MEMORANDUM OF UNDERSTANDING (MOU)
ZRDA/MOU-2016-01-003

This Memorandum of Understanding (MOU) is hereby made and entered into by and between Chemonics International Inc, Prime Implementer for the USAID Zrda Activity in Georgia (hereinafter referred to as Zrda), represented by Brian King, Chief of Party and The Ministry of Agriculture of Georgia represented by Levan Davitashvili, Minister of Agriculture of Georgia. The terms and conditions herein appearing shall govern the roles, responsibilities, duties and obligations of the respective parties under this MOU; however, this MOU shall be considered to be a good faith agreement to pursue the goals and objective described herein, and is non-binding and not legally enforceable on either party hereto.

A. Parties:

Party I – Chemonics International, Inc., Prime Implementing Partner for the Zrda Activity in Georgia, funded by the United States Agency for International Development (USAID), and located at 6a N. Ramishvili Street, Tbilisi 0179, Georgia. Zrda is a project designed to improve MSME growth, increase productivity of rural households, facilitate market linkages between producers and buyers, and promoting local economic development by establish and strengthening networks.

And

Party II – The Ministry of Agriculture of Georgia (hereinafter referred to as MoA) , 6 Marshal Gelovani Ave, Tbilisi 0159, The Ministry of Agriculture of Georgia develops and implements a unified government policy on the development of the agricultural sector of Georgia - Carry out agrarian reforms considering international experience as well as historical and national traditions of the country, support the development of agricultural cooperation; promote processing of primary agricultural and food products; support the use of export potential and strengthen the positions on the international market; collecting / analyzing information about conditions and tendencies of internal and external markets. Promote and organize scientific-consulting services, capacity building and hands-on training courses of agricultural entrepreneurs; registration and organization of pesticides, agrochemicals, testing new animal and/or plant breeds; supporting the accessibility and renewal of agricultural equipment and technologies; forecasting the need of pesticides and agrochemicals and promote their application.

B. Objective:

Collectively the above Parties have agreed to enter into this MOU to reflect their mutual intention to cooperate and coordinate to support State agriculture extension services centers (AICCs) to improve their capacity and qualification in order to expand operations approach, thereby providing effective extension services and better coverage of farmers operating in Zrda targeted communities.

C. Background

The USAID Zrda Activity in Georgia is a five-year program designed to promote inclusive and sustainable economic growth in target regions by improving MSME growth, increasing productivity of rural households, facilitating market linkages between producers and buyers, and promoting local economic development by establishing and strengthening networks. As a result, ZRDA will create jobs and increase sales for MSMEs and incomes for households, bolstering the resilience and livelihoods of the target communities.

Overall, within the framework of this MOU, the Zrda project intends to provide assistance aimed at increasing the capacity of AICCs in order to provide more effective extension services to the farmers operating in Zrda targeted communities.

Working in partnership, USAID/Zrda project and the MoA will help achieve Zrda's objectives by increasing household production of agricultural commodities, increasing income from commercial activities (Farmers and MSMEs), diversifying income sources and increasing community resilience, and creating employment opportunities.

USAID/Zrda's overall objectives during the project lifetime include:

- Increase household income in target communities by at least 25 percent over baseline levels.
- Generate additional sales for project-supported MSMEs by at least $30 million in aggregate across all project target communities.
- Leverage at least $3 million on additional funding from the Government of Georgia and other sources for infrastructure and non-infrastructure projects.
- Increase resiliency of target communities as measured through at least a 10 percent improvement of the in the Zrda Resiliency Index (ZRI).
- Create at least 2000 new jobs in target regions.

These objectives are deliverables for the Zrda project and this MOU does not oblige the MoA to meet these objectives singularly. The joint activities described herein aim to contribute to Zrda's achievement of these indicator targets.

D. Responsibilities of the Parties

D.1 Zrda will be responsible for the following under this agreement:

a. Provide 13 AICCs operating within Zrda's target regions with one set each of mobile testing tools (please see annex 1) including Nitrate, Potassium, Phosphorus, Calcium, EC, PH meters, refractometer and mini digital microscope;
b. Establish 10 meteorological stations to be located in Kvemo Kartli and Samtskhe Javakheti regions in order to provide farmers with accurate information of pest outbreaks and irrigation needs, and hand over the stations to the respective AICCs that will be tasked with their long-term operations and management;
c. Equipment shall be provided via a Limited Scope Grant Agreement and made in-kind to the MoA;
d. Provide trainings for AICC trainers (agronomists, extensionists) on related different crop production and trainings for usage testing tools and meteorological stations.
e. Shall participate with designated MoA representatives in annual joint action planning to determine the specifics of activity implementation, duration, and respective resource contributions from each party for the subsequent year.

