



REPUBLIC OF SENEGAL

**THE NATIONAL COOPERATIVE BUSINESS
ASSOCIATION - CLUSA INTERNATIONAL**

**MILLET BUSINESS SERVICES PROJECT
USDA I MBSP**

Cooperation Agreement # FCC-685-2014/055-00

**BASELINE STUDY REPORT for the
FY 2014 Food for Progress
MILLET BUSINESS SERVICES
PROJECT in Senegal
(USDA I MBSP)**

FINAL REPORT

SOTERCO GROUP

STUDIES – IMPLEMENTATIONS – CONSULTING – ENGINEERING

NINEA: 004020616.2C2 –R 116, Scat Urbam Hann Maristes II,
BP: 27289 Dakar - Tel: + 33 832 26 35 – Cell. phone: (221) 77519 39 07

E-mail: soterco@orange.sn - Website: www.groupesoterco.com

FEBRUARY 2016

DISCLAIMER: This publication was produced at the request of the United States Department of Agriculture. It was prepared by an independent third-party evaluation firm. The author's views expressed in this publication do not necessarily reflect the views of the United States Department of Agriculture or the United States Government.

Accessibility Note: An accessible version of this document can be made available by contacting
fas.monitoring.evaluation@usda.gov

Table of Contents

Acronyms	6
1 Introduction	10
1.1 The First Phase of the Millet Program	10
1.2 Continuity and change between the two phases	11
1.3 Reminder of the MBSP Context and the Study	15
2 Methodology	17
2.1 Background	17
2.2 Study Preparation.....	18
2.3 Organization of Collection and Sampling: Procedures and Justification of Choices	21
2.4 Survey Methodology.....	31
2.5 Recommendation for Future Evaluations	37
2.6 Processing and Analysis of Data Collected	37
2.7 IT Platform.....	38
2.8 Preparation and Return of Reports.....	38
3 Context	40
3.1 The Study Area.....	40
3.2 Millet Value Chain.....	44
3.3 Millet's Place in the Local Economy	53
3.4 Inventory and SWOT Analysis of the Millet Value Chain in the Project Intervention Area	54
3.5 Definition and Understanding of Production, Marketing, Finance, Gender and Status of Environmental Compliance and Vulnerability of Potential Beneficiaries of the Program.....	55
4 Data Gathering.....	58
4.1 Data Collection Summary.....	58
4.2 Evaluation of the Methodology Used to Explain the Relevanace of the Approach and the Restrictions	59
5 Project Targets Characterization	61
5.1 Producers: Socio-Economic Characteristics, Organizational System and Support Received	61
5.2 Seed Producers: Profile, Organization and Support Received	64
5.3 Processors: Profile, Activities and Support Received	65
5.4 Artisans: Features, Organization and Support Received.....	67
6 Suggestion on Indicators	68
7 Analysis of Activities Planned in the Second Phase of the Project.....	76
8 Relevance, Efficiency, Sustainability and Impact of the MBSP.....	81
8.1 Relevance	81
8.2 Effectiveness	81
8.3 Efficiency	82

8.4	Sustainability	82
8.5	Impact.....	83
9	Support Needs Analysis of Actors and Recommendations for the Implementation of the Project	84
	Annex 1: Baseline Request For Proposal.....	86
	Annex 2: Baseline Team Composition.....	104
	Annex 3: Baseline Study Calendar	106
	Annex 4: Collection agent training program	107
	Annex 5: Collection Tools.....	108
	Annex 6: List of Unions Interviewed.....	Error! Bookmark not defined.
	Annex 7: List of Producer Organizations (PO) Interviewed.....	Error! Bookmark not defined.
	Annex 8: List of Producers Interviewed	Error! Bookmark not defined.
	Annex 9: List of Processors Interviewed.....	Error! Bookmark not defined.
	Annex 10: List of Seed Producers Interviewed.....	Error! Bookmark not defined.
	Annex 11: List of Artisans Interviewed.....	Error! Bookmark not defined.
	Annex 12: List of Input Suppliers.....	Error! Bookmark not defined.
	Annex 13: List of Micro Finance Institutions (MFI).....	Error! Bookmark not defined.
	Annex 14: List of Other Organizations	Error! Bookmark not defined.
	Annex 15: List of Chamber of Commerce	Error! Bookmark not defined.
	Annex 16: Baseline Indicator Calculation Method.....	170
	Annex 17: Photo Album	177

List of Tables

Table 1 : Evolution of the project intervention areas between phases 1 and 2.....	11
Table 2: Survey Population Targets by Type of Recipient.....	21
Table 3: Focus Group with Stakeholders	22
Table 4: Breakdown of the Number of Targeted Respondents for Unions and POs	23
Table 5: Method Used to Draw the Sample	28
Table 6: Distribution of the Sample of Surveyed Producers	30
Table 7: Correlation between Indicator / Issues	34
Table 8: Geographic, Administrative and Demographic Aspects.....	40
Table 9: Economic and Social Situation of the Intervention Areas of the Project to Reinforce the Millet Value Chain	42
Table 10: Agricultural Context in the Intervention Areas.....	43
Table 11: Evolution of Millet Yields in the Project Area between 2012 and 2014.....	48
Table 12: Distribution of Agri-Food Cooperatives in the Central Area	50
Table 13: Summary SWOT Analysis of the Millet Value Chain at the Local Level	54
Table 14: Level of Achievement of the Target Survey: PO Performance, Union Producers by Region	59
Table 15: Comments and Recommendations on Indicators	68
Table 16: Recommendations of Activities Planned in the Second Phase	76
Table 17: Support Needs Expressed by Stakeholders and Recommendations	84

List of Figures

Figure 1: Preparatory Phase Process	19
Figure 2: Survey Design	26
Figure 3: PO Distribution of the 39 POs of Which a Sample of Producers were surveyed	27
Figure 4: Conceptual Framework of the Method Used to Draw the Sample.....	30
Figure 5: Data Processing Phase.....	37
Figure 6: Interrelationship of the Various Stakeholders in the Value Chain.....	45
Figure 7: Evolution of Cereal Production (T) 2005–2015.....	46
Figure 8: Evolution of the Area Sown in ha 2005–2015.....	47
Figure 9: Evolution of Kg Yields per ha 2005–2015.....	48
Figure 10: Analysis of the Evolution of Millet Production	49
Figure 11: Diagram of Millet Transformation Process.....	51
Figure 12: Types of Markets for the Sale of Processed Millet Products	53
Figure 13: Millet Producers Organizational System (USDA /MBSP)	61
Figure 14: Main Sources of POs Income	62
Figure 15: Mode of Land Acquisition	63
Figure 16: Type of Support Received Classified by Organization	64
Figure 17: Use of New Technologies or Practices Following USDA's Phase One Assistance	65

Acronyms

ANCAR	National Agricultural and Rural Advisory Agency
ANSD	National Statistics and Demography Agency
APROVAG	Association of Agricultural Producers of the Gambia River Valley
BOD	Board of Directors
CBO	Community-Based Organization
CCIAK	Chamber of Commerce, Industry and Agriculture of Kaolack
CF	Conservation Farming/Conservation agriculture
CISP	Credit Intermediary Services Providers
CO	Community Organization
DAPS	Department of Analysis, Forecasting and Agricultural Statistics
DFS	Decentralized Financing Systems (micro-finance institution)
DRDR	Regional Directorate of Rural Development
EIG	Economic Interest Group (GIE: <i>groupement d'intérêt économique</i>)
FCFA	Franc of the African Finance Community (West Africa currency)
FNRAA	National Agricultural and Agri-Food Research Funds
FTI	Food Technology Institute
HACCP	Food Safety and Hazard Analysis Critical Control Point
IFAD	International Fund for Agricultural Development
ICS	Chemical Industries of Senegal
ISRA	Senegalese Agricultural Research Institute
ITA	Institute of Food Technology
M&E	Monitoring & Evaluation
MBSP	Millet Business Services Project
MC	Management Committee
MECAT	Savings and Credit Mutual Association APROFES (Association for the Promotion of Senegalese Women) -TERANGA
MFI	Micro-Finance Institution
MIS	Market Information System
NASD	National Agency for Statistics and Demographics
NCBA	National Cooperative Business Association
NGO	Non-governmental Organization
PAFA	Agricultural Sectors Support Program
PAMECAS	Partnership for the Mobilization of Savings and Credit In <i>Senegal</i>

PC	Processing Company
P-HT	Post-Harvest Technologies
PIDES	Integrated Program of Economic and Social Development
PMP	Performance Monitoring Plan
PNIA	National Agricultural Investment Program
PO	Producer Organization
PSE	Emerging Senegal Plan
RGPHAE	General Census of Population and Housing, Agriculture and Livestock
SEDAB	Association of Sahelian Agribusinesses and Distributors
SENCHIM	Agro-chemical Manufacturing Company of Senegal
SWOT	Strengths, Weaknesses, Opportunities, Threats
TOR	Terms of reference
U-IMCEC	Union of Community Mutual Institutions for Savings and Credit
USDA	United States Department of Agriculture
WULA NAFA	Program for the Development of Natural Resources

Executive Summary

Context

The Millet Business Services Project (MBSP) is a project to support the millet sector funded by the United States Department of Agriculture (USDA). It focuses on building the capacity and resources of millet producers as well as others in the millet value chain, including millet processors, input providers, artisans who make farming tools and equipment, etc.

An initial intervention (phase 1) took place between 2011 and 2013 in the region of Sine Saloum, which includes the three administrative regions of Fatick, Kaolack and Kaffrine. This first intervention of the project involved a total of 23 municipalities in the target regions and reached Producer organizations (POs), producers, processors, seed producers and artisans.

The second phase of intervention will be implemented over 3 years (2014–2017). The MBSP intends to intervene in thirty towns of the Kaolack (13), Kaffrine (8) and Fatick (9) regions, as well as the capitals of these regions and the country capital of Dakar. The non-governmental organization (NGO) National Cooperative Business Association (NCBA) Cooperative League of the USA (CLUSA) International, is leading the implementation and retained the SOTERCO Group, a Senegalese consulting firm, to conduct the baseline survey in its 3 regions of intervention.

The specific goals of the baseline study are:

- To establish baseline values for indicators to monitor the outcome of the program.
- To assess and validate the goals that the program plans to reach within 3 years.
- To provide a definition and a more precise understanding of the production, marketing, financing, type and status of compliance and environmental vulnerability of potential beneficiaries of the program.
- To identify problems and constraints that may arise during the implementation of the program.
- To provide recommendations and achievable improvements to the design and operation of the program.

Team

SOTERECO's baseline survey team is comprised of an expert in monitoring & evaluation (M&E), agro-economist, statistician expert who specializes in data analysis, and computer scientist specializing in IT development. For the collection and processing of data, which occurred from July 3 to 13, 2015, a team of 3 supervisors, 9 enumerators and 5 data entry operators were deployed.

Results

Millet accounts for approximately half of the cereal production in Senegal. The crop is primarily grown in overwintering (in the rain). The project intervention area accounted for 47% of the national millet production in 2014. Despite the fact that the domestic production can exceed 800,000 tons during years of good rainfall and despite a significant potential for growth (availability of land and labor, use of adapted varieties, existence of local input suppliers and funding structures, etc.), the millet crop is facing various constraints that are hampering its development. The inappropriate use of improved crop management techniques, albeit disseminated for several years, results in the millet crop failing to yield its potential of about 2t/ha (0.81t/acre) according to research findings (Senegalese Agricultural Research Institute (ISRA), Senegal). The scale of the industry, access to quality inputs, financing, and post-harvest facilities and infrastructure are also constraints.

The project beneficiaries consist of the various stakeholders in the millet value chain –i.e. the millet producers, the seed growers, the artisans, and the processing businesses. Producers and processing businesses are better structured and organized than artisans and seed producers.

In view of the importance of the millet crop in the local economy of the area of intervention, the relevance of the MBSP is significant.

Conclusions / Recommendations

The main needs of the stakeholders are:

- To train producers on millet crop management techniques in order to improve yields.
- To strengthen the marketing technique capacities of umbrella organizations, such as POs and Unions. (bundling millet yields of multiple producers).
- To raise awareness with the DRDR (Rural Development Department) regarding the proper monitoring of crops reported by seed producers in order to help them avoid possible losses.
- To promote local consolidation of seed producers for better interaction, sharing of resources, and control of production costs.
- To enhance the know-how of the local artisans to make agricultural equipment.
- To support the establishment of relationships between artisans, producers, and processing businesses.
- To support the artisans for better extension of their products and the manufacturing of equipment suited to the needs of producers and processing businesses.
- To support the processors (credit and grants) to ensure the provision of equipment and proper packaging, dedicated premises, and compliance with product quality standards.
- To support the establishment of relationships between processors and POs for the procurement of raw materials, and with resellers (local, national or exporting ones).
- To increase the efficiency of its operations, the MBSP should integrate more POs in the selected municipalities.

1 Introduction

1.1 The First Phase of the Millet Program

During its first phase of intervention between 2011 and 2013, NCBA CLUSA International supported various stakeholders of the millet industry, from producers to processing businesses to artisans and seed producers. They also supported the structuring and organization of producers into local producer organizations (POs). Several POs were then organized into Unions at the municipal level within the 3 regions of Fatick, Kaolack and Kaffrine). Phase One consisted of training the producers, artisans and processors; structuring and formalization of various categories of stakeholders (producers, seed producers, artisans); the establishment of customer/provider relationships (millet producers/processing businesses); the establishment of economic actor/support structure relationships (seed producers/DRDR for seed certification); the connection of economic actors with the credit institutions and the establishment of a guarantee fund; in-kind grants to processors.

