



**Farmer to Farmer  
Volunteer Assignment Scope of Work**

**To express interest in this assignment please email [maria.figueroa@gmail.com](mailto:maria.figueroa@gmail.com)**

Summary Information	
Assignment Code	ET214
Country	Ethiopia
Country Project	Livestock country Project
Host Organization	Salale University, College of Agriculture and Natural Resource
Assignment Title	Climate Modeling
Assignment preferred dates	Before end of June 2019
Objectives of the assignment	<ul style="list-style-type: none"> <li>• Provide training to university instructors and students on Climate Modeling</li> <li>• Demonstration on Climate modeling</li> </ul>
Desired volunteer skill/expertise	Advanced knowledge and experience on climate modeling and simulation
Type of Volunteer Assistance	Technology Transfer (T)
Type of Value Chain Activity	On Farm production (F)
PERSUAP Classification <sup>1</sup>	Type 2

**A. BACKGROUND**

CRS Farmer-to-Farmer (F2F) Program is a USAID funded 5-year program (from 2018 – 2023) that will provide technical assistance from United States (U.S) volunteers to farmers, farmer groups (cooperatives and associations), agribusinesses and other agriculture sector institutions. The program objectives are to facilitate economic growth within targeted agriculture sub-sectors, enhance sub-sector inclusiveness to expand participation to a broader range of individuals and communities and to increase the American public’s understanding of international development issues and US international development programs. Volunteers, recruited from all States and the District of Columbia, are individuals who have domestic careers, farms and agribusinesses, or are retirees who want to participate in development efforts. F2F program will assist in agriculture development, commodity value chain competitiveness and firm upgrading by providing technical assistance to introduce new technologies, innovations and development of local capacity for more productive, profitable, sustainable and equitable agriculture systems.

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<sup>1</sup> USAID precisely classifies PERSUAP in four categories; **PERSUAP Type I** assignments directly related to pesticides recommendations, **Type II** as assignments with indirectly related with pesticides, **Type III** assignments related to curriculum review and designing, business plan development and strategies development and **Type IV** as assignments associated with other USAID projects and collaborators.

Weather and climate have a profound influence on life on Earth because they are part of the daily experience of human beings and thus a crucial factor in agricultural food production. Scientists often use models to represent and test ideas and processes. Climate models used to accurately represent the current climate and the interactions between Earth's land, water and atmospheric systems and to understand what might happen with future climates.

Models are fundamental tools for studying the potential impacts of climate change, including changes in temperature, precipitation, and sea level. The climate models project possible future climate shifts under the conditions of the specific scenarios. These models are run multiple times using various scenarios of future conditions, such as population levels and anticipated emissions of carbon dioxide (CO<sub>2</sub>) or other greenhouse gases.

Climate change is a natural phenomenon affecting agriculture, natural resources, and food security. It is the main determinant of agricultural productivity; influencing crop and livestock production, hydrologic balances, input supplies, natural resources and other components of agricultural systems; with severe impacts in developing countries as a result of low adaptive capacity. It affects crop growth and yield, water availability, and productivity, soil-water balance either directly or indirectly. Climate change is a major challenge, particularly for Ethiopia's rural populations who depend on rainfall for subsistence farming and are therefore more vulnerable to climate-related risks.

Fitche is situated in highland with latitude and longitude of 9°48'N 38°44'E and an elevation between 2,738 and 2,782 metres above sea level. Due to this elevation, the climate tends to be more temperate. SIU is situated in the town of Fitche which is located about 114KM from the capital Addis Ababa in the north (Addis Ababa to Bahir Dar road). The university is a new and started its operation in 2017 by the Ethiopian government. It has 5 colleges with 30 undergraduate programs. One of the largest colleges in the university is the College of Agriculture and Natural Resource. This college has seven programs or departments; Horticulture, Plant science, Animal science, Agricultural Economics, Natural resource management, Water resource and irrigation management and Rural development and agricultural extension.