D.2 The Ministry of Agriculture of Georgia will be responsible for the supporting AICCs to implement following under this agreement:

a. Conduct trainings for farmer participants operating in Zrda targeted communities.
b. Work with Zrda to set up early warning service for diseases outbreak and irrigation management based on the information received from the meteorological stations and provide this information to beneficiaries living in Zrda targeted communities in Samtskhe-Javakheti and Kvemo Kartli regions using SMS based services.
c. Provide soil test and foliar test analyses to beneficiary farmers operating in Zrda targeted communities.
d. Agrees to complete Zrda-required grant application form and participate actively in monitoring and evaluation of join activities.
e. Shall participate with designated Zrda representatives in annual joint action planning to determine the specifics of activity implementation, duration, and respective resource contributions from each party for the subsequent year.

D.3 Both Parties acknowledge and agree that Chemonics International implements the Zrda project under a Cooperative Agreement with USAID. Any commitments made by Chemonics in this MOU are subject to change at any time based the availability of funding for the Zrda project and/or any modification or termination of the Zrda Cooperative Agreement initiated by USAID.

E. Term

The Parties shall perform respective agreed upon responsibilities over a period from October 28, 2016 through September 30, 2019, unless otherwise terminated in accordance with clause K below.

F. Funding and Expenses

This MOU does not obligate any funds to either Party or the employees of either Party. Unless otherwise mutually and explicitly provided and agreed upon in writing, all expenses and costs incurred by either Party shall be borne by the Party incurring the same and neither shall be obliged to reimburse the other.

G. Communications

Day to day communication with respect to this MOU and any notice, request, document, or other communication related to the implementation of this MOU shall be in writing, in English or Georgian, and shall be deemed given or sent when delivered to the Parties.

For the Ministry of Agriculture of Georgia

Minister

Mr. Levan Davitashvili

For USAID
Zrda Activity
Chief of Party

Brian King

H. Confidentiality

Each Party agrees to maintain in confidence any and all proprietary information received from the other including, but not limited to, data, reports, technical plans, business plans and any financial or fiscal information.

I. Amendments

This MOU may be amended or modified in writing by mutual consent of both Parties as may be necessary from time to time. Notwithstanding the above, this MOU may be unilaterally modified by Zrda as necessitated by changes in funding or scope of work of Zrda.

J. Dispute Resolution

Any doubts or ambiguities or disputes, if any, in the interpretation of the provisions of this MOU or any of its supplements, shall be resolved through mutual consultations between the Parties.

K. Termination

Any of the Parties, in writing, may terminate the MOU in whole, or in part, at any time before the date of expiration.

L. Force Majeure

If at any time during the course of this MOU it becomes impossible for the Parties to perform any of their obligations for reasons of force majeure, that Party shall promptly notify the other in writing of the existence of such force majeure. The Party giving notice is thereby relieved from such obligations as long as force majeure persists.

M. General Provisions

The Parties entering into this MOU maintain their own separate and unique missions and mandates, and their own accountabilities. This MOU shall not supersede or interfere in any way with other agreements or contracts entered into between the parties, either prior to or subsequent to the signing of the MOU, unless otherwise stated herein.

Nothing in this MOU shall be construed as constituting any Party as the agent of the other Party for any purpose whatsoever and neither of the Parties shall have the authority or

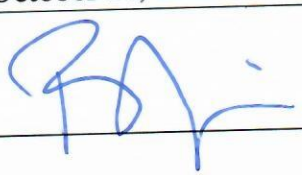
power to bind the other or to contract in the name of or create a liability against the other Party in any way.

This MOU and all notices and amendments to it shall be executed in the English language, although they may be translated into Georgian. The English language version shall be considered in any dispute between the Parties.

N. Acceptance and Execution

This Memorandum of Understanding is made on the day and year stated below in two originals in the English language, all texts being equally authentic. Acceptance of the terms of this agreement shall be indicated by both Parties on the lines provided below and by initialing each page of this agreement. The Parties hereby accept the terms of this agreement.