1.1.1 Significant Achievements

The first phase of the millet program has directly reached over 8,000 producers beyond its period of completion and more than 33,600 indirect beneficiaries. It enabled the creation of 230 sustainable jobs distributed among the various sectors of activity of the beneficiaries, including 139 men and 91 women.

Detailed by component, support was generally distributed in this first phase as follows:

Producer Organizations component

- 188 producer organizations
- 7,992 supported producers (access to inputs, organizational capacity building, training in local languages, etc.)
- 3,851 producers trained in improved production techniques and technologies, especially in "conservation farming"
- Support for the formalization of POs, a necessary step to facilitate partnerships with technical partners, especially the micro-finance institutions (MFIs)
- Creation of an interregional union of producers for the three regions of the project intervention

Production component

- 9,012 hectares of millet sown
- 440 demonstration plots created
- Strong contribution to the improvement in the millet average yield per hectare in the project area, from 756¹ kg to 830² kg

Credit and Marketing component

- 4,478 recipients of credit including 86 women
- Over 86% of the partner POs supported by credit, with an increase of 22.6% of the amounts received
- 31 agreements executed between buyers and sellers of millet

¹ Source: DAPS Data Analysis 2009

² Source: Baseline Survey MBSP 2015

- Strong contribution to the development of the millet market by setting up an information system on the prices of millet³ and by establishing relationships between producers and buyers (721,697,615 CFA, i.e. \$1,443,395.20 USD in sales volume during the first phase)
- 5,457,836 FCFA, i.e. \$10,915.67 USD in grants to strengthen the image of millet
- About twelve (12) exhibitions supported to present inputs

1.2 Continuity and change between the two phases

The first phase of the project intervention was structured around 3 components vs. 9 planned for the second phase (see Table 1).

Table 1 : Evolution of the project intervention areas between phases 1 and 2

Phase I		Phase II	
Components	Activities	Components	Activities
Producer Organization (PO)	• Train PO leaders in cooperative governance and institutional management, • Train PO managers and employees in business plan and management of the POs, • Train PO members in the basics of cooperative life, • Train PO managers and employees in literacy and numeracy, and • Support the restructuring of the primary organizations and associations of producers at the intergroup level to provide production and marketing services to 9,000 producers.	Capacity Development: Agricultural extension officials/services, producers and private sector	• Partnership with ISRA to upgrade the skills and knowledge of DRDR agents on the latest research on millet production. • Strengthening of DRDR extension capacities through relationships with the POs/Unions • Strengthening of unions capabilities through: • Support for unions in the selection and reception of a millet extension specialist. • Training of extension specialists on the latest millet crop technologies. • Support for DRDRs in the establishment of farm schools (introduction of the latest millet production technologies) directed by union extension specialists. • Training by the National Agricultural and Rural Advisory Agency (ANCAR), a private organization, and the unions to provide producers with technical information on how to use their products. • Constitution of a network of agents for input suppliers. • Training of unions and POs to improve their marketing skills and support in the selection of qualified specialists.

³ The Market Information System (MIS) was created to strengthen the producers' capacity on trade negotiations but also with the aim to ensure full transparency of the pricing process, both in selling and buying.

Phase I		Phase II	
Components	Activities	Components	Activities
Agricultural production	• Train millet seed producers in seed production, business plans and marketing, • Install demonstration plots for "conservation farming" (CF), • Train blacksmiths to make equipment for CF, • Train producers in the management of soil fertility and improved practices of the millet crop.	Training: Improving agricultural production techniques	• Establishing relationships between private seed suppliers and producers for the information of the latter on planting techniques and fertilizer use. • Training in agricultural production techniques by the DRDR and extension offices of the POs and ANCAR.
Credit/Marketing	• Train the producer organizations and processing businesses on credit and other financial services, in feasibility studies and local loan applications and teach them how to save and apply for loans, • Train millet producers in market information system, for instance, on using a cell phone to access information, • Train the regional and local millet processing businesses in processing techniques and entrepreneurial skills.	Financial services: Facilitating Agricultural Loans	• Identification of MFI partners and support for the development of commission credit intermediaries. • Identification and recruitment of local financial service coaches for community support in the selection of intermediary credit services providers (FSICs) of the village. • Facilitating access to equipment credit and working capital for processing businesses. • Support for the development of business plans for processing businesses. • Organization of regional processor and MFI meetings.
		Inputs: Development of agricultural product suppliers and input suppliers	• Strengthening of the capabilities of four (4) types of business services (seed suppliers, fertilizer suppliers, suppliers of machinery for conservation agriculture and ploughing services for conservation agriculture) to increase their reach in targeted areas. • Grants for the training and monitoring of agents. • Grant support for inputs before the end of the marketing year. • Support for the artisans union in marketing their tools and demonstrations.

Phase I		Phase II	
Components	Activities	Components	Activities
		Training: Post-harvest treatment and processing	- Setting up meetings between millet producers and processing businesses on the topic of millet quality. - Training of producers in post-harvest processing techniques. - Meetings between processing businesses and warehouse managers on good storage techniques. - Training of warehouse managers in finance, logistics and administrative management. - Training of processing businesses in - Value-added production - Production diversification - Packaging - Food safety and Hazard analysis critical control point (HACCP) - Support for the identification of providers of repair services for processing machines.
		Infrastructure: Post-harvest treatment and storage	- Support for the acquisition of threshers (loans, grants). - Partnership with Post-Harvest Technologies (P-HT) for the design and promotion of affordable and automated millet threshers. - Support for the renovation of warehouses by POs and unions.
		Infrastructure: Post-harvest processing	- Facilitating processors access to processing equipment. - Support to develop cost/benefit analyses within detailed business plans.

Phase I		Phase II	
Components	Activities	Components	Activities
		Training: Improvement of marketing and branding strategies	- Marketing training for PO members. - Advocacy for local/millet consumption.
		Market access: Develop buyer-seller relationships	Facilitating the establishment of relationships between: - Producer Organizations and processing businesses, - Processing businesses and retailers, and - Service providers for machines and processing businesses.

The comparative analysis of the content of the components in phase I and phase II shows that, despite the proliferation of components, the project remains true to its first phase intervention logic by continuing the training of producers as well as their organizations in management, the training of producers in farming techniques and improved technologies, and the training of processors in processing techniques, etc.

With the second phase, new topics include i) access to equipment and infrastructure for the improvement of the millet production and processing systems; ii) food safety and food security; iii) strengthening the marketing and market access.

Thus, the project consolidates the achievements of the 1st phase (production and funding) but also creates innovative activities and partnership.

1.2.1 Innovative Activities of Phase 2

Innovative activities in the second phase are:

- Community-based service provider (CBSP) network to support and empower producers through local agents
- Grant funds for post-harvest and processing equipment
- Support for warehouses to safeguard crops
- Joint marketing by producer groups
- Focus on the processing part of the value chain

To expand the positive results achieved in the first phase with the processing businesses, the second phase of the project will emphasize:

- Clean work facilities for the processing businesses
- Processing equipment owned by the company: Support processing units in purchasing modern and high-capacity processing equipment, so they can be competitive in other markets.

- Packaging and labelling of the company's own products: support in terms of product packaging was tested in the first phase and should be expanded in the second phase to more processing businesses, with an emphasis on the customization of packaging and labelling specific to the recipient companies.

1.3 Reminder of the MBSP Context and the Study

The MBSP aims at reaching a large number of beneficiaries, particularly in the areas of production, processing and marketing of millet, mainly located in the rural communities of the regions of Kaolack, Fatick and Kaffrine, in Senegal.

The project has the following objectives:

Proposed activities link to specific Results within the Project-Level Framework 1:

1. Increased Availability of Improved Inputs
 - a. Inputs: Develop agro-dealer and other suppliers
 - b. Capacity building: Agricultural extension agents/ services, producers and the private sector
2. Increased Use of Financial Services
 - a. Financial services: Facilitate agricultural lending
3. Increased Knowledge by Farmers of Improved Agricultural Techniques and Technologies
 - a. Training: Improved Agricultural production techniques
4. Increased capacity of Government Institutions
 - a. Capacity building: Agricultural extension agents/ services, producers and the private sector
5. Improved Capacity of Key Groups in the Agriculture Production Sector
 - a. Capacity building: Agricultural extension agents/ services, producers and the private sector

Proposed activities link to specific Results within the Project-Level Framework 2:

1. Improved Marketing of Agricultural Products
 - a. Training: Improved marketing and branding
2. Improved Linkages between Buyers and Sellers
 - a. Market Access: Facilitate buyer-seller relationships
3. Increased Use of Improved Post-Production Processing and Handling Practices
 - a. Training: Post harvest handling and processing
4. Improve Post-Harvest Infrastructure

- a. Infrastructure: Post-harvest handling and storage
- b. Infrastructure: Post-harvest processing
- 5. Increased Use of Financial Services
 - a. Financial services: Facilitate agricultural lending
- 6. Improved Capacity of Key Groups in the Agriculture Production/Trade Sector
 - a. Capacity Building: Agricultural extension agents/ services, producers and the private sector

The project also aims at producing data in other key areas such as gender, access to financial services as well as the compliance with environmental standards by the targeted beneficiaries.

Prior to the launch of its activities, the MBSP would like to assess the project's baseline, indicating in detail the current status of the study area, the target and potential beneficiaries and the project monitoring indicators. To do this, NCBA CLUSA has commissioned the *“Survey on the MBSP baseline situation”*, which is the subject of this report.

2 Methodology

2.1 Background

2.1.1 Rationale of the Study

According to the terms of reference, the purpose of the baseline study is to assess the current status of the potential beneficiaries of the project and the status of several other topics.

Specifically, it aims at:

- Establishing baseline values for indicators to track and monitor the results of the program.
- Assessing and validating the goals that the program plans to reach within 3 years.
- Providing a definition and a more precise understanding of the production, marketing, financing, type and status of compliance and environmental vulnerability of potential beneficiaries of the program. Identifying problems and constraints that may arise during the implementation of the program.
- Providing recommendations and achievable improvements to the design and operation of the program.

2.1.2 Consultant's terms of reference and deliverables

The research firm will work with the project team to develop an appropriate methodology and survey tools (including sample size) in order to perform the baseline survey. The research firm will also be responsible for providing local expertise in the design phase of the survey, identifying and collecting data during field implementation, analyzing and interpreting data, and developing conclusions and findings.

The selected firm will carry out the following activities:

- Conduct a thorough and comprehensive review of the relevant literature on the millet value chain and of any other reports and documentation in this area (some provided by NCBA CLUSA Senegal).
- Become familiar with the specific indicators of the program in the Performance Monitoring Plan (PMP), provided to the company by NCBA CLUSA Senegal.
- Design appropriate tools taking into account (but not limited to) the following items described in the program:
 - Preliminary test, editing, translation, finalization and reproduction of the survey instruments (the final tools of the survey must be approved by the NCBA CLUSA Senegal team before finalization).
 - Integrate methodology and tools for the collection of qualitative data.
 - Apply statistical techniques to the design, analysis and reporting of quantitative data.
 - Hire, train, guide and supervise the enumerators of the survey.
 - Perform data collection in the field using survey tools proven to achieve the objectives of the baseline survey, and perform quality control.
 - Process and analyze the data collected during the survey.
 - Perform quality control during the design, testing, field work, data entry, data analysis and report writing phases.
 - Organize all the data collected into a database. This database will ensure the anonymity of the participants in the survey using identification numbers and separating the names of other data regarding the participants.

- Report the results in appropriate tables, graphs and explanations.
- Submit observations, findings and recommendations (both in the form of written reports and in PowerPoint).
- Consider the following elements during the creation and implementation of the study:
 - Establish baseline values for indicators, as defined in the PMP.
 - Validate the objectives defined in the PMP.
 - Suggest, with strong supporting data, PMP changes.
 - Suggest improvements to the PMP.
 - Establish baseline values for other monitoring and impact indicators, as discussed with the program team during the development of data collection methods.
 - Perform a proactive analysis of the constraints and of the problems that might arise during the implementation of the activities.
- In order to ensure successful implementation of the project, the research company will answer some key questions related to the relevance, effectiveness, efficiency, sustainability and impact of the project.