## **B. ISSUE DESCRIPTION**

Ethiopia is heavily dependent on rain-fed agriculture, and its geographical location and topography in combination with low adaptive capacity entail a high vulnerability to adverse impacts of climate change. Regional projections of climate models do not only predict a substantial rise in mean temperatures over the twenty-first century but also an increase in rainfall variability with a rising frequency of both extreme flooding and droughts due to global warming. It is important to highlight the major environmental problems in relation to climate change in Ethiopia. Degradation of the natural resource base is one of the most serious problems in the country, and climate change is expected to exacerbate the problem which will have profound impact on crop yields and on the livelihoods of rural communities.

Climate research information in Ethiopia is limited, and in most cases lacking at local level. Studies on climate change are required to estimate impacts and vulnerabilities at local level, to identify adaptation options, and to inform national and sub-national climate policies and strategies. Understanding and predicting how the climate of Ethiopia will change over the next century is an issue of increasing importance. Climate models can be used to simply study the dynamics of the

climate, they are also used to make projections. In fact, scientists are using climate models to predict global temperature increases in the next few decades due to greenhouse gases.

Though Salale University had initiated several trainings courses on climate modeling to equip young professionals, it was not enough since the University is new and most of the staffs are inexperienced and have skill/knowledge gap on climate modeling. Because of this Salale University requested CRS through F2F program volunteer expert's assistance for its academic staff and students.

### **C. OBJECTIVES OF THE ASSIGNMENT**

The main objective of this assignment is to give climate modeling training to instructors and students of the College of Agriculture and Natural Resource. In addition, to government experts from zonal and G/Jarso district office. In collaboration with the Salale University, college of Agriculture and natural resource, the volunteer will provide technical assistance through the training of the trainer (TtT) approach. The major topics going to be covered include:

- Introduction to atmospheric radiation
- Basic concept of Climate Modeling
- Climate change modeling
- How to model the impact of climate change on different sectors like Agriculture, natural ecosystem/ Natural Resource and etc.
- How to design adaptation and Mitigation strategies for different sectors.

In addition, to these suggested topics, the F2F volunteer specialist will be given an opportunity to initially assess the knowledge and skill gaps of the Salale University and comprehensively develop training topics for fruitful intervention. This will be done during the early stages of the assignment. The target beneficiaries or audience of this training and technical assistance will be 70 people.

### **D. HOST CONTRIBUTION**

The Host, Salale University will select staff, instructors and students to attend trainings. The host will also assign key personnel to work closely and facilitate the volunteer in his/her overall works including translation to the local language and to assist the volunteer during trainings. The host will arrange transportation and venue as required. CRS F2F Ethiopia will organize the volunteer's hotel arrangements (lodging) and ensure all required facilities are appropriate. CRS will cover lodging costs against receipts and provide per-diem advances for meals.

### **E. ANTICIPATED RESULTS FROM THE ASSIGNMENT**

It is anticipated that this volunteer's technical assistance will contribute to improved knowledge and skills of the host (Salale University), resulting in meeting its goal of technically assisting the instructors of the University to further understand the basic concepts and techniques of Climate modeling. The volunteer will contribute to the following

- Staffs and instructors with improved knowledge and skill on Climate modeling.
- Future use of models as aid to research, understanding, simulation and prediction as well

as integration between disciplines

- Curriculum/training materials for future crop modeling reference
- Understand the processes of atmosphere–soil–plant system using mathematical tools

**F. DELIVERABLES**

Deliverables by the volunteer includes:

- A record of people involved in training
- Volunteer final report due BEFORE departure
- Group presentation with local stakeholders at the end of the assignment
- Outreach activity press release or a media event back in US