IN WITNESS THEREOF, the Parties hereto have executed this MOU:

For MoA:		For Zrda:	
Name:	Levan Davitashvili	Name:	Brian King
Position:	Minister	Position:	Chief of Party
Date:	October 28, 2016	Date:	October 28, 2016
Signature:		Signature:	

Annex 1

Compact Nitrate Ion Meter

Unique sensor mechanism realizes direct measurement of solid, viscous, powder samples. Just drop the standards and sample on the flat sensor.

Soil testing to a depth of 60 cm. in the spring is critical to planning an effective and efficient N management program. Post-harvest soil samples may help growers to select succeeding crops, which will make maximum use of the residual N after the crop.

The nitrogen sampling allows for in-season monitoring of the crop's nutrient status. Collecting the 4th petiole from 30 – 50 randomly selected plants throughout the field is recommended. Tissue samples are often collected weekly to track changes in nitrate levels, and to plan supplemental fertilizer applications, should levels drop below optimum.

Potassium Ion Meter

Crops usually take up large quantities of potassium throughout the growing season. Potassium has an important role in the control of the plant water status and internal ionic concentration of the plant tissues, with a special focus on the stomatal functioning. Potassium deficiencies reduce the yield, size, and quality of the crops. Potassium deficiencies impair the crop's resistance to diseases and its ability to tolerate stresses such as drought and frost. Applying K fertilizer with a broadcast application prior to planting is most commonly recommended.

Phosphate Tester

Phosphorus is important for early root and shoot development, providing energy for plant processes such as ion uptake and transport. Roots absorb phosphate ions only when they are dissolved in the soil water. Phosphorus deficiencies can occur even in soils with abundant available P, if drought, low temperatures, or disease interfere with P diffusion to the root, through the soil solution. These deficiencies will result in stunt root development and inadequate function.

Calcium Ion Meter

Calcium is a key component of cell walls, helping to build a strong structure and ensuring cell stability. Calcium-enriched cell walls are more resistant to bacterial or fungal attack. Calcium also helps the plant adapt to stress by influencing the signal chain reaction when stress occurs. It also has a key role in regulating the active transport of potassium for stomatal opening.

EC Meter

The salinity of soil refers to the amount of salts in the soil and it can be estimated by measuring the electrical conductivity (EC) of an extracted soil solution. Salinity can affect plant growth in several ways, directly and indirectly:

Direct soil salinity damages

- Decreased water uptake - High salts concentration results in high osmotic potential of the soil solution, so the plant has to use more energy to absorb water. Under extreme salinity conditions, plants may be unable to absorb water and will wilt, even when the surrounding soil is saturated.
- Ion-specific toxicity - When a plant absorbs water containing ions of harmful salts (e.g. Sodium, Chloride, excess of Boron etc.), visual symptoms might appear, such as stunted plant growth, small leaves, marginal necrosis of leaves or fruit distortions.

Indirect soil salinity damages

- Interference with uptake of essential nutrients - An imbalance in the salts content may result in a competition between elements. This condition is called "antagonism", i.e. an excess of one ion limits the uptake of another ion. For example, excess of chloride reduces the uptake of nitrate, excess of phosphorus reduces the uptake of manganese, and excess of potassium limits the uptake of calcium.

PH Meter

Both macronutrient and micronutrient availability are affected by soil ph. In a slight-to-moderate alkaline soil (pH range of 7.5-8.5), the availability of the macronutrients (except for P) and Mo is increased. Contrarily, the availability of P, Fe, Mn, Zn, B, and Cu is reduced and deficiencies may adversely affect tree growth.

In acidic soils, micronutrient availability is increased, except for Mo and Bo. In order for P to be optimally available for root uptake, the soil pH needs to be in the range 6.0 to 7.0. If the soil pH is lower than 6.0, P starts forming insoluble compounds with Fe and aluminum (Al). If the pH is higher than 7.5, P starts forming insoluble compounds with Ca. In general, nutrient deficiencies can be avoided at a soil pH range of 6.0 to 7.0, provided that soil minerals and organic matter contain the essential nutrients to begin with.

Refractometer

Digital refractometers provide a direct read-out of the soluble solids content. This test is typically used on sub-samples of randomly selected fruit to establish a correlation between fruit size, appearance, and maturity.

Digital Microscope

Digital microscope will allow extension agents to identify diseases and insects in the field. If identification of pests will not be possible on the field extension agent can take pictures and make office work.

Meteorological Stations

Meteorological station will provide accurate information to the ICC offices related temperature, humidity, solar radiation, wind speed, pressure, precipitation, evaporation, diseases outbreaks for different crops. Based on this information ICCs will provide information related pest and irrigation to the Zrda targeted farmers by SMS