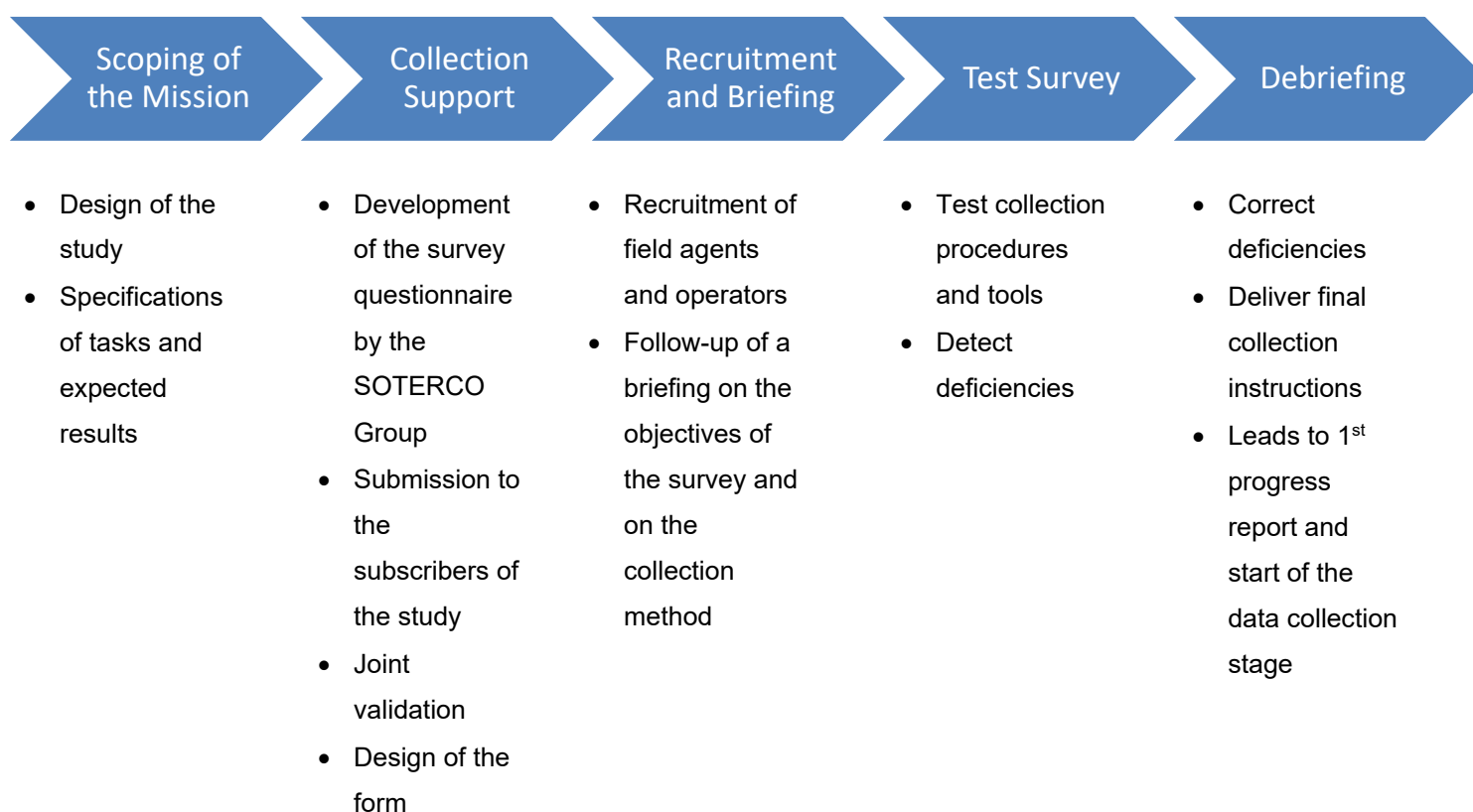
Deliverables for this mission include:

- A reference and methodology report protocol.
- A time chart (activities, responsible party, results and planning).
- Survey instruments, data collection instruments, both qualitative and quantitative, and completed questionnaires.
- Tables of quantitative and qualitative data in Microsoft Excel format (.xls).
- A draft of the baseline report.
- An electronic version of the final PowerPoint presentation based on the baseline report.
- A presentation at the project office.
- Format of the data.
 - Include all appendices as described in the main report.
 - Provide one (1) electronic record of all applications, modules and scripts developed to organize the procedures and analysis of data.
 - Provide files in Microsoft Excel (.xls format) of all the collected quantitative data (final) cleaned of significant gaps or errors.
 - Provide electronic records of all applications, surveys, scripts and data collection instruments developed to organize the processing and analysis of data.
 - Some quotes from various stakeholders on specific impacts, from interviews and focus groups discussions.

2.2 Study Preparation

For the baseline study preparation, a five stage process was used (see Figure 1).

Figure 1: Preparatory Phase Process



2.2.1 Kick-off Meeting

Following the notification of the SOTERCO Group selection by NCBA CLUSA, a kick-off meeting between the consulting team and NCBA CLUSA International was held on the premises of the latter in Kaolack on June 15, 2015.

This meeting provided an opportunity to clarify the terms of reference of the mission and to complete the documentation forwarded by the project three days before. The documentation received from the project to date consists of a:

- map of the program intervention area;
- detailed table of the project performance management plan (PMP);
- disaggregated performance indicators;
- list of the 13 artisans who were Phase 1 partners (artisans union), with street addresses and phone details;
- list of the 20 processor partners of the first phase with street addresses and phone details;
- list of the PO partners by Union of the first phase with street addresses and phone details;
- list of the 22 seed producer partners of the first phase (seed producers union) with street addresses and phone details;
- list of producer unions (old unions (phase 1 beneficiaries) selected for phase 2 and new ones (not involved with phase 1) with street addresses and phone details;

- list of the project partners (MFIs and input businesses) with street addresses and phone details;
- Assessment Report of Phase I of the Project, in French (May 2013) and in English (April 2014); and
- List of credit beneficiaries of the MFIs, Chamber of Commerce, Industry and Agriculture of Kaolack (CCIAK) and Union of Community Mutual Institutions for Savings and Credit (U-IMCEC).

Notes:

- The above information is taken from the results of the first phase. They do not represent the overall objectives of these groups for the current phase (Phase 2) of the project. These are the first elements to kick-off the investigation of the baseline.
- The overall figures for each type of actors are represented in the PMP or you can also refer to the “Surveyed Population by type of beneficiaries” (Table 2).

2.2.2 Development and Validation of Collection Tools

Based on the documentary review and discussions with the project team, the draft collection tools developed following the kick-off meeting were the subject of discussion between the parties on June 18 and 19, 2015. Final revised and validated versions are attached in Annex 5.

2.2.3 Training of Enumerators

Training the enumerators is an important step in the process, due to its effects on the quality of the data to be collected.

For the collection of field data from the various identified targets a team of 9 enumerators and 3 supervisors was created. The latter received training in various tools. This training (see schedule in Annex 4) was held at the headquarters of SOTERECO in Dakar and was hosted by the survey implementation team composed of an expert in M&E, agro-economist, statistician expert who specializes in data analysis, and computer scientist specialized in IT development. The project monitoring and evaluation manager took part in this training.

The objective of the training was to enable enumerators to understand the context and objectives of the research, but also to become familiar with the various modules of collection tools before the actual investigation including data collection tools; how to complete the survey, the practical organization of the survey, the planning of the survey, the planning for monitoring and control, etc. The training was provided in French and Wolof to familiarize enumerators with the most appropriate methods. Supervisors had received extensive training before, during and after that of the enumerators in order to completely understand the methodology of the survey, the data quality control system and their responsibilities.

After the training, all field agents had a thorough knowledge of their role in order to achieve maximum efficiency of data collection in the field. The results of the training were as follows: 1) the participants mastered the tools and their method of administration. 2) the roles and responsibilities of enumerators and supervisors were specified. 3) the survey teams were assembled and the conditions of survey implementation were defined and confirmed with the technical team.

The training consisted of two (2) stages:

1. A theoretical stage and critical analysis of collection documents (questionnaires and manual) for a better understanding of the issues and objectives of the study.
2. A preliminary test stage of the various on-farm collection tools followed by an analysis of the shortcomings of data collection tools, and the adjustments and final corrections necessary through a debriefing meeting with the

enumerators and supervisors. The collection documents were finalized and copied at the end of the on-farm testing. The objective of the test was to assess the feasibility of the administration of the tools (expertise of the enumerators, constraints, time, respondents' understanding of the questions, etc.) and to make the necessary adjustments before the actual survey.

2.3 Organization of Collection and Sampling: Procedures and Justification of Choices

2.3.1 Populations and Survey Methodology Used for Each Target

For the project, Table 2 presents the beneficiary target groups based on the data available at the beginning of the baseline assessment. The majority of the information available was from phase 1 of the project, however, where available, information on the phase 2 target population was added. In addition, the table contains the sample size for each category, with an explanation of each one in the following sections.

To find the target population from Phase 1 ("old"), a general census was conducted to contact/verify phase 1 beneficiary information. Of the phase 1 beneficiaries, 9,065 were identified, of which 7,992 were producers and 1,073 processors. The target is 22,150 for the second phase and the number of potential beneficiaries of the three project areas amounts to over 160,000 according to the latest general census of the population of Senegal. Note that the second phase contains beneficiaries that benefited from phase 1 (old) and those that are new to the project (new).

With the exception of producers who have had representative sampling due to their relatively high number (see next section), all other targets (Union, PO, processors, artisan, seed producers, MFI, input provider), were surveyed exhaustively, based on the populations known at the start of the study, as shown in table 2.

Table 2: Survey Population Targets by Type of Recipient

Surveyed Category of Recipients	Objectives of the Project	The target population for the baseline study			Sampling	
		Total Population of the Category	Recipient Phase I (old)	Recipient Phase 2 (new)	Drawn Sample	Random and Semi-Random Selection Methods
Unions of producers	30	33	23	10	33	Census / Comprehensive survey (focus groups essentially)
Producer organizations (POs)	Undefined	224	200 (188 POs and 12 Control POs)	24 (20 POs and 4 Control POs)	183	Census/Comprehensive Survey
Producers	22,150	22,150	7,992	14,158	195 (from 39 POs)	2-stage random sampling with previously fixed sample size
Processing companies	500 employees (from project investment plan)	20	1,073 employees of 20 PC	N/A	20	Comprehensive Census
Artisans	1 union of artisans of conservation agriculture	13	1 Union of 13 artisans	N/A	13	Comprehensive Survey
Seed producers	1 union of seed producers	23	1 union of 22 seed producers	1 (Toolu Bay – independent producer, non-union)	23	Comprehensive Survey

Surveyed Category of Recipients	Objectives of the Project	The target population for the baseline study			Sampling	
		Total Population of the Category	Recipient Phase I (old)	Recipient Phase 2 (new)	Drawn Sample	Random and Semi-Random Selection Methods
Input Supply companies	Undefined	4	2 companies (SEDAB, ICS SENCHIM)	2	4	Comprehensive Survey
Micro-finance institution	Undefined	4	3 (MEC CCIAC, U-IMCEC, PAMECAS)	1	4	Comprehensive Survey
Other (regional technical services, leaders of producer organizations, etc.)	4 (ANCAR, DRDR, ISRA, ITA)	2	4	2	2	Comprehensive Survey

2.3.2 Mechanism and Organization of the Data Collection

Except for producers (representative sample), it was planned to carry out comprehensive surveys (surveying the complete target population) of the various identified target groups. The collection was done using two types of surveys:

- Semi-structured surveys (in depth interviews and focus groups)
- Structured surveys using questionnaires

2.3.3 Qualitative Surveys (Semi-Structured)

They are conducted with different target groups (project partners: DRDR, ANCAR, ICS SENCHIM, SEDAB, Toolou Baye, ISRA, MFI and control group⁴) and are led by experts through individual interviews and focus groups. These qualitative surveys were for producer leaders, women's groups and other stakeholders. This approach helped to diversify the sources and levels of information and explore some issues superficially addressed in censuses.

The experts surveyed the MFIs and other project partners. This was also an opportunity to gather qualitative data on the production, processed products, and the acquired funds. Focus groups of 5 to 8 persons by region and target group, a total of 11 in the project area, were implemented (see Table 3).

Table 3: Focus Group with Stakeholders

Region / Targets	Kaolack	Kaffrine	Fatick	Total
Producers Union	1	1	1	3
PO	1	1	1	3
Artisans	1	-	-	1
Seed specialists	1	-	-	1
Processor	1	1	1	3
Total	5	3	3	11

⁴ Producers having the same characteristics as the target but not beneficiaries. The evolution of the target may be compared to that of the control to measure the contribution of the project during future evaluations.

This approach made it possible to collect all the information to measure the project monitoring indicators, assess gender issues, access financial services for beneficiaries, assess compliance with environmental standards by addressing climate change, as well as gathering the perceptions and expectations of the beneficiaries of the project.

2.3.4 Quantitative Surveys (Structured)

Quantitative surveys were conducted by the enumerators through questionnaires administered to the targets. To do this, a team consisting of one (1) supervisor and three (3) enumerators by region was deployed. The first day of the survey was devoted to the survey of unions, seed specialists, artisans and processors at the level of regional capitals, and the following days to POs and producers in the villages. A team consisting of 9 enumerators and 3 supervisors spread out among the 3 regions over a maximum period of 15 days –i.e., a level of effort of 135 man days. Qualitative surveys were conducted simultaneously by the experts.

Control Groups

Control groups are targets having the same characteristics as the project actors, but these control groups are not beneficiaries. The evolution of the project beneficiaries may be compared to that of the control group to measure the contribution of the project during future evaluations.

In addition, the control groups were selected among similar actors to those supported by the project during its first phase. The study of the control groups will give an idea of the reality of the current level of the area in terms of agricultural development or of the value chain as a whole. This development can be compared to the stakeholder groups supported by the project.

The choice of control groups was also made with the support of regional managers. The goal is to have POs that are willing to answer the evaluation questions throughout the project without participating in the project interventions. A compromise that is not easy to get without the support of the latter.

In Table 4, old control POs refers to control POs selected for phase 2 from the Unions MBSP previously worked with in Phase 1. New control POs refers to control POs selected for phase 2 from Unions that MBSP will newly start working with in phase 2.

Populations and survey methodology: the specific case of agricultural beneficiaries (Unions, POs and Producers)

Agricultural beneficiaries are the largest population of beneficiaries. The two sub-sections that follow provide methodological choices made for each type of agricultural beneficiary.

2.3.4.1 Unions and Producer Organizations (POs)

The following table 4 provides a breakdown of the number of units surveyed for Unions (old- previously participated in phase 1 and new- did not participate in phase one, but will participate in phase 2). The figures shown in this table come from the project database (Phase 1). Unions and POs are geographically intertwined, hence the choice to present them together in one table. One union consists of several POs.

Table 4: Breakdown of the Number of Targeted Respondents for Unions and POs

			OLD		New		CONTROL POS ⁵		TOTAL POs	
Region	Department	Municipality	Union	Number of POs	Union	Number of POs	Old	New	Union	Number of POs
	GUINGUINEO	FASS	Ourour	10					1	10

⁵ POs having the same characteristics as the target but are not beneficiaries. The evolution of the target may be compared to that of the control to measure the contribution of the project during future evaluations.

