



To express interest in this assignment please email emily.keast@crs.org

**CRS Farmer to Farmer Program
In-Person Volunteer Assignment Scope of Work**

Summary Information			
Assignment Code	BJ2102		
Country:	Benin		
Country Project:	Soybean		
Host Organization:	STE FAMILY JOY SARL Farm		
Partner:	Partners' Capacities strengthening Program		
Date of baseline data collection:	04/07/22		
Date of host agreement signing:	04/07/22		
Number of previous volunteer assignments:			
Volunteer recommendations given (Total):		Volunteer recommendations applied:	
Assignment Title:	Technical analysis for Bio-digesters system installation for chicken's feed production with soy and waste management		
Objectives of the assignment:	Improve the profitability of the farm with an integrated, economical, and ecological feed production and waste management system Specifically: - Conduct an analysis of the technical feasibility of the project, - Propose the types of biodigester system possible, based on the resources available and needs of the farm, - Provide all necessary hardware information for the system installation		
Assignment preferred dates:	October 15 – 31, 2022		
Desired volunteer skill/expertise	Expert in integrated biodigester system installation with good knowledge of hardware quality, availability, and accessibility for from African countries		
Type of Volunteer Assistance	Technology Transfer (T)		
Type of Value Chain Activity	Information and Input Support Services (S)		
PERSUAP Classification ¹	Type III		
Number of people to be trained	Men	Women	Youths
	5	1	4
Will the assignment address gender gaps?	Yes		
Will the assignment address climate change?	Yes		

¹ 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.



A. BACKGROUND

The "Farmer-to-Farmer" (F2F) program is an American initiative that provides technical assistance from highly qualified volunteers to farmers, farmer groups (cooperatives and associations), agribusinesses, research institutes and other organizations in the agricultural sector in developing countries and countries in transition. The support is usually provided in-person by American volunteers but due to the COVID-19 pandemic, currently, some missions are carried out by pairs of volunteers; a volunteer recruited locally paired with an American volunteer remotely. The F2F project has been implemented in Benin since September 2018 by CRS to support the cashew and soybean value chains over 5 years.

“STE FAMILY JOY SARL” (Family Joy) is an integrated crop, chicken eggs and livestock production farm created in July 2017 by a former accountant lady turned agro-entrepreneur. The farm is in the village Savi, in the commune of Ouidah, and is a member of the association of animal raisers of Benin. It is currently installed on an area of 5ha, most of which is used for crop production (mainly pineapple, maize, papaya, banana, and a little soy). The rest of the space is used for the rearing of layers, which is the main activity of the farm, and raising pigs. In addition to that, they have established a layers’ feed production unit, to produce by themselves the quantity of feed they need for the egg production. The main inputs, soybean and maize, for feed production are supplied by farmers. Thus, during those crops production seasons, the farm buys large quantities of feed and stores them.

B. ISSUE DESCRIPTION

Animal feed production is one of the value chains that use a lot of quantity of soybean and, since feed cost in poultry production accounts for about 70% of total production costs, it is important for farms to produce their own chicken feed. The Family Joy farm is facing two difficulties affecting its production efficiency. Firstly, the farm has more than 20,000 laying hens, most of which are battery reared, and produces a large quantity of droppings stored in sumps that are emptied periodically. On average, more than 20m³ of manure (chicken droppings) is produced per week. Then the farm is facing difficulties in properly managing that quantity of dropping which can be used in other system such as the biogas production to develop a more sustainable and profitable system. Secondly, with the production unit of feed made from soybeans and maize for feeding the layers, the company uses wood as a source of fire for the processing of raw materials. This energy source is not sustainable and costly. The energy source can then be replaced by a clean energy such as biogas that be produced on farm.

Since the management and the technical team of farm lack knowledge and experiences in biogas production system, specifically at a medium production scale, they cannot conduct a proper technical feasibility analysis to define a good and adapted system for the project. In addition, they need specific information about the materials to be used and how to access them.



C. OBJECTIVES OF THE ASSIGNMENT

The main objective of this assignment is to improve the profitability of the farm with an integrated, economical, and ecological feed production and waste management system.

Specifically,

- Conduct an analysis of the technical feasibility of the project,
- Propose the types of possible biodigester system with diagram and details materials, based on the resources available and needs of the farm,
- Provide all necessary hardware information for the system installation

D. HOST CONTRIBUTION

For the achievement of this assignment, the management of Family Joy Farm will provide key resources and relevant support to ensure objectives achievements. They will also take in charge the roundtrip from the volunteer's hotel to the working places every day. In case volunteer will need to stay in the farm for some days, the host will provide room for accommodation and there is restaurant around. they will also ensure that local training aids and other teaching and working materials are in place. The host will also support the commuting, lodging, and feeding of the participants to the working sessions.

E. ANTICIPATED RESULTS FROM THE ASSIGNMENT

After this assignment, at least three technicians and the manager will be trained on biogas production system specificities and, will know exactly which system is adapted to their need. Also, the information about the necessary materials to be used are known and the management will be aware of the technical feasibility of the project. The farm will be able to move to the installation of the biodigesters and increases their efficiency, as well as sustainability and environment protection action. This will also contribute to the economic development of the farm, and they will be able to increase their production in terms of layers feed production as well as number layers and the use of the digesta as fertilizer.

