

John Ogonowski and Doug Bereuter Farmer-to-Farmer (F2F) Program

Request for Technical Assistance Scope of Work Outline

**Title: TOT on Maintenance of Agricultural Equipment for Vegetable Production
Assignment Number: SEN257**

I. Executive Summary:

Winrock International requests the support of a Farmer-to-Farmer volunteer for a 18 day volunteer assignment (including travel) located in Sedhiou, Senegal. The volunteer will provide Community Agricultural Areas Program PRODACs¹, DAC² of Séfa's and Keur Momar Sarr's staff training on maintenance of agricultural equipment (plows, sprayers, rototiller, and tractors) for vegetable production. One session will be held in Séfa, Sédhiou for the two hosts.

The volunteer should have the following qualifications and background:

- *Proven experience in the use, maintenance, and repair of agricultural machinery*
- *Prior experience working with farmer associations, preferably in a developing country*
- *Experience and background teaching or training adults; understanding of modern adult education pedagogy preferred*
- *French language is desired but not mandatory. F2F will provide a translator as needed*

II. Background:

1. *Brief summary of the sector/value chain: constraints, opportunities, stakeholders, etc. –as related to the statement of need for the SOW:*

In Senegal, agriculture remains primarily dependent on manual operations. Mechanization activities would save time and labor especially in soil preparation. Different national agricultural strategies and policies emphasize the need for mechanization and equipment in modern production. The National Agricultural Investment Program and various technical and financial partners, as well as private efforts, aim to equip the agriculturists with mechanized production equipment (such as plows, sprayers, threshing machines, harvesters, and tractors) and to train them on the proper use and maintenance of agricultural machinery proper use and maintenance. Therefore, PRODAC' staff expressed a need for technical assistance from a F2F volunteer who will train the staff and extension agents and provide them with guidelines on use, maintenance, and repair of agricultural machinery.

The government of Senegal started promoting mechanization a few years ago, under the National Agency of Rural Mechanization. The government established this strategy for farmers to increase the cultivated areas and the national agriculture production.

To promote mechanization on the DACs level and individual youth agricultural entrepreneurs, PRODAC, a nationwide governmental program, has identified the importance to train its extension agents on maintenance of agricultural equipment.

¹Community Agricultural Areas Program

²Community Agricultural Domain

PRODAC plans to duplicate and offer this training to its beneficiaries (young agricultural entrepreneurs).

2. *Brief summary of any other USAID or other donor-funded work in similar areas/topics in country:*

N/A

3. *If this is a follow-on assignment or if there is a previous F2F assignment that is related to this host and/or sector, please provide a brief summary of the assignment(s) including the assignment number*

SEN219- ToT on Techniques for improving Aquaculture Production for PRODAC-Sefa. This assignment was conducted with the larger host PRODAC.

III. Host Information:

Host Organization Name:		Community Agricultural Areas Program (PRODAC) of Séfa		Address:		Mansacounda behind Sourouwacounda Mosque, Sédhiou	
Telephone Number:		221 339950323 221 338242913		Email Address:		Website or Social Media link: www.prodac.sn	
Primary Contact Name:		Cheikh Diaw		Secondary Contact Name:		Aliou SOW	
Phone:		77 889 63 58		Phone:		221 77 655 06 87	
Email:				Email:		bassirouman@yahoo.fr	
Title:		Director of Strategy and Partnership		Title:		DAC Manager	
Gender:		Male		Gender:		Male	
Host Type:				Public Sector Technical Agencies			
Have we worked with this host before?				Yes			
If yes, please include a recent assignment number:				SEN219			

Host Organization Name:		Community Agricultural Domain of Keur Momar Sarr (PRODAC-KMS)		Address:		Keur Momar Sarr	
Telephone Number:		+221762233723		Email Address:		dioumafaye987@gmail.com www.prodac.sn	
Primary Contact Name:		Diouma FAYE		Secondary Contact Name:		Amy Bassene Diedhiou	
Phone:		+221777797623		Phone:		+221778027412	
Email:		dioumafaye987@gmail.com		Email:		Amybassene@gmail.com	
Title:		Director of the Community Agricultural Domain of Keur Momar SARR		Title:		Communication Manager at the Community Agricultural Estate of Keur Momar SARR	
Gender:		Male		Gender:		Female	
Host Type:				Public Sector Technical Agencies			
Have we worked with this host before?				No			

If yes, please include a recent assignment number:	
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Are there local partner organizations collaborating on this assignment? No

IV. Host Organization Profile:

1. *Description of the host, history of enterprise and their long-term objectives. Describe relevant milestones that have led up to the present situation:*

The Program of Community Agricultural Domains (PRODAC) was conceived and implemented, with the Decree N ° 2014-498 of April 10th, 2014 to bring concrete and quick answers to the thorny issue of youth employment and inclusion. It was established by the Senegalese government intended to create youth and women employment in agriculture in rural areas. The concept is intended to proceed from a spatial planning approach to provide, in particular to the interior of the country, agricultural infrastructures and structuring arrangements allowing the realization of large estates ranging from 1,000 to 5,000 hectares (ha). These are genuine 'agropoles', places for the integration of rural young people, graduates from training schools (in the agricultural professions and related disciplines), but also private promoters wishing to invest the sector both in its production and processing activities and agricultural services.