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

			OLD		New		CONTROL POS ⁵		TOTAL POs	
Region	Department	Municipality	Union	Number of POs	Union	Number of POs	Old	New	Union	Number of POs
KAOLACK			Khelcom Birane	5					1	5
	KAOLACK	GANDIAYE	Ndiebel	12			2		1	14
			Diya	6					1	6
			Ndiedieng	9					1	9
					Tiombi	2			1	2
		KAOLACK	Ndiafatte	9			2		1	11
	NIORO DU RIP	KEUR MADIABEL	Ndramé Escale	9					1	9
			Keur Mandogo	6					1	6
			Ngainth Kaye	4					1	4
					Médina Sabakh	1		1	1	3
					Kaymor	2			1	2
					Paoskoto	2			1	2
					Wack Ngouna	2			1	2
		NIORO DU RIP								
Subtotal	3	5	9	70	5	10	4	1	14	85
FATICK	FATICK	FATICK	Niakhar	11					1	11
			Diaoulé	6					1	6
			Patar Sine	8					1	8
					Diakhao	2		1	1	3
	FOUNDIOUGNE	FOUNDIOUGNE	Djilor	9			2		1	11
			Diossong	11					1	11
					Nioro Alassane Tall	2			1	2
					Keur Samba Guèye	2		1	1	3
					Keur Saloum Diané	2			1	2
	GOSSAS	GOSSAS	Patar Lia	10			2		1	12
	3	3	6							
Subtotal				55	4	8	4	2	10	69
KAFFRINE	BIRKILANE	BIRKILANE	Mabo	9			2		1	11
			Touba Mbella	12					1	12
					Ndiognik	2		1	1	3
	KAFFRINE	KAFFRINE	Kahi-Kathiotte = Ngodiba	7					1	7
	KOUNGHEUL	KOUNGHEUL	Ida Mouride (9)	9					1	9
			Lour Escale	8					1	8
			Ribot Escale	9					1	9
	MALEM HODAR	MALEM HODAR	Ndioum Gainth	7			2		1	9
			Dianké Souf	2					1	2

			OLD		New		CONTROL POS ⁵		TOTAL POs	
Region	Department	Municipality	Union	Number of POs	Union	Number of POs	Old	New	Union	Number of POs
Subtotal	4	4	8	63	1	2	4	1	9	70
TOTAL	10	12	23	188	10	20	12	4	33	224

As shown in the above table, the surveyed targets in this study are:

2.3.4.2 Unions

The target number of Unions to be surveyed was 23 unions that received support from the project in its first phase between 2011 and 2013 (old Unions), including the three unions of Lour Escale, Ribot Escale and Patar Sine, which are excluded from the second phase due to consistency and efficiency reasons. These excluded unions were contacted to provide control perspective to the project. A memorandum explaining the reasons for such exclusion is available. In addition, 10 new unions (not a part of phase one) were targeted to be surveyed.

2.3.4.3 POs

- The target number of old POs to be surveyed was 188 POs of the 23 old unions. 25 POs from the first phase were excluded from the second phase.
- The target number of new POs to be surveyed was 20 POs of the 10 new unions (see breakdown in the table above) were added to the second phase.
- The target number of control POs to be surveyed was 16; 12 of them spread in areas of Phase I and 4 of them among the new identified unions.
- This makes a total of 33 unions and 224 POs targeted to be surveyed.

2.3.4.4 Producers

2.3.4.4.1 Size of the Statistical Sample

For the producer population, given the target size (22,150), we decided to survey a representative sample. As a starting point, to determine the minimum size of a sample, the following algorithm was used:

$$n = \frac{Z^2 \times P \times Q \times N}{(N-1)E^2 + Z^2 P \times Q} = 378 \text{ sample size}$$

where

n: is the sample size

N: the size of the population = 22,150

Z: the critical value corresponding to a confidence level coefficient = 1.96

P: the proportion of the population of occurrence = 0.5

Q: the proportion of the population of non-occurrence of the event = 0.5

E: the sampling error = 0.05

2.3.4.4.2 Sample Size Supporting Elements

However, for a number of specific reasons, related in particular to the survey purpose, the socioeconomic profile of the millet producers in the groundnut basin area, and also our experience of the area⁶, we decided to implement a quota system which resulted in a smaller sample size (195).

The final sample size was determined by taking into account two important elements: the profile of the respondents, which is relatively homogeneous, and the physical constraints of the survey (time required to administer a questionnaire, data collection cost, availability of respondents, etc.).

The profile of millet producers, is almost the same everywhere. This means that the number of respondents is important, but results would be consistent regardless of the sample size taken.

The time allocated to implement the survey would make it difficult to collect the ideal sample size (378), especially given the need, in the case of POs, to conduct a comprehensive census.

Given the homogenous population and time/cost restrictions, it was determined to use a sample size of 195, approximately 50% of the ideal sample size, which would result in a margin of error of 6.99%.

To select the sample size, after discussions with experts, it was decided to survey two POs in unions of more than 10 POs and 1 PO in unions of less than 10 (proportionality rule or quotas), while taking into account the geographical representativeness of the whole. This gave a total number of 39 POs.

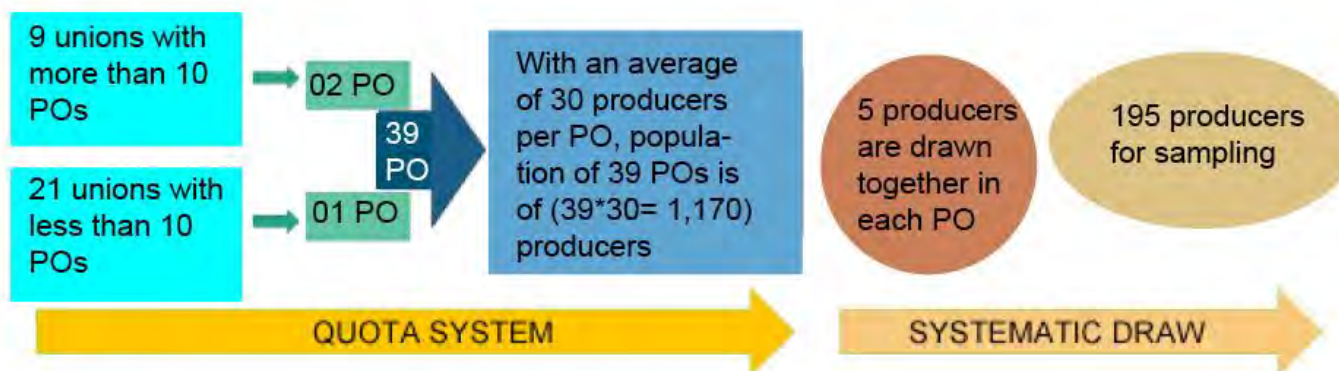
The number of producers to survey in each of these 39 POs: it was decided to survey 5 producers in each PO. It was assumed that the number of producers per PO was relatively homogeneous (30 on average).

In addition to surveying nearly 200 PO members, we also surveyed presidents of unions who are also producers and gave their opinion on key issues that helped inform the indicators (see list of surveyed Union presidents provided in Annex 6 and Annex 8- list of surveyed producers).

This collection plan is summarized in Figure 2.

Figure 2: Survey Design

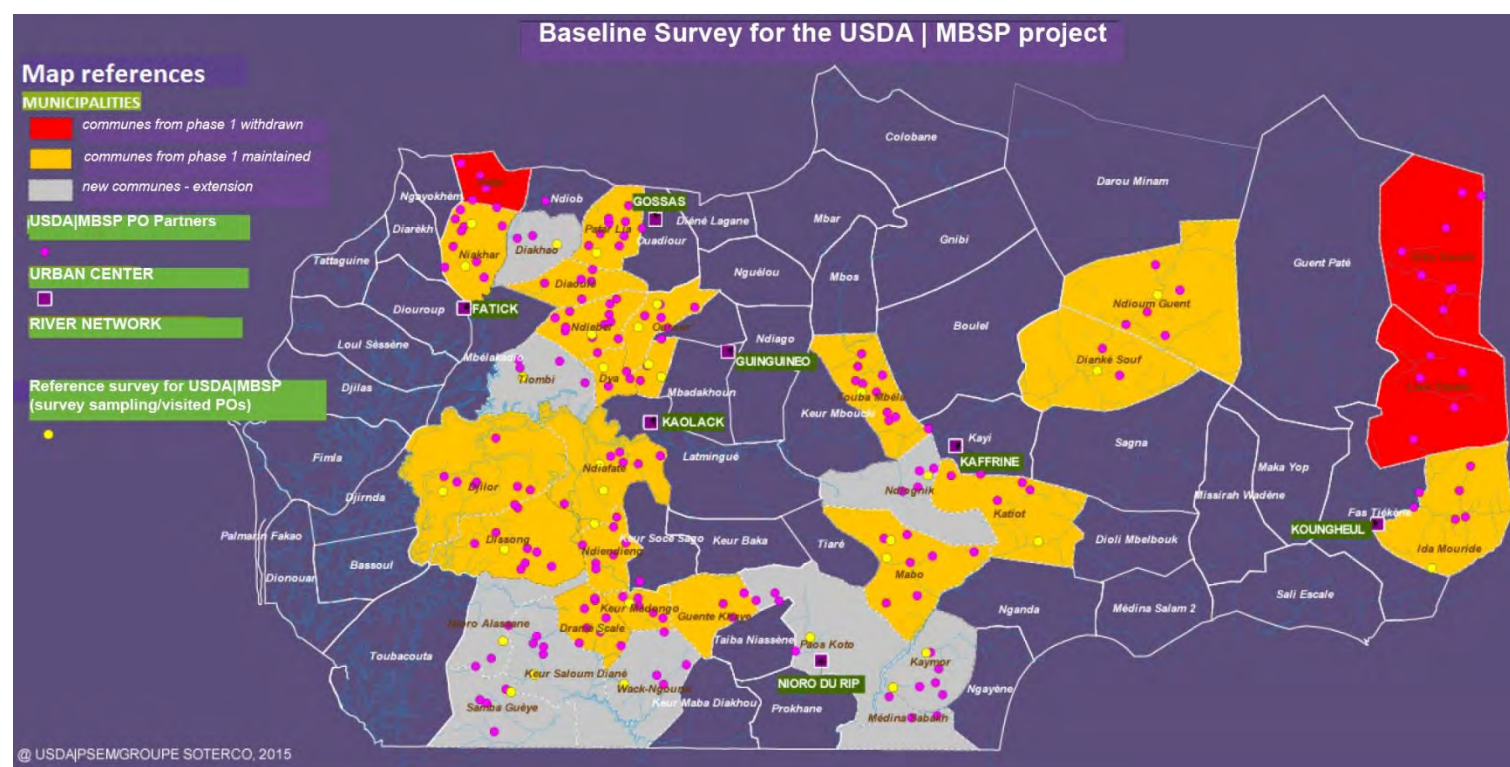
⁶At the time of the survey, the SOTERCO Group had just completed a major study on the financing of the agricultural sector for the Agricultural Industry Support Project (PAFA), funded by the International Fund for Agricultural Development (IFAD) on behalf of the State of Senegal. They are currently doing the baseline of the PAFA extension project, in addition to previous studies they have conducted in the area. The PAFA project started in 2009 and operates in the same areas and often on the same targets as the project.



Type of Unions (focus of the survey)	Total number of unions by type	PO number selected for the survey according to types of unions	PO number per survey	Total population of POs: 39 with an average of 30 producers/PO	Number of producers surveyed (5 farmers x 39 POs)	Survey sampling rate (%)	Survey sampling rate for the project area with a population of 5,970 (H)
Party of +10 POs	9	2	18	39	195	16,67%	3,27%
Party of -10 POs	21	1	21				

The following map (Figure 3) shows the location of the various sampled POs, where the surveyed producers are located.

Figure 3: PO Distribution of the 39 POs of Which a Sample of Producers were surveyed



2.3.4.4.3 Sampling Method for the 5 Producers of Each PO

Sampling principle:

We wanted to sample 5 producers from a list that contains 30 producers on average, so we followed the following steps:

- We numbered the producers from 1 to 30.
- We randomly drew a number.
- We add 3 to find the 2nd producer and so on.

In example below (Table 5), we assume that the #15 producer was drawn.