F. DELIVERABLES

- Training manuals and diagram of the biogas production system
- Volunteer final report due BEFORE departure.
- Group presentation with local stakeholders at the end of the assignment
- Volunteer outreach activities in the US and in-country.
- Outreach on social media page (Facebook page);
- Assignment related photos



G. SCHEDULE OF VOLUNTEER ACTIVITIES

Days (not date)	Activities
Day 1 & 2	<ul style="list-style-type: none"> Travel from the US and arrival at Benin International Airport, pick-up and check-in at Livingstone Hotel
Day 3	<ul style="list-style-type: none"> Volunteer's welcome and orientation at CRS office in Cotonou for assignment and security briefing. Any necessary hand-outs will be prepared and printed at CRS offices. Travel to Ouidah and check in at the hotel Terra Nostra Introduction of the volunteer to the host organization in the farm in the district of Savi by F2F team: General orientation with the host First-hand briefing on the main objectives and modality of the assignment; Detailed Work Plan covering all activities required.
Day 4 – 5	<ul style="list-style-type: none"> Assess the farm's integrated production system
Day 6-11	<ul style="list-style-type: none"> Complete the analysis and make propositions of the different systems possible to install.
Day 12-13	<ul style="list-style-type: none"> Provide relevant information on the materials and the production system functioning
Day 14	<ul style="list-style-type: none"> Wrap up meetings with F2F staff and management of DEDRAS, discuss the report and final recommendations,
Day 15	Debriefing with CRS and USAID testing for COVID (if required) and material release, submit final documents
Day 16	Travel back

H. DESIRABLE VOLUNTEERS SKILLS

For this assignment, the desired volunteer

- must be an expert in integrated biodigester system installation with good knowledge of hardware quality, availability, and accessibility for from African countries,
- should have Relevant experience in renewable energy sources, specifically production of biogas from animal waste (chicken droppings);
- should be a professional and experienced in installation and maintenance of medium or large scale biodigesters installation and management.



I. ACCOMMODATION AND ANOTHER IN-COUNTRY LOGISTICS

In Cotonou, volunteers will stay at [Livingstone hotel](#), near the CRS office and not far from the airport. In Ouidah, the volunteer will stay at hotel Tera Nostra and will be going Family Joy farm farm in Savi (about 8 km from Ouidah city). The volunteer may need to be lodged for some day in the farm. In the field, CRS will hire a local translator for the volunteer's work. The management leadership will work closely with the volunteer, during the preparations and the implementation of the assignment, to ensure that key persons are involved, and that the assignments' goal are achieved. Travel arrangements from Cotonou to Ouidah, adhering to COVID-19 safety precautions, will be made by CRS and the host we ensure the round trip from the Hotel to the farm every day. Volunteers are encouraged to bring N95 masks and Covid-19 TDR tests with them if possible.

J. RECOMMENDED ASSIGNMENT PREPARATIONS

▪ Targeted trainees' Description

The main participants to this assignment who will be working closely with the volunteer are technicians with at least secondary school level and the manager who has the relevant academic education. For some of the technicians this assignment may be their first time hearing about biodigesters and biogas production. In the chicken feed processing unit, volunteer can also meet and collaborate with women with low academic education level.

▪ Training Materials

The volunteer should prepare documents that can be printed at the CRS office in Benin prior to travel. Flipcharts, markers and masking tape can be obtained from the host's office in case the volunteer wishes to do illustrations. If possible, the volunteer should bring a laptop with him/her. However, if it is not possible, CRS will provide a spare laptop for the volunteer to use during the assignment. For PowerPoint presentations, the host can provide a video projector.

▪ Electricity, internet, cellphone signal, key security, health issues

In general, electricity supply, internet connectivity and cellphone signal are stable in Ouidah city but internet is slower in the farm area. The hotel has stable access to electricity and internet connectivity even though the internet signal is sometimes weak. The volunteer will also be given a cellphone with a local sim card and data bundle that can be used to access internet when out in the field. Cellphone reception is good for both mobile networks (MTN and Moov) available.

Although security levels in Benin and Ouidah are good, the volunteer will be instructed about security measures and safeguarding before going to the host organization. The volunteer is advised to bring along



any regular medications they take, in order to prevent health issues. Ouidah is in the south part of Benin where no security issue has been raised.

- **Working Environment and culture**

Ouidah, and the village Savi, is in the South part of Benin, near to the coast, at about 34 km from Cotonou. The volunteer will most of the time work in the farm. However, the farm also has office in Cotonou where the volunteer can also go for some works if needed.

In Ouidah, the volunteer will meet mainly Fon speaking people who are very nice and respectful, especially towards foreigners; they are social and open to collaborating with foreigners. The main area of the farm is used for vegetable production and technicians and workers working in the farm live there. Bodily protection would necessary to avoid any danger since it is on a farm that this assignment will take place.

- **Recommended Reading**

CRS strongly recommends that the volunteer become familiar with this SOW, read documents on the biodigesters system installation for medium scale biogas production with chicken droppings; poultry farming and chicken layers rearing for egg production in Benin and West Africa. We also recommend reading about the chicken feed making process and use of biogas in such system. Volunteer is also encouraged to visit the F2F library for any relevant materials available. Some additional orientations could also be given by the host before assignment starts.

- **Weather Appropriate Clothing**

The weather appropriate clothing is light and not dark clothes. In the south part of Benin, the weather will be cool during the assignment period but may also be a bit hot with some temperatures varying between 25 to 32 Celsius degrees. The city is near the coast and wind speed may sometimes be high. It is also a sunny weather with end of the raining season by October. Daily weather conditions in the department of Atlantique can be found [here](#).



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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