Within the PRODAC program, there are Community Agricultural Domains (DAC) These areas are at the community level under the supervision of the PRODAC program. The DACs are involved in agriculture, processing and related agricultural sectors in rural and suburban areas, which will allow the government to reduce the rate of job demand, especially in Casamance, Kaolack, Fatick, Thies and the suburb of Dakar.

DAC of Séfa

The Séfa Agricultural Community is the first DAC created. It lies between two communes: Kousy and Diendé and with 45 villages between them. At this stage, 1,950 ha were the subject of deliberation by the two communes. Autonomous Units of Exploitation will be set up to develop the following activities: agricultural production (animal and vegetable); processing of agricultural products; development of non-agricultural trades; and development of social services.

The Sefa Plain was selected following a feasibility study taking into account the social relevance, technical feasibility and economic and financial profitability linked to the development of the following specific components: aquaculture; production of cereals, horticulture and fruit trees; livestock (poultry farming with broilers and eggs for consumption); and the development of the activities in support of the above activities in a value chain approach.

The main objectives of the DAC program are to:

- ✓ Massively create jobs in the agriculture sector;
- ✓ Provide rural populations with conditions and an environment conducive to the development of agricultural enterprises;
- ✓ Provide targeted areas with infrastructure and equipment (wells, boreholes, irrigation systems, roads, electricity, packing centers, etc.) enabling the development of production, processing and packaging of agricultural products;
- ✓ Create favorable conditions for the installation of private investors in the production, processing and agricultural services sectors;
- ✓ Inserting young graduates (and non-graduates) in the agricultural trades to combat underemployment and unemployment in rural and urban areas;
- ✓ Facilitate the emergence of development poles, organizing, in fact, a rational land use and national land-use planning based on the agro-ecological potentialities of the identified areas; and

- ✓ Improve the living conditions of the populations concerned well within the next 5 years.

DAC of Keur Momar Sarr

The Keur Momar Serr and Syer DAC covers an overall area of 5000 hectares. Each municipality has contributed 2500 hectares, about which 1700 hectares are already delimited, and are at the disposal of the DAC. It intervenes in three communes that are Keur Momar Sarr, Syer and Louga and 223 Group of Agricultural Entrepreneurs (GAE) are created in 87 villages, with 3078 members and 5312 beneficiaries.

The main objectives of the DAC are to:

- ✓ Massively create jobs in the agriculture sector;
- ✓ Provide rural populations with conditions and an environment conducive to the development of profitable and profitable agricultural enterprises, including training and knowledge;
- ✓ Provide targeted areas with infrastructure and equipment (wells, boreholes, irrigation systems, roads, electricity, packing centers, etc.) enabling the development of production, processing and packaging of agricultural products;
- ✓ Create favorable conditions for the installation of private investors in the production, processing and agricultural services sectors;
- ✓ Inserting young graduates (and non-graduates) in the agricultural trades to combat underemployment and unemployment in rural and urban areas;
- ✓ Facilitate the emergence of development poles, organizing, in fact, a rational land use and national land-use planning based on the agro-ecological potentialities of the identified areas; and
- ✓ Improve the living conditions of the populations concerned well within the next 5 years.

Its Perspectives are:

Completion of the development of the production infrastructures;
Reception and inauguration of the Agricultural Services and Training Center (ASTC);
Training of the DAC technicians on new production techniques;
Producer training;
Starting of productions in the domain.

2. *Number of workers: male, female, education levels, host plans to increase or decrease size of workforce, etc.*

DAC of Séfa

87 employers including 20 women. There is sufficient staff qualified at BAC + level. There are plans to increase size of workforce

DAC of Keur Momar Sarr

There are 22 employees, of whom 10 female. There is sufficient staff qualified at BAC + level. There are plans to increase size of workforce since the domain is focuses on training more technicians and field agents in order to provide assistance to farmers, producer organizations, etc. This will create interest and bring in more people.