Table 5: Method Used to Draw the Sample

Producers	First and Last Name	Member drawn
1	A	
2	B	
3	C	
4	D	
5	E	
6	F	
7	D	
8	W	
9	K	
10	D	
11	E	
12	F	
13	D	
14	E	
	P	15
16	D	
17	E	
		18
18	X	
19	D	
20	E	
21		
22		
23		
24		
25		
26		
27		

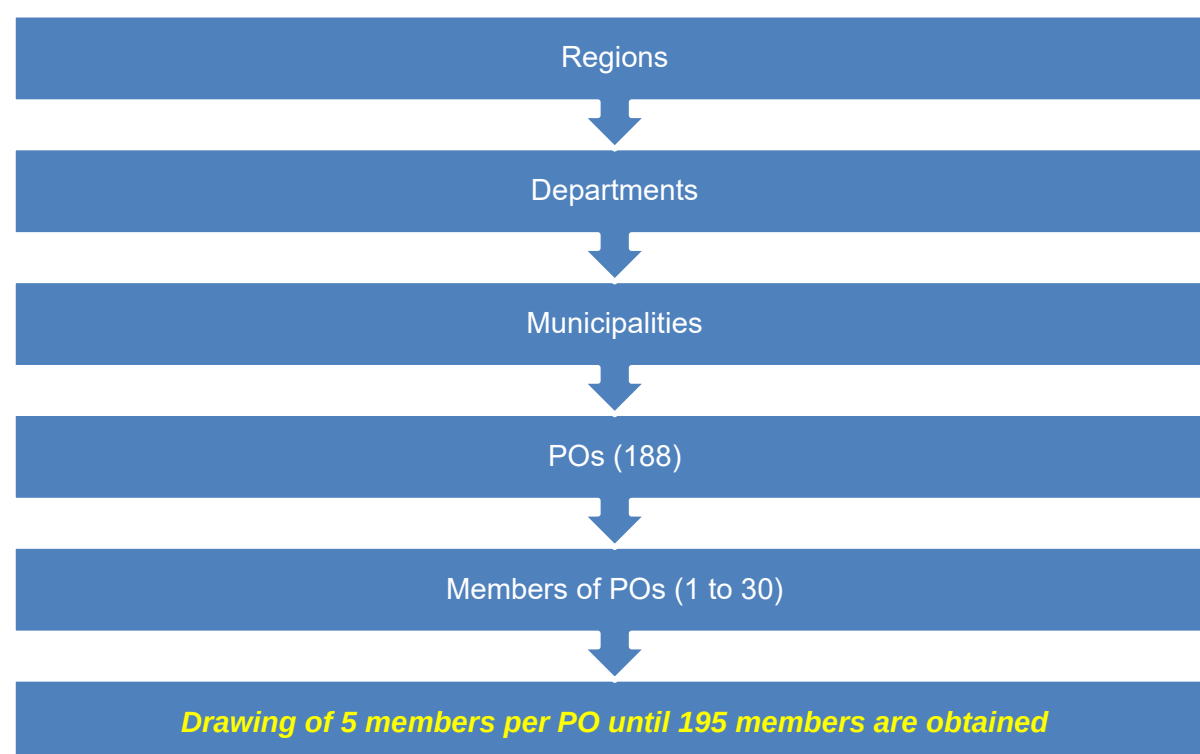
Producers	First and Last Name	Member drawn
28		
29		
30		

Notes:

- In this PO, we will survey five recipients. These recipients are numbers 15, 18, 21, 24 and 27.
- If the producer who has been drawn is absent or unavailable, the enumerator continues the draw until he/she finds beneficiaries that are available to answer the questions.

Figure 4 summarizes the sample size process used.

Figure 4: Conceptual Framework of the Method Used to Draw the Sample



2.3.4.4.4 Breakdown of the drawn producers by Union and PO

The following Table 6 provides a breakdown of the drawn producers by unions and producer organizations.

Table 6: Distribution of the Sample of Surveyed Producers

Region	Department	Municipality	Old Unions Sample				New Unions Sample				OVERALL TOTAL
			Number of Unions	Number of POs	Number of POs Drawn	Number of Producers Drawn	Number of Unions	Number of POs	Number of POs Drawn	Number of Producers Drawn	
KAOLACK	GUINGUINEO	FASS	Ourour	10	2	10					
			Khelcom Birane	5	1	5					
	KAOLACK	GANDIAYE	Ndiebel	14	2	10					
			Diya	6	1	5					
			Ndiedieng	9	1	5					
					1	5	Tiombi	2			
		KAOLACK	Ndiafatte	11	2	10					
	NIORO DU RIP	KEUR MADIABEL	Ndramé	9	1	5					
			Escale								
			Keur Mandogo	6	1	5					
			Ngainth Kaye	4	1	5					
							Médina Sabakh	3	1	5	
							Kaymor	2	1	5	
							Paoskoto	2	1	5	
							Wack Ngouna	2	1	5	
		NIORO DU RIP									
	3	5	9	74	13	65	5	11	4	20	85
FATICK	FATICK	FATICK	Niakhar (11)	11	2	10					
			Diaoulé	6	1	5					

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Region	Department	Municipality	Old Unions Sample				New Unions Sample				OVERALL TOTAL
			Number of Unions	Number of POs	Number of POs Drawn	Number of Producers Drawn	Number of Unions	Number of POs	Number of POs Drawn	Number of Producers Drawn	
			Patar Sine	8	0	0					
					1	5	Diakhao	3			
	FOUNDIOUG NE	FOUNDIOUG NE	Djilor	11	2	10					
			Diossong	11	2	10					
							Nioro Alassane Tall	2	1	5	
							Keur Samba Guèye	3	1	5	
							Keur Saloum Diané	2	1	5	
	GOSSAS	GOSSAS	Patar Lia	12	2	10					
3	3	6	59	10	50	4	10	3	15	65	
KAFFRINE	BIRKILANE	BIRKILANE	Mabo	11	2	10					
			Touba Mbella	12	2	10					
							Ndiognik	3	1	5	
	KAFFRINE	KAFFRINE	Kahi-Kathiotte = Ngodiba	7	1	5					
	KOUNGHEUL	KOUNGHEUL	Ida Mouride	9	1	5					
			Lour Escale	8	0	0					
			Ribot Escale	9	0	0					
	MALEM HODAR	MALEM HODAR	Ndioum Gainth	9	1	5					
			Dianké Souf	2	1	5					
4	4	8	67	8	40	1	3	1	5	45	
TOTAL AREA	10	12	23	200	31	155	10	24	8	40	195

2.4 Survey Methodology

2.4.1 Producer Unions

A producers' union is an association which groups Producer Organizations (POs) at the local level. It does not necessarily have legal existence. Like the POs, the unions mainly derive their income from agricultural production and membership fees. Nevertheless, they engage in other activities such as breeding, marketing, the leasing of agricultural equipment, etc.

During the survey, 33 unions were targeted to be interviewed (23 old unions having received support from the first phase of the project and 10 newly integrated for the 2nd phase). It is estimated that the total number of producer unions of the three project regions is 90, that is to say the total number of rural municipalities of the three regions. Those targeted by the project, and therefore surveyed, account for 36% of the whole.

The data collection method used was an individual interview with the person in charge of the project or a focus group with members of the office. The interview was primarily done at the respondent's home or workplace. The average duration of an interview with a Union is 1hour 17minutes. The list of people taking part in the interviews is attached in Annex 6.

2.4.1.1 Inter-Regional Producers' Union

The Inter-Regional Union unites the Unions/POs of the three project areas, and its role is to facilitate relations between producers and their partners at the national level.

A focus group with managers (The president and 2 committee chairmen; see attendance list in Annex 6) of the inter-regional union was held in Kaolack.

2.4.2 Producer Organizations

A PO includes legally constituted individual producers at the village level. We met with 179 POs during the survey. They mainly derive their income from farming activities, membership fees and sale of membership cards, and from marketing their products. They also engage in other secondary activities such as small loans to members.

Of the 188 POs that were planned to be surveyed, 9 were ultimately declared ineligible for the survey. Their presence in the database of the first phase of the millet program is related to shortcomings in the updating process. However, they are kept in a register in case they should be interested in the second phase.

A union of producers having an average of about fifty villages in the southern area of the groundnut basin, the estimated total number of POs of the three areas of the project is 4,500.

The method used to collect data from the POs is a face-to-face individual interview with the manager. The difference in the number of surveyed POs compared to the initial target is due to "inputs and outputs" from the original list received from the project.

Typically, the president of the respective PO was surveyed. If not available, he designated another member of the office to answer the questions. The interview took place in the village and the average time was 1h 30mins. The list of PO contacts surveyed appears in Annex 7.

2.4.3 Producers

A producer is an individual farmer who is self-employed. About 8,000 of them have benefited from the first phase of the millet program.

The method used is a face-to-face individual interview with the 195 surveyed producers. The interview is generally performed in the village or in the field (the producer's workplace) and the average interview time is 50 minutes.

The list of surveyed producers and their contacts is attached to this document (see Annex 8).

2.4.4 Processors

Processors are individuals (mostly women) grouped into units (enterprises) transforming millet into other food products (araw, thiakry, thièrè, cake, bread, etc.). A processing company (PC) can be individual or collective (composed of at least 2 individuals).

The data collection method that was used with this target (20 processors) was face-to-face individual interview with the manager or a focus group with some members. These interviews took place either at the respondent's home or at his/her workplace. The average duration of the individual processor interview was 1 hour 28 minutes.

Focus groups were conducted with women processors from different companies.

The list of processors met during the baseline survey is detailed in Annex 9.

2.4.5 Artisans

The artisan is an individual who executes in his workshop manual iron work to produce various items including agricultural equipment. This is a project partner in the design and development of equipment suitable for Conservation Farming (CF).

The face-to-face interview was used to collect information from the targeted 13 artisans and its average duration was 1 hour and 7 minutes. A focus group was also conducted with officials of the Union of artisans and members from various localities.

On the original list, artisans that are not beneficiaries of the first phase were identified (2), and a refusal/unavailability was reported in Koussanar.

See the list of interviewed artisans in Annex 11.

2.4.6 Seed Producers

A seed producer is a farmer who produces millet seeds following the capacity building and guidance of research development organizations in partnership with the project.

For the collection of data from targeted 22 seed producers, the face-to-face interview was used and the average duration of the interview was 1 hour and 04 minutes. The list of seed producers surveyed as well as their contact information is in Annex 10.

2.4.7 Input suppliers

An input supplier is a company that produces and/or sells fertilizers and other phytosanitary products and supplies to millet producers supported by the project.

Four input suppliers were identified as part of this study: ICS SENCHIM, ISRA, Toolou Baye and SEDAB and individual interviews with the manager have been conducted in two of them (SENCHIM and Toolou Baye). See Annex 12

2.4.8 Micro-finance institutions

A micro-finance institution (MFI) is a financial organization that is dedicated to providing retail financial services in order to promote the economic activity of low-income populations who generally have no access or limited access to the formal banking sector⁷.

During the first phase, the project was implemented in partnership with four MFIs, namely PAMECAS, IUMCEC, CCIAC and MECAT. Individual interviews or focus groups were conducted with all four of them.

The list and the contact details of the participants in these focus groups is in Annex 13.

2.4.9 Other

Other partners or potential partners have been found for the second phase. Those are the Kaolack DRDR, the ANCAR and the Regional Services for Community Development. The list and contacts details of the officials surveyed are in Annex 14.

Table 7 serves as a “crosswalk” and gives the questionnaire and question number used (Q ...) that were used to inform each indicator. It was established during the development of the methodology of the study in order to ensure that all indicators are reflected in the different questionnaires. The rows include the titles of those indicators and the columns include the titles of the questionnaires.

⁷ According to <http://www.microworld.org/>

Table 7: Correlation between Indicator / Issues

Question tool No. / Indicators No.	Union	PO	Producer	Seed Specialist	Artisan	PC	IMF	Business inputs
1. Number of individuals directly benefiting from the assistance of the USDA	Q17	Q13		Q16	Q14	Q15		
2. Number of individuals indirectly benefiting from the USDA financial assistance		Q24		Q18	Q16	Q15		
3. Volume of millet harvested in kilograms or tons		Q24						
4. Number of hectares treated with improved techniques or technology as a result of using USDA's assistance		Q24	(Q29)					
5. Number of individuals and others who used new techniques or technologies as a result of using the help from the USDA		Q24		Q24	Q32	Q23		
6. Number of private businesses, producer organizations, water user associations, women's groups, trade associations and community organizations (COs) which have applied new technologies or management practices after receiving assistance from the USDA		Q24		Q23	Q32	Q24		
7. Value of inputs and support services provided by the suppliers of agricultural				Q31	Q23			Q6

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

inputs to producers in regions, in US dollars								
8. Number of agricultural product suppliers organized in networks				Q26	Q19	Q24		
9. Number of input providers trained in extension skills by input companies				Q32				Q7
10. Number of input exposure presentations				Q34	Q25	Q30		Q10
11. Number of individuals receiving financial services following assistance from the USDA	Q21	Q32	Q38	Q36	Q29	Q32	Q11	
12. Number of loans granted following the assistance of the USDA	Q22	Q32	Q39	Q37	Q30	Q32		
13. Value of agricultural and rural subsidies granted following the assistance of the USDA	Q24	Q34	Q40	Q38	Q31	Q33		
14. Number of individuals receiving training on short-term agricultural productivity and food safety following the assistance of the USDA		Q35		Q35	Q27	Q34		
15. Number of millet producers who have been trained by government extension officers		Q36	(Q37)	Q43				
16. Number of organizations/producer cooperatives with certified extension agents/officers	Q25	Q36		Q35	Q27	Q34		

17. Number of members of producer organizations (PO) trained in skills extension	Q35							
18. Number of demonstration plots created		Q25						
19. Value of sales of millet in the target areas		Q24				(Q22)		
20. Number of jobs attributed to assistance from the USDA	Q28	Q37		Q39	Q26	Q37		
21. Total increase in storage capacity installed following the assistance of the USDA	The project in its first phase had not started any projects in this direction.							
22. Number of producers in the target area who were able to access effective off-farm storage for their products		Q26; Q27						
23. Number of points of sale (marketplaces) where the selected agricultural products are sold		Q30				Q28		
24. Employees of service/input providers trained in marketing techniques				Q32	Q27	Q29		Q8
25. Number of signed agreements (contracts, memorandums of understanding, etc.) between buyers and sellers	Q27	Q39	Q43	Q40	Q36	Q35		
26. Number of organizations/producer groups including marketing specialists		Q40				Q39		

The table shows for each indicator the tool and the number of the question that refers to it.

If we take the example of the producer questionnaire, other issues that do not directly provide information on a certain indicator are:

- the geographical location of the target;

- the identification of the respondent;
- household size and socioeconomic characteristics;
- main constraints on the millet production activity and proposed solutions, etc.

