overseas’ experience to the staff members and students of ATVET colleges via training, lecturing, and demonstration. The anticipated deliverables that can be accomplished by the volunteers can also include:

* Initial presentation done (outlines of topics of the course, plan, approach, etc),
* Reports with recommendation submitted;
* Presentation to CRS staff and/or USAID;
* Outreach events conducted in the US.
1. **SCHEDULE OF VOLUNTEER ACTIVITIES IN ETHIOPIA**

| **Day** | **Activity** |
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| Days 1  | Arrival to Ethiopia, Bole international Airport. The volunteer will find the hotel kiosk in the airport and have prearranged transport to “Churchill hotel” or other CRS’s client hotel |
| Day 2 | Introduction to CRS higher officials and briefing meeting (security, general orientation, logistic, reporting formats, etc.) at CRS office. Discuss anticipated outcomes and work plan. |
| Days 3 | * Drive from Addis Ababa to college site Debre Berhan, Kombolcha, and Alage, where the volunteer will stay until completion of assignment.
* CRS introduces the volunteer to the ATVET College and University staffs. Together with CRS and the staff, the volunteer will review and finalize the work-plan. The action plan should include group presentations to be done after the assignment. In the afternoon, visit some of the college facilities and staff members.
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| Days 4 | * Further identify skill and knowledge gaps through visiting and discussing with the staffs (if important)

Based on information gathered and gaps identified, enrich the prepared training materials incorporating hands-on practices. |
| Day 5-7 | * Conduct short course presentation Assess and refine the quality of trainings through feedback and observations
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| Day 8 | * Rest day.
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| Days 9-14 | * Continuation of the trainings and practical demonstrations
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| Day 15 | * Rest Day
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| Days 16 - 20 | * Continuation of the trainings and practical demonstrations with the 2nd College/University
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| Day 21 | * Group debriefing presentation to the host in the presence of CRS.
* Volunteer travels back to the second institution
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| Day 22 | * Rest Day
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| Day 23-27 | * Continuation of the trainings and practical demonstrations with the 3rd College/University
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| Day 28 | * Group debriefing presentation to the host in the presence of CRS.
* Volunteer travels back to Addis Ababa.
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| Day 29 | * Rest Day
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| Day 30 | * Finalize reimbursement expenditures and liquidations (if any) with finance.
* Finalizes his/her report and submit training M&E forms to CRS F2F staff.
* Debriefing at CRS office with USAID Mission and/or CRS staff
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| Day 31 | * Depart for USA
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| TBD | * Outreach event when back in the US could include: presentation with a local group/organization, press release, media event and/or speaking tour.
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1. **DESIRABLE VOLUNTEER SKILLS**

The desired skills of the volunteer will include a background and experience in the following:

* Graduates in animal production, or related fields with demonstrative experience in applied dairy nutrition (dairy meal and diet formulation)
* Experience in adult training and technical assistance especially with rural people including smallholder subsistence farmers
* Good interpersonal and communication skills including analytical skills
* Respect the cultural and religious norms of the rural people.
* Willing to work under the context of East Africa, Ethiopia condition
1. **ACCOMMODATION AND OTHER IN-COUNTRY LOGISTICS**
* Before travelling to the assignment place, the volunteer will stay in Addis Ababa at one of the CRS’s client hotels, Churchill or another hotel that will be booked and confirmed before the arrival date.
* In Addis Ababa, the hotel usually has rooms that include services such as airport pickup and drop-off, breakfast, wireless internet, etc.
* The hotel or CRS will arrange a vehicle for short travel from the hotel to CRS and vice versa while in Addis Ababa.
* All required materials will be prepared ahead of time and provided to the volunteer. CRS Ethiopia will provide the volunteer with a laptop computer (if s/he needs), local internet dongle (modem/EVDO) and mobile phone with a charged local SIM-card. Any other required logistics and facilities can also be requested by the volunteer during her/his stay in Addis Ababa.
* CRS will provide a vehicle and accompany the volunteer to the place of assignment.
* During her/his assignment period, the volunteer will be booked in a hotel in Debre Berhan and Kombolcha town and guesthouse at Alage.
* CRS Ethiopia will arrange hotel accommodations and cover the lodging bills against receipts.
* CRS HQ will provide the volunteer with a per-diem advance to cater meals and incidences.
* CRS Ethiopia will also reimburse the volunteer with laundry costs against receipts.
* Before departing from Ethiopia, the volunteer will liquidate any advances received in Ethiopia.
* For more information, please refer to country information that will be provided.
1. **RECOMMENDED ASSIGNMENT PREPARATIONS**
* Although CRS F2F has developed such hinting SOW, the volunteer can fine-tune through her/his professional qualifications to successfully carry out this assignment.
* Generally Ethiopia is under the tropical zone, where malaria may be a problem. Therefore, the volunteer is advised to take pills or vaccination for malaria and (maybe also for cholera) as per medical recommendations by her/his doctors/health professionals in US before departing from US.
* Prior to travel, the volunteer is advised to prepare necessary training and demonstration aids and written handouts. Electronic copies of the handouts and any other paper materials can be printed for immediate use at the CRS office in Addis Ababa on request by the volunteer.
* If the volunteer requires simple training aids like flip charts, markers or tape s/he should make the request and collect from the CRS office in Addis Ababa prior to travel to the assignment place.
* Translation of handouts to the local language can be done in the locality of the assignment, if required.
* Depending on the meeting places and availability of electric power and LCD projector, the volunteer may use a laptop and projector for power point presentations.
1. **KEY CONTACTS**

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1. Kebele – the lowest administrative unit, similar to a ward [↑](#footnote-ref-1)
2. Enset: Ensete ventricosum, commonly known as the Ethiopian banana, Abyssinian banana, or false banana. [↑](#footnote-ref-2)