3. *Market situation: Has a market analysis been done, size of market, existing marketing plans?*

DAC of Séfa

A market analysis has been done as the domain is training center for future entrepreneurs. Sefa domain produces fruits and vegetable and has a national market (individual Senegalese family and entity such as

hotels. Training services and products tend to reach international standards allowing exportation in the future

DAC of Keur Momar Sarr

A market analysis has been done as the domain is looking forward to training more women and young people to initiate and develop income generating activities. The domain will have more agents able to train entrepreneurs (young and women), to supervise them in their agricultural activities, and thus guarantee them decent jobs, generating income (good training and coaching program)

In addition, these trainings will allow agents to become entrepreneurs with the required skills. Technology transfer will produce quality products that meet national and international standards at the KMS DAC level

4. Description of management capabilities: strengths & weaknesses.

DAC OF SEFA STRENGTHS	DAC OF SEFA WEAKNESSES
-BAC + level agents -Environment conducive to training	-Weak skills to be strengthened -Different technical level of the agents
-existence of the latest generation of operational infrastructures and equipment	-under-utilization of the material
-Existence of suitable and interested personnel to receive entrepreneurial training -Existence of a monitoring-evaluation section -Existence of a section of administrative and financial management -Existence of a communication and marketing support unit	-no control of the material

DAC KEUR MOMAR SARR STRENGTHS	DAC KEUR MOMAR SARR WEAKNESSES
Young and dynamic administrative and technical staff	Inadequate capacity building of staff in the field of agricultural technology and technologies
Existence of ASTC (agricultural service and training center) at the forefront of technology in the agricultural field	Lack of capacity building of staff and entrepreneurs in the agricultural field
Experienced producer groups	Lack of resources for the landscaping of the 5000 ha of land
Availability of production factors (5000 ha of land for the program, presence of Lake Guiers)	Lack of skills in relation to new agricultural technologies and techniques
Existence of BAC + level agents, and beneficiaries ready to be trained	

5. Pertinent information on local physical setting: infrastructure; availability of electricity water, fuels, etc. and their limitations.

DAC of Séfa

Séfa is a large (2000 hectares) and well-equipped domain with many facilities (shelters, aquaculture ponds, drip irrigation system, buildings with labs, electricity, internet, cooler system. They also have a modern and operational training center.

DAC of Keur Momar Sarr

The objective of the domain is to contribute to improving the living conditions of women and young people in rural areas by establishing innovative infrastructures, access to water, land, financing and training.

Also, to promote employment and income generation in the field of horticulture (gardening, tree cultivation, floriculture...), poultry, fish farming for young people and women in rural areas by setting up the country's agricultural infrastructure and structures allowing the development of large areas ranging from 1 000 to 5 000 ha. There are limitations due to the lack of resources for the landscaping of the 5000 ha of land and skills in relation to new agricultural technologies and techniques.

V. Expected Beneficiaries:

Expected training participants/direct recipients of volunteer assistance	# or level	Comments
Estimated number of assignment participants:	30	
Estimated % of women:	15%	
Average education level:	High school and BA	
Average skill level related to the assignment:	Fair	
English-language capability/literacy level (speaking and writing):	No English	
List experience or prior training on similar topic (what and when):	None	

Assignment Information

VI. Duration and Dates of Assignment (including travel): 18 days

Anticipated In-country schedule is included below:

Activity	Location	Estimated days
Travel to Dakar		2
Briefing with Winrock staff, information on the host (PRODAC); security briefing	Dakar	1
Travel from Dakar to Sédhiou	Sédhiou	1
-Meet with PRODAC DACs staff and briefing on their activities. -Visit DAC of Séfa -Meet the leaders of some young agricultural entrepreneurs organizations to become acquainted with their operations and equipment used - Visit repair shops and shops offering locally available materials for repairs -Understand host priorities related to their equipment maintenance needs	Sédhiou-Séfa	3

Activity	Location	Estimated days
Finalize training materials; and instructions/guides for the equipment.	Sédhiou	2
Rest day	Sédhiou	1
Train PRODAC DACs extension agents on maintenance of agricultural equipment (plows, sprayers, rototiller, tractors, etc.) for vegetable production	Sédhiou	5
Travel back to -Dakar	Sédhiou- Dakar	1
Debrief with Winrock staff and finalizing EOA reports	Dakar	1
Travel back to the USA	Dakar-USA	1
Total number of days		18 days

VII. Tasks to be Performed:

Prior to leaving the US, the volunteer is expected to:

- Review End of Assignment Report template
- Review the F2F Environmental Brochure. See additional requirements under *F2F Pesticide Evaluation Report and Safer Use Action Plan*
- Conduct research on the selected items from the equipment listed below
- Gather and/or develop draft training materials that can easily be assimilated and disseminated, such as PowerPoint, guides, videos, etc.
- Send training materials to the Winrock International Senegal office two weeks before leaving US so that they can be translated.