2.5 Recommendation for Future Evaluations

For producers in particular, the same sample will be extended during the mid-term and final evaluations to allow for comparability over time using the same targets. A database of physical addresses and phone details of the producers surveyed is available to the project to facilitate the monitoring of these producers and ensure greater reliability in performance measurements performed with the project follow-up.

It is also strongly recommended to use the same collection of tools, though some of them could be revised to adapt to possible changes in the project, to ensure full comparability of the data collected during the various project evaluation stages.

For these large-scale surveys, it is recommended to focus on times when the producers are less busy and available to give time to an enumerator. The two best periods indicated are the beginning of the wintering season, when producers all return to the village to prepare the crop year, and the end of the crop year, when producers are less busy with farm work. The periods from February to May and August to October are discouraged because they coincide with times when the target beneficiaries can be scarce or unavailable.

2.6 Processing and Analysis of Data Collected

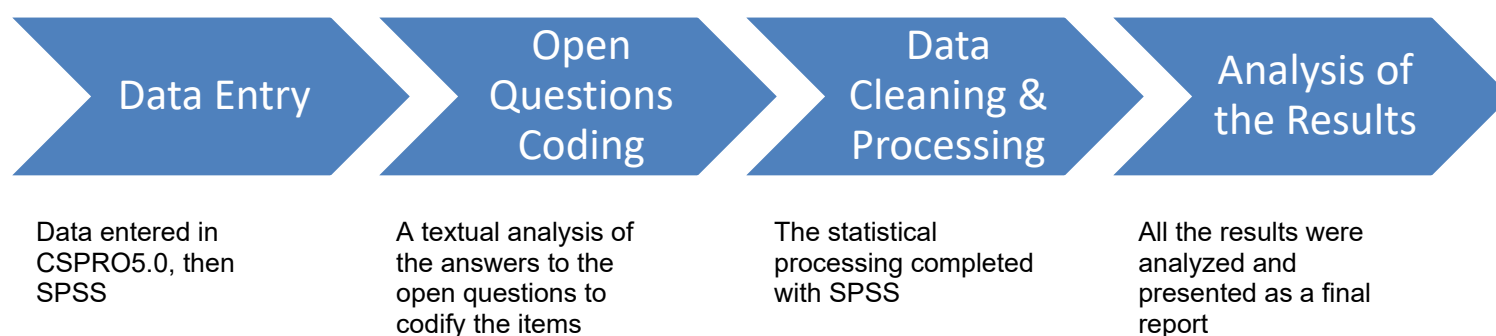
2.6.1 Processing and Analysis of Quantitative Data

The processing and use of data took place in several phases:

- Verify completeness of questionnaires both in number and in terms of completeness, consistency, etc.;
- Entering information using the software CSPRO5.0;
- Codification of open questions;
- Auditing of data; and
- Output of the results (SPSS was used to treat / analyze data).

The raw data was processed, cleaned and analyzed in a four step process (see Figure 5).

Figure 5: Data Processing Phase



2.6.2 Processing and Analysis of Qualitative Data

During data collection, debriefing meetings were held every evening to discuss the major trends of the data collected during the day and to find inductive codes to use. Qualitative data produced during in-depth individual interviews were transcribed and entered in Word. Transcripts were made as the collection was taking place on the ground, respecting the confidentiality criteria.

After completion of the data collection, an internal pre-analysis workshop was conducted for pooling and individual reports were presented. The first pooled pre-analysis constitutes the first step towards analysis and are important moments that are consolidated later by content analysis. This approach allows the person who collected the information to participate in the analysis and corresponds to the inductive characteristics of qualitative research. From categorization, we conducted the synthesis and analysis of thematic content. Data triangulation was used to validate the results through a combination of data sources, such as multiple respondents and focus group discussions. The results were disaggregated by different criteria that we used in the sampling plan to show whether the results and indicators vary among regions, area of residence, etc. Some respondents' quotes have been used to support our analysis and conclusions. These quotes are essential because they show objectivity and bolster conclusions.

From the analysis and processing of data, the team was able to:

- Establish baseline values for indicators, as defined in the PMP, and validate the defined objectives.
- Make recommendations, with strong supporting data on PMP changes.
- Make recommendations for improving the project performance management plan.
- Establish baseline values for other monitoring and impact indicators, as discussed with the program team during the development of the mission scoping meeting.
- Perform a proactive analysis of the constraints and of the problems that might arise during the implementation of the activities.

2.7 IT Platform

The IT platform is used to upload a dynamic computerized database for tracking project activities.

The system is now online and is, with a username and password, accessible at the following address: http://usda-ncbaclusa-psem.org/connect_form.php.

The application is hosted by a private host named OVH and is up for renewal after a year.

2.8 Preparation and Return of Reports

The results of the literature review, field surveys, and processing of collected data allowed the team to prepare the reports on the key findings of the investigation.

The results are presented in the report in the form of tables and graphs. This report and the survey database were forwarded to the technical team of NCBA CLUSA for validation.

The report includes the following sections, in accordance with the requirements of the terms of reference:

- An executive summary.
- A preface containing the objectives of the framework of the work and a brief description of the program.
- A methodology.
- Findings and conclusions which:

- Establish baseline values for indicators defined in the PMP.
- Validate the objectives defined in the PMP.
- Suggest, with strong supporting data, changes in the PMP.
- Suggest improvements to the PMP.
- Set up baseline values for other monitoring and impact indicators, as discussed with the program team during the development of data collection methods.
- Make a proactive analysis of problems or constraints that may arise during the implementation of activities.

High quality (minimum 300 dpi resolutions) images of some of the data collection activities to assess the program, such as surveys, interviews, group discussions, are engraved on a CD-ROM and provided to the project. An exchange meeting and presentation of the results will then be organized in the office of NCBA CLUSA between the consultant team and the technical team. The main results of the survey will be presented and discussed. All comments and suggestions will be recorded and will be processed to finalize the results reporting.

A workshop on sharing and dissemination of the results will then be organized with the participation of the various partners and stakeholders involved in the implementation of the program.

3 Context

As a first step in the data collection process, the baseline team reviewed readily available data sources, conducted a strengths, weaknesses, opportunities and threats (SWOT) analysis and value chain assessment. This information will provide context for the project team to consider for future planning purposes. This background information was not the primary purpose of the baseline study, but rather a confirmation step used to ensure that the project team was working off of recent data available for the project, to provide more depth to the assessments of the original project proposal.

3.1 The Study Area

The MBSP mainly intervenes in around thirty municipalities in the regions of Kaolack (13), Kaffrine (8) and Fatick (9), as indicated in Figure 3 (Section 2.3.4.4.2).

In order for the interventions to be effective and be more geographically concentrated, three (3) Phase 1 municipalities of Ribot Escal, Lour Escal in the region of Kaffrine, and Patar Sine in Fatick have not been retained for Phase II.

The team focused on leveraging as many existing sources of data and information that were available. As some of these data sources are not regularly updated, some data (e.g., overall economic and social situation) presented is a few years old. While the baseline study is intended to capture current information, this older data is presented to provide context for the study.

3.1.1 Geographic, Demographic and Administrative Aspects in the Intervention Area

Table 8 includes the geographic, administrative and demographic aspects of the 3 project regions.

Table 8: Geographic, Administrative and Demographic Aspects

	Kaolack	Kaffrine	Fatick	Intervention Area
Location	13°30' and 14°30' mins north latitude 14°30' and 16°30' mins west longitude and	14°07' north latitude and 15°32' west longitude	14°15'0" N and 16°30'0" W	
Surface Area	5,357 km ²	11,181 Km ²	6,685 km ²	23,223km ²
% of the territory ⁸	2,8%	5.6%	3.4%	12%
Climate	Sudanese Sahel	Sudano-Sahelian	Tropical Sudanese maritime influence on the coastal part of Foundiougne and Fatick	
Isohyet	800	600-800		
Temperature	35- 40° C	35-40° C	24 -39%	
Administrative division	3 departments 10 municipalities and 31 new municipalities	4 departments 9 districts and 28 new municipalities	3 departments 9 districts 9 municipalities 31 new municipalities	10 departments 28 districts 109 municipalities
Population	960,875 ⁹	566 992 inhabitants	714 389 inhabitants,	2 242 256
Gender ratio	50.6% women 49.4% men	50.2% women 49.8% men	50.5% women 49.5%	
Density (national average: 69 Inhabitants per km ²)	179.4	50.7	106.8	96.5

⁸ Territory is an area of land under the jurisdiction of a ruler or state. It is the geographic area or percentage of the land in the "departments".

⁹Regional Economic and Social Situation, Kaolack NASD [National Agency for Statistics and Demographics] 2013

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

	Kaolack	Kaffrine	Fatick	Intervention Area
Ethnic groups	Over 60% Wolof; more than 20% Halpulaar; approximately 10% Serer, and ethnic minorities such as Bambara, Moors, etc.	The main ethnic groups are: Wolof 95%, Peul 2.5%, Serere 1.5%, others 1%.	Serere (55.1%), Wolofs (29.9%), Pulars (9.2%), Socés, Bambaras, etc.	Wolof, Serere, Peul
Urbanization rate	35.5%	15.1% or 1.4% of the urban population	13.1%	19.2%

3.1.2 Economic and Social Situation of the Project Area’s Regions

Table 9 provides regional information on the economic and social situation.

Table 9: Economic and Social Situation of the Intervention Areas of the Project to Reinforce the Millet Value Chain

Kaolack	Kaffrine	Fatick
The Kaolack region is largely agricultural. 65% of the working population is engaged in agriculture. Plants are diversified: peanut, cereals (Souna millet, sorghum, maize, and rice), cowpea, fonio, sesame, watermelons and vegetable crops). The population also engages in other activities, such as extensive livestock ranching, fishing; tourism is not very dynamic and consists mainly of hunting tourism. Commercial activities are the lifeblood of the regional economy. Indeed, by its geographical location, which gives it a strategic position in trade, Kaolack is an obligatory passage towards the South and Southwest regions, but also to countries such as The Gambia, Mali, Guinea Conakry and Guinea Bissau. Employment in the region is mainly dominated by informal employment recorded mainly in trade and transport activities (bike, taxi, etc.). The seasonal and daily jobs in the formal sector are largely dependent on seasonal activities of existing businesses.	As the sector providing the highest amount of revenue in the region, agriculture plays an important role in the region’s economic and social life and occupies a large part of the population. It is the first peanut producing region in Senegal¹⁰ (21% of national production) and ranks third in cereal production (12% of national production). The livestock sector is very dynamic due to the income it generates and the large number of people active in the sector (55% of farm households in the region keep livestock). The livestock trade is also very developed. As the third economic activity behind agriculture and livestock, the trade sector plays an important role and has experienced rapid development with a very important trade population (545 traders in 2013). The markets that are spread throughout the regional area, are weekly or permanent, and support the distribution of primary and manufactured products across the region. Regarding employment, the region has registered a high rate of activity (45.5% in 2013 against a national average of 50.5%) favored by the low unemployment rate (22%) and strong ¹¹employment rate (42.8% against a national average of 37.5% in 2013). Indeed, in 2013, Kaffrine recorded a lower unemployment rate compared to other regions of Senegal, taking second place after the Dakar region, which recorded a rate of 14.9% in 2013. These figures reveal intense economic activity in the region. Other sectors, such as crafts, water, and forestry and hunting,	Like most regions within the country, Fatick is still characterized by feeble economic activities. These activities are dominated by agriculture, livestock and fishing. However, other activity sectors, particularly tourism, have certain potential for the region’s economic development. ¹²Agriculture is focused on cash crops (peanuts, cotton, sesame, watermelon, vegetable and fruit crops) and food crops (millet, rice, maize, cowpea) and is practiced by 98.5% of households at the regional level (versus 60.6% of households nationally). It is important to note, however, that much of the land is salty and is therefore unsuitable for cultivating. These lands represent 27% of the regional surface area, and constitute a major constraint for the development of the subsector. Livestock ranching is forest-pastoral and is practiced by 67.6% of households at the regional level (against 28.2% of households nationally). With the current structuring of the sector (stakeholder organizations in economic interest groups, association, etc.) and with the support of NGOs and projects, a modern type of farming is increasingly growing. Fishing is practiced by 4.2% of households at the regional level (against 1.0% of households nationally), essentially located in the Saloum delta. It is both a maritime and fluvio-lagoonal environment, with a large delta area with an approximately 70 km-long front. Trade plays a relatively important role in the regional economy. Other activities such as tourism, handicrafts,

¹⁰Same source

¹¹Employment rate = link between the number of active workers in an activity and the working age population

¹²Source: Economic and Social Situation Report, Fatick 2013

Kaolack	Kaffrine	Fatick
	etc., constitute a real potential for the region's socioeconomic development.	telecommunications and television services, transportation, etc. are also sources of income for local populations.

3.1.3 Agriculture in the Area

Table 10 provides regional information on the agricultural context.