**G. SCHEDULE OF VOLUNTEER ACTIVITIES IN ETHIOPIA (DRAFT)**

<b>Day</b>	<b>Activity</b>
Day 1	Arrival in Addis at Bole Airport, the volunteer will be met by a CRS’s client hotel Saro Maria Hotel (mail: reservation@saromariahotel.com; Phone: +251 11 667 2167). The volunteer will locate the hotel kiosk and receive their pre-arranged transport
<b>Day 2</b>	<b>Rest Day (Sunday)</b>
Day 3	<ul style="list-style-type: none"> <li>• Take prearranged CRS vehicle or client taxi to CRS office (CRS working days are Monday to Friday from 8:00AM to 5:00 PM East Africa Time)</li> <li>• Welcoming by CRS, and briefing meeting on security, general orientation, logistic and reporting formats.</li> <li>• Discuss anticipated outcomes and work plan</li> <li>• Travel to the assignment site (Fitche town, 114km outside of Addis Ababa).</li> <li>• S/he will be introduced with the host and will be accommodated. If time permits, general orientation with the host will be pursued.</li> </ul>
Day 4	<ul style="list-style-type: none"> <li>• Further assess skill and training gaps through visiting and discussing with the university.</li> <li>• Based on information gathered and gaps identified, enrich the prepared training materials incorporating hands-on practices.</li> </ul>
Day 5-8	Provide training and advice for the instructors and staffs.
<b>Day 9</b>	<b>Rest Day (Sunday)</b>
Day 10-12	<ul style="list-style-type: none"> <li>• Continue provision of trainings and technical assistances</li> <li>• Field level advice to instructors and staffs</li> </ul>
Day 13	Briefing / exit meeting with the host in the presence of CRS staff Volunteer travels back to Addis Ababa
Day 14	<ul style="list-style-type: none"> <li>• Debriefing with CRS staff and/or USAID Mission</li> <li>• Finalize reimbursement expenditures and liquidations (if any) with finance.</li> <li>• Finalizes his/her reporting and submit training M&amp;E forms to CRS F2F staff. And depart for USA</li> </ul>
TBD	Outreach event when back in the USA

**H. DESIRABLE VOLUNTEERS SKILLS**

The volunteer is expected to have the following qualifications and competencies:

- Advanced and extensive practical knowledge and experience on Crop modeling and simulation.
- Experience in crop modeling curriculum development and developing training materials.
- Experience in adult training and technical assistance
- Good interpersonal and communication skills including analytical skills
- Respect the cultural and religious norms of the rural people.

#### **I. ACCOMMODATION AND OTHER IN-COUNTRY LOGISTICS**

- Before travelling to the assignment place, Fitch town, the volunteer will stay in Addis Ababa at one of the CRS's client hotels, Saro Maria Hotel (mail: [reservation@saromariahotel.com](mailto:reservation@saromariahotel.com); Phone: [+251 11 667 2167](tel:+251116672167)). For any inconvenience, please call at [0911718450](tel:0911718450), Biruk - F2F program manager.
- In Addis Ababa, the hotel usually has rooms that include services such as airport pickup and drop-off, breakfast, wireless internet, etc.
- The hotel shuttle or CRS will arrange a vehicle for short travel from the hotel to CRS office and vice versa in Addis Ababa.
- While in the field, the volunteer will stay at a hotel in C-Lale Resort Hotel/Girum Hotel, Fitch town. (usually the hotel has breakfast and wireless internet). The accommodation details will be confirmed prior to the volunteer's arrival in country.
- 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.
- 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

#### **J. RECOMMENDED ASSIGNMENT PREPARATIONS**

- The volunteer can fine-tune the Scope of Work based on her/his professional qualifications to successfully carry out this crop modeling 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 materials and demonstration aids and written handouts. Soft copies of the handouts and any other paper materials can be printed for at the CRS office in Addis Ababa on request by the volunteer
- If the volunteer requires use of training aids like flip charts, markers and 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 require.

- Depending on the meeting places and availability of electricity and LCD projector, the volunteer may use a laptop and projector for Power Point presentations.
- The weather at Fitech town is relatively cold so that the volunteer is advised to bring sweater.

**K. KEY CONTACTS**

To express interest in this assignment, please email the CRS Baltimore contact listed below. To find out additional information about the host, issue description or field conditions, please email the country contact provided below, copying the CRS Baltimore contact.

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<b>Host Organization</b>	
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