The main tasks of the assignment are to:

- Train *PRODAC* extension agents and staff on good practices and techniques to improve their maintenance of agricultural equipment capacities,
- Provide training of trainers on agricultural machinery and equipment use and maintenance, good practices of vegetable production and build the capacity of *PRODAC* staff and extension agents to use agricultural machinery (plows, large sprayers, tractor) efficiently and properly,
- Develop and finalize training material on agricultural mechanization
- Provide technical assistance and written instructions/guides on repairing and use of equipment (plows, sprayers, rototiller, tractors etc.). The list of possible machinery to cover is below.

Equipment List (French)	Equipment List (English)	Number of Units
Tracteur 4X4 180 HP	4X4 Tractor180 HP	1
Tracteur 4X4 100 HP	Tractor 4X4 100 HP	4
Tracteur 4X4 72 HP	4X4 Tractor72 HP	5
Petit tracteur de service	Small service tractor	1
Wagon 2 roues 3 tonnes	2 wheeled wagon 3 tons	3

Wagon 4 roues 6 tonnes	4 wheeled wagon 6 tons	1
Fourche arrière pour tracteur	Rear fork for tractor	1
Rotoculteurs & fraise - butteuse	Rototillers & hook tine cultivator	2
Scaficateur 3 dents	Scarifier 3 blades	1
Charrue à soc 3 unités	3 plow	4
Niveleuse	Grader	1
Distributeur d'engrais - 3000 kg	Fertilizer spreader - 3000 kg	1
Herse à disque - 14 disques	Disc Harrow - 14 Discs	2
Semoir - 2 rangées	Seeder - 2 rows	3
Cultivateursuperficie 4 m - 3 points	Cultivator area 4 m - 3 points	2
Cultivateurrangée 2 m - 3 points	Row cultivator 2 m - 3 points	1
Pulvérisateur de défanage 1000L	1000L Skidder Sprayer	1
Pulvérisateur de champs 12m - 1000L	Field sprayer 12m - 1000L	1
Pulvérisateur à 3 points-500 L	3-point sprayer-500 L	1
Faucheusecoupeuse	Cutting mower	1
Trancheuse	Trencher	1
Pulvérisateurs motorisés à réservoir dorsal	Motorized sprayers with backpack	5
Pulvérisateurs de défanage à réservoir dorsal	Backhoe dewatering sprayers	10
Masques, tenues, filtres, etc. de protection lors de la pulvérisation	Masks, outfits, filters, etc. protection when spraying	10
Camionnette	Van	1
Chariot élévateuragricole	Agricultural forklift	1
Outils à usages génériques	Generic tools	1
Pièces de rechange	Spare parts	1

Note: This is a global list of what they have; volunteer training will not address all of them

VIII. Potential Outcomes and Impacts:

As a result of this assignment, it is expected that the host will be informed and trained on instructions for use, maintenance and possible repair in case of failure of agricultural equipment, which will thus improve operational efficiency on beneficiary farms. This efficiency will certainly increase after replication.

F2F staff will follow up with the host 6-12 months after the assignment to assess host progress and impacts resulting from the volunteer assistance.

IX. End of Assignment Report and Other Deliverables Required:

- End of Assignment (EOA) Report (format to be provided by Winrock).
- Host Letter
- Training materials related to the topic for the host.

X. F2F Pesticide Evaluation Report and Safer Use Action Plan (PERSUAP):

Type 3 Assignments: These volunteers are not expected to be involved in pesticide issues. Items for Type 3 Assignment SOWs:

- The volunteer shall review the F2F Environmental Brochure for F2F Volunteers and be aware of F2F's legal requirements regarding the provision of assistance for the procurement or use of pesticides. The volunteer shall not recommend or provide advice on specific pesticides.

Administrative Information

Date SOW sent to HQ: 2/13/2019

Assignment Site(s): Sedhiou

Number of Volunteer Experts Requested: 1

PERSUAP Classification: Type 3

Country F2F Project: AET

Focus Area(s): Human and Institutional Capacity Development,

Commodity Chain Activities: On Farm Production

Type of Volunteer Assistance: Technology Transfer

Host Plans for Dissemination or Replication of F2F Training: In accordance with *PRODAC* training program, the extension agents and staff trained by the volunteer will conduct replication training to farmers.

Resources to be contributed by the Host:

PRODAC-DAC of Séfa will provide transportation for the trainees, and the training venue for the training. *PRODAC-DAC* of Keur Momar Sarr will provide transportation and food for their trainees.