Table 10: Agricultural Context in the Intervention Areas

Kaolack	Kaffrine	Fatick
The Kaolack region is predominantly agricultural focused. The crops are dominated by cereal crops, which cover nearly 52% of cultivated areas. These consist mainly of millet, sorghum, maize and rice. Millet is predominant, with a production of 96,658 T during the 2013/2014 campaign, representing 61.7% of the region's cereal production, and 104,406 hectares sown [sic], and representing 77.15% of the total area sown to cereal crops. Cereal crops are faced with various constraints such as weather hazards and deficiencies in the quality of distributed seeds, which are not always of good quality. There are several projects and programs o that aim to fight against poverty in the region that are involved in various areas, including support for agricultural inputs, value chain development, marketing, capacity building, support for access to credit, improved production techniques, etc.	Being a strong agricultural region, Kaffrine is dominated by peanut farming, with cereal farming taking second place. In 2013, the region produced 150,822 T of cereals, or 12% of national production and 44% of regional production. In cereal crops, millet is an important part both in terms of planted area and production. In 2013, millet ranks first with 66.97% of the area sown to cereal crops for a production of 91,305 tons, or 60.54% of the regional cereal production. Overall, agriculture has huge advantages, including: agro-ecological conditions favorable for crop diversification, available land not yet fully exploited, producers with extensive experience, availability and soil suitability for agriculture, fairly good rainfall for various crops, presence of projects, programs and NGOs (USDA, PAFA, World Vision, PRODEL, ANCAR, etc.) that support producers in various areas (inputs, agricultural equipment, capacity building, etc.).	Agriculture is the region's main economic activity; and is highly dependent on rainfall. Like the Kaffrine region, it remains dominated by peanut and cereal crops (millet, maize, sorghum and rice). Cereal farming is heavily dominated by millet, with over 80% of the area planted with cereals during the 2013/2014 campaign, and more than 75% of cereal production. Other crops are grown on a small scale in the region. This is primarily the case of sesame, cassava and cotton.

3.2 Millet Value Chain

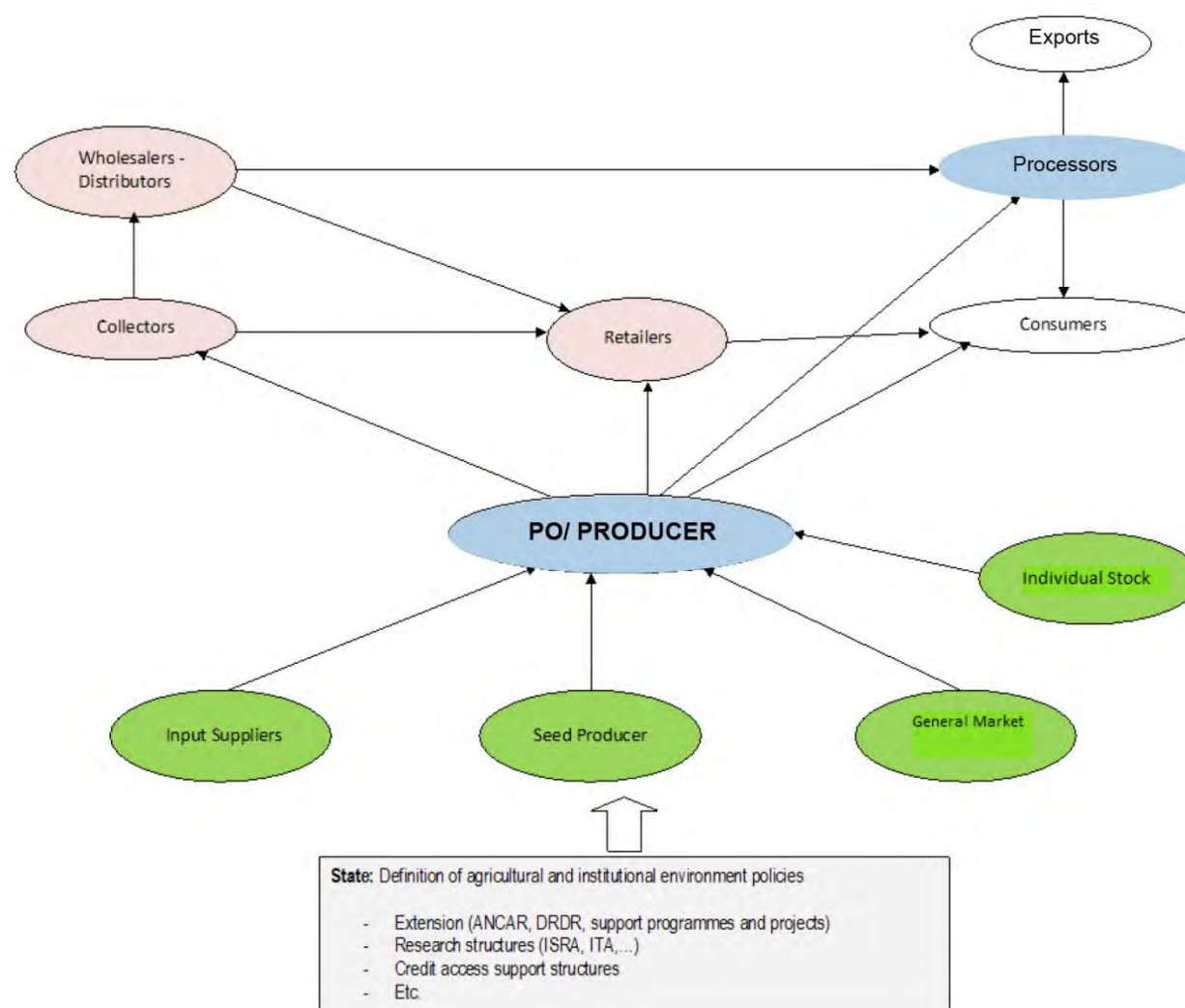
Cereal crops (millet, maize, sorghum, rice) are mainly winter (rainy season from May to October) crops (except within the Valley of the Senegal River). Millet is grown mainly in the center of the country, better known under the name of the groundnut basin, covering the regions of Kaolack, Louga, Diourbel, Fatick, Kaffrine and Thiès. It is also grown in the region of Tambacounda.

3.2.1 Value Chain Stakeholders

The stakeholders in the Senegalese millet value chain (see Figure 6) include:

- The state, which defines agricultural policies and the structural environment:
 - Extension structures such as ANCAR, DRDR, projects and programs, etc.
 - Research institutes: ISRA, ITA, etc.
- Seed Producers
- Suppliers of inputs and agricultural equipment
- Credit support structures (MFIs)
- Producers
- Traders/dealers
- Processors and final product stakeholders

Figure 6: Interrelationship of the Various Stakeholders in the Value Chain

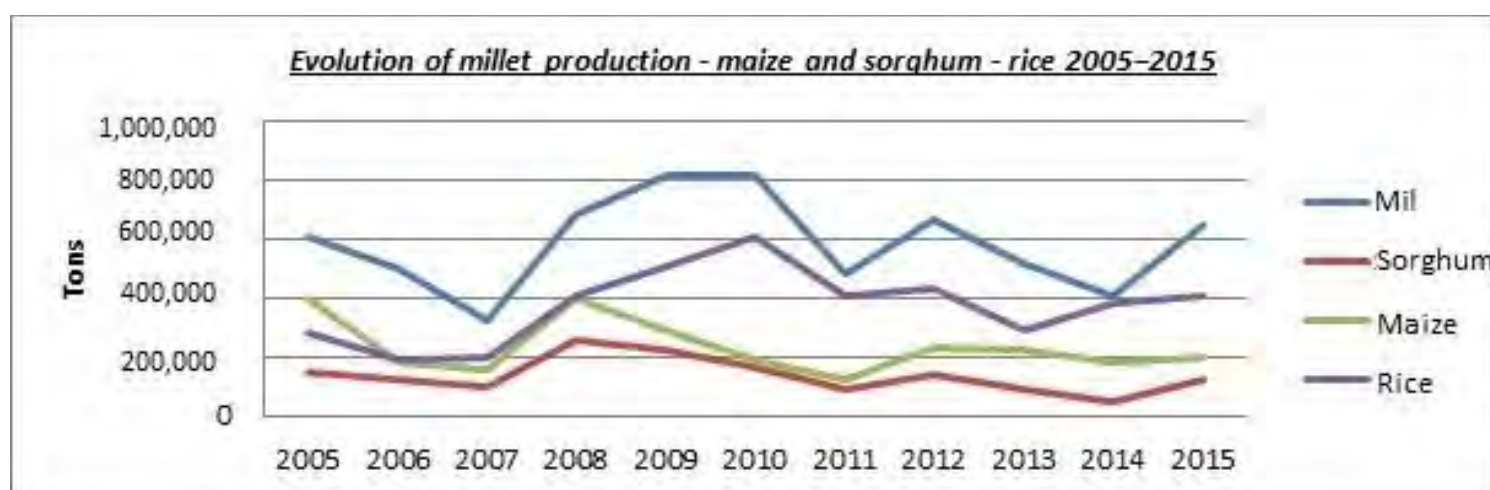


Key/Comments	
	Represents the State, which constitutes an institutional stakeholder of the millet value chain throughout the entire national territory. Defines the agricultural institutional environment and agricultural policies. Implements structures, programs and projects (ANCAR, DRDR, ITA, ISRA) for research extension, promotion, etc.
	Represents the different supply sources of the producer in inputs/millet seed. Producers are supplied directly by the input supplier, seed producer, from general market (increasingly rare) or personal reserves (the producer keeps good quality millet harvested in the current campaign and reserves it as seed for the next season).
	Represents the millet producer, who is the central player in the process. Directly supplies dealers (collectors, retailers), processors and consumers. It is important to note that there is a strong relationship between the producer and the processor of millet. The processor sources directly from the producer.
	Millet dealers: the collector, wholesaler and semi-wholesaler and retailer. The collector usually supplies the wholesaler/semi-wholesaler and retailer. The wholesaler/semi-wholesaler supplies the retailer who in turn sells to consumers. Wholesalers/semi-wholesalers also sell to processors. However, the general observation in the project area is that the latter prefers to buy directly from the producer.
	The processor: Buys directly from the producer (most common) and/or the wholesaler/semi-wholesaler. After processing, the processor sells the products either to consumers (rarely) and/or resellers of processed products on the local market or in the market of large urban areas within the country, or for export.
	Represents millet consumers who buy directly from the producer (local market) or from the retailer. Has no direct link with the collector and wholesaler and semi-wholesaler.

3.2.2 Production

In terms of production and area sown, millet far exceeds other cereals such as rice, maize and sorghum in the period running from 2005–2015 (see Figure 7). Average millet production over the period was of 585,549 tons, with an average area of 841,451 ha sown and an average yield of 698 kg per hectare. Over the same period, the average annual production of other cereals are Sorghum: 134,543T; maize (corn): 233,851T Rice: 337,183T; and millet represents 44% of the cereal production over the past 11 years.

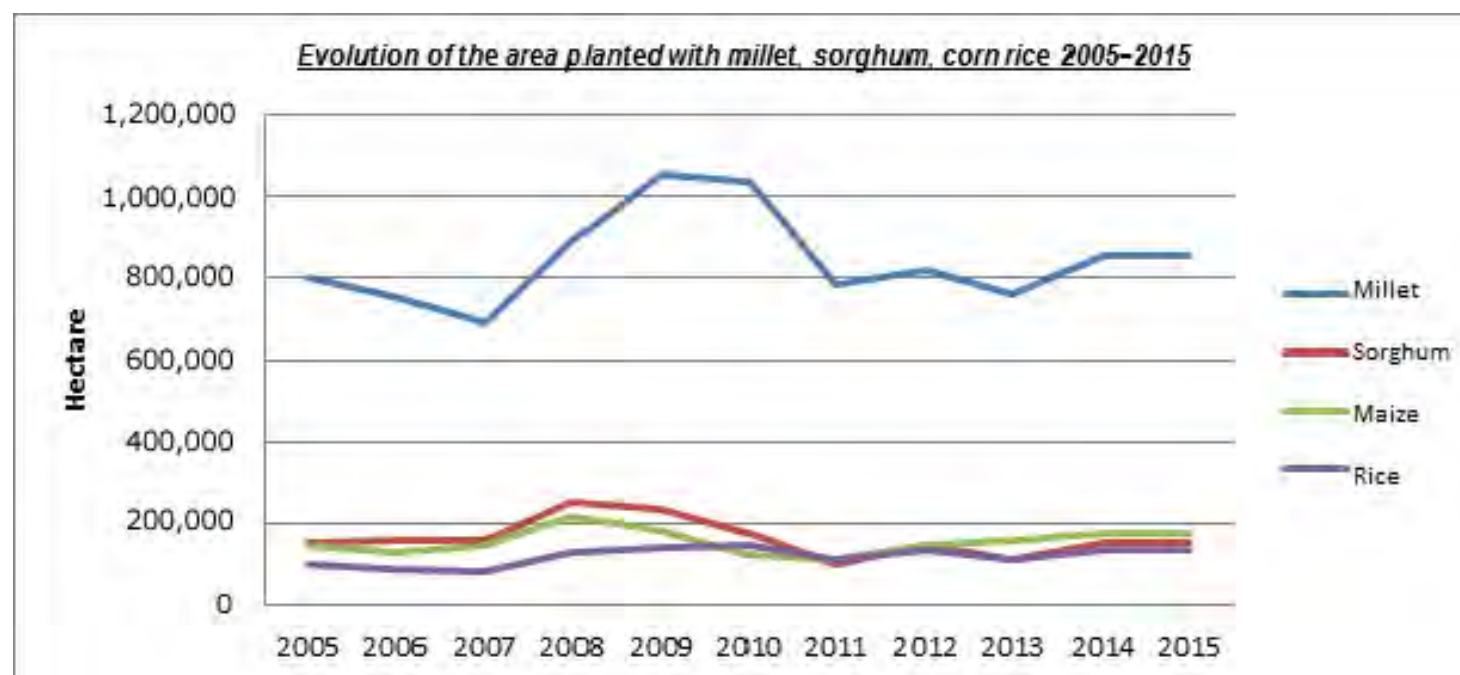
Figure 7: Evolution of Cereal Production (T) 2005–2015



Source: DAPS [Office of Analysis, Forecasting and Statistics] Agricultural statistics

The trend is the same for the annual cultivated area over the 10 years (see Figure 8), with millet far exceeding other grains with an average annual cultivated area of 800,000 ha (841,451 ha), whereas the cultivated yearly average of other grains is less than 200,000 ha (Sorghum: 161,281 ha; maize (corn): 154,320 ha, and rice: 117,839 ha).

Figure 8: Evolution of the Area Sown in ha 2005–2015



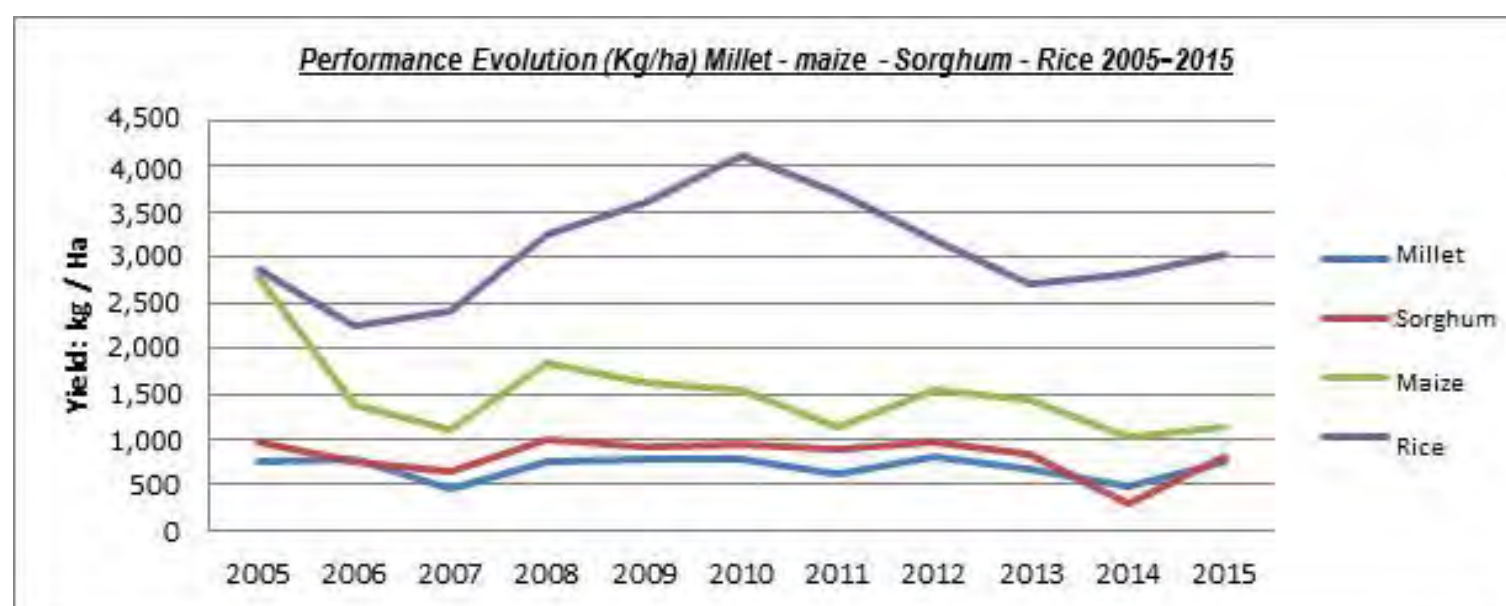
Source: DAPS [Office of Analysis, Forecasting and Statistics] Agricultural statistics

According to statistical analysis, a strong inter-annual variation is notable as well as acreage productions evolving in a sawtooth wave. ¹³From 318,822 tons in 2007, production increased to over 800,000 tons in 2010 (an increase of 155.09%) before falling to 480,759 in 2011 (-40.8%). This same trend was observed in 2013 and 2014. This fluctuation of the production is to be directly linked to the drop in rainfall. Since millet is a 100% rainfed crop, a production decline is generally recorded during dry years.

However, the analysis of the average yields per hectare shows that millet remains the least productive cereal (see Figure 9). Indeed, average millet yields do not exceed 698 kg/ha for the 2005–2015 period, when those of sorghum, maize and rice were of 825.1, 507 kg/ha, and 3,082 kg/ha, respectively.

¹³Sources, DAPS [Office of Analysis, Forecasting and Statistics] Agricultural statistics, 2014

Figure 9: Evolution of Kg Yields per ha 2005–2015



Analysis: SOTERCO Group, 2015

Low yields of millet can be explained by various factors including: the non-use of appropriate technology for yields to scale, lack of supervision and training of producers, non-mastery of weed control including *Striga hermonthica* etc.

3.2.3 Analysis of the Project Area

The project intervention area, composed of Fatick, Kaolack and Kaffrine, is an important production area of millet totals, in 2013, 370,656T¹⁴, or 49.14% of the national production. The average yield per ha in the project area (see Table 11), based on data from the DAPS in 2014, is 657.33 with a range of 771 kg/ha for the Kaffrine region, 615 kg/ha for that of Fatick, and Kaolack, being 586kg/ha.

Table 11: Evolution of Millet Yields in the Project Area between 2012 and 2014¹⁵

Regions	Yield in Kg / ha		
	2012	2013	2014
Fatick	827.68	621.99	615.00
Kaolak	967.29	925.79	586.00
Kaffrine	877.98	848.98	771.00
Average / year	890.98	798.92	657.33

Source: DAPS 2014

Several varieties of millet are grown: the short cycle varieties certified as “*Souna 3*” (most commonly used) and the “*Thialak*” (longer ears and better taste according to the “*Saloum Saloum*”¹⁶), as well as the so-called “community” seeds introduced by the FNRAA [National Agricultural and Agri-food Research Funds] and from the “mainstream”.

The supply of inputs is generally arranged by producer organizations through the agency of MFIs (credit campaign).

Despite the technical tools popularized by the various projects that have been implemented in the study area (localized application of fertilizer, placement into 3 feet/planting hole, use of short-cycle variety, use of organic

¹⁴ Processing and analysing data DAPS 2014

¹⁵ The lower yields generally have four causes: 1) the irregularity of rainfall; 2) the reduction in plantings; 3) the late application of inputs, especially fertilizers; and 4) attacks (locust) and disease.

¹⁶ These are the populations living in the regions of Kaolack, and Kaffrine (corresponding to the traditional region of Saloum)

manure), yields are still low in comparison to the millet's production potential according to research (2 to 3 tons depending on the variety).

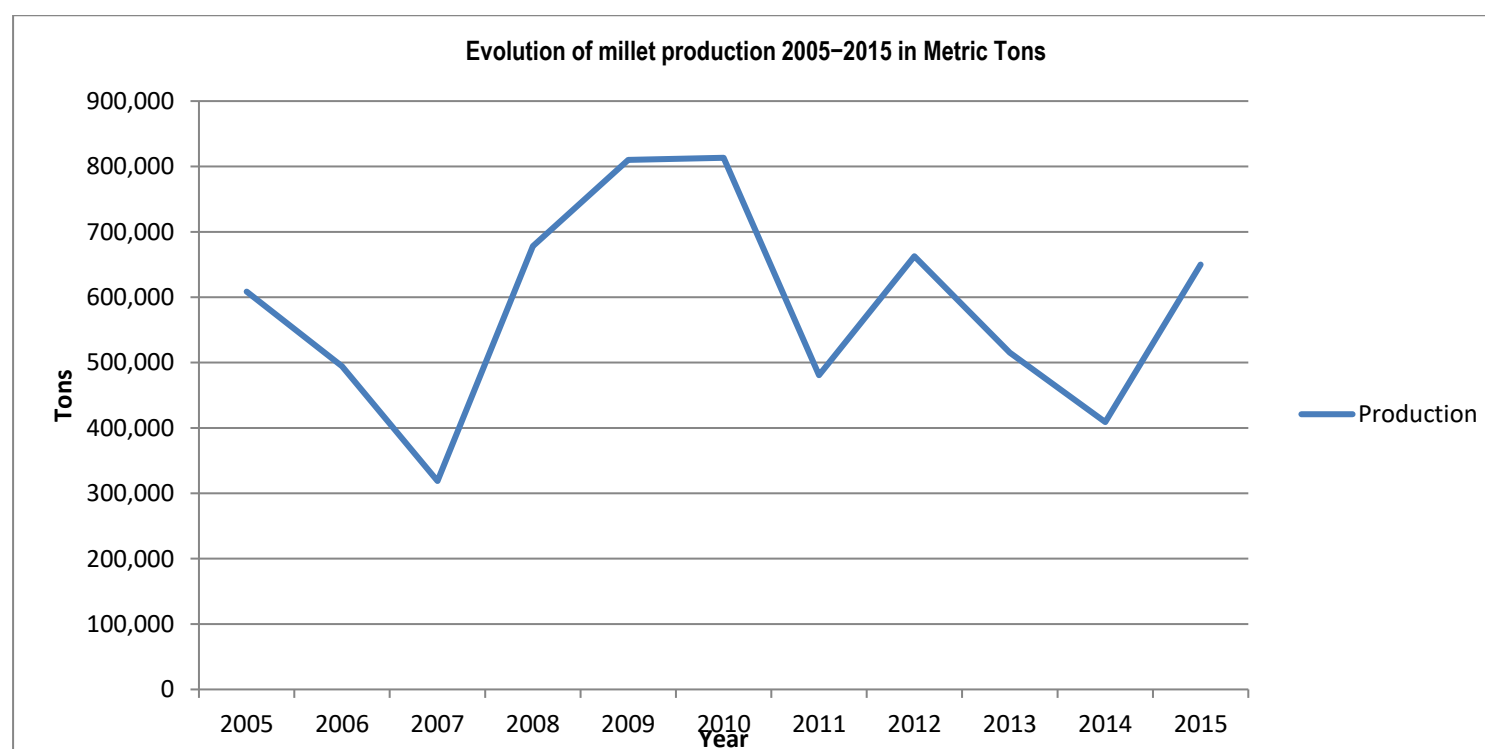
Producers in the area are very aware of the effect of organic manure and compare the soil with or without manure to the water retention capacity of "*Thiérélalo*" and "*Thiéréthiakh*."¹⁷

Millet yield varies between 1.8 and 2 tons if the technical processes¹⁸ are followed closely. In the field, average yields reported by the agriculture services and confirmed by producers vary between 0.8 and one (01) ton per ha.

Millet is a crop that is not exposed to theft (compared to maize), is easy to store and sell.

Aside from soil preparation, sowing, fertilizer application and harvesting; all other operations are carried out by women: singling and processing.

Figure 10: Analysis of the Evolution of Millet Production



Production has experienced growth peaks in 2010, 2012 and 2015 (see Figure 10). Over the last five years the development of production has a very irregular rhythm. Indeed, from 813,295 in 2010 it decreased to 480,759 in 2011 (down 40.89%) prior to increasing again in 2012 to 662,614t (up 37.83%), then declining until 2014 (38.27%). The analysis of millet production shows an evolution sawtooth between 2005 and 2015. This could be explained with the low rainfall in these years of low production. Indeed, millet depends on rain 100%.

In this context of evolution of millet production the last 5 years, it would be very risky to make projections. Indeed, the abundance or absence of rain is a key parameter, but very random to predict.

3.2.4 Millet Marketing Cycle

¹⁷ "Thiéré Lalo" means the couscous with the binder ("lalo" in Wolof) and "thiéréthiakh" means couscous without binder. These two expressions are metaphors to explain the difference between the soil with organic manure which functions as the "thiérélalo" with a high retention capacity and soil without fertilization (thiéréthiakh) which has a very low retention capacity. The "lalo" is a sticky substance produced from acacia which makes it compact couscous, soft and easy to swallow.

¹⁸ same as 8

Exchange of agricultural products, in general, and of cereal crops, in particular, are very active inside the country. Millet marketing brings together several actors forging a very close relationship. Marketing stakeholders mainly consist of the following: buyers, semi-wholesalers, wholesalers, and retailers.

There are important flows exiting the regions with surplus, namely Kaolack, Kaffrine, Tambacounda, Kolda, etc., to supply the northern regions (Saint-Louis, Louga), the western and central west, (Dakar, Thies, Diourbel is the center (Touba), etc.).

Cycle: wholesalers - semi-wholesalers - retailers.

Buyers usually restock at the Loumas, or weekly markets, where the producers directly channel their harvest. As with production, the sale is usually done at the individual level (each producer manages his harvest).

3.2.5 Processing

As elsewhere in the country, many artisanal processing units are created by Women's groups, especially in urban areas. In the regions the project is operating in, the processing units are structured as Cooperatives, GIEs or associations. The agri-food cooperative of the central area is composed of food processors (cereals, fruits, vegetables, etc.) of the regions of Kaolack, Fatick, Kaffrine, Diourbel and Thies (see Table 12).

During the course of the baseline study, the agri-food cooperative was identified, which consists of 139 processors in the project region. As this was identified after the data collection plans were created, it was not possible to increase the sample size of processors for the study, from the original identified target group (20).

Table 12: Distribution of Agri-Food Cooperatives in the Central Area

Agri-food Cooperative	Number of Member Processing Units		Total
	Number of Processing Units Headed by a Woman (Women's Group)	Number of Processing Units Headed by a Man	
Kaolack	54	3	57
Fatick	45	6	51
Kaffrine	31	0	31
Regional Subtotal Project Intervention Area	130	9	139
Diourbel	25	0	25
Thies	71	2	73
Total CENTRAL AREA	226	11	237

Source: Kaolack Agri-food Cooperative, Baseline Survey SOTERCO Group, 2015

Most of the units surveyed are active in the processing of millet, which constitutes their main activity. The transformation of millet is mainly done by women [nearly 94% of the processing units are groups of women in the project intervention areas (95% in the central area)]. The 11 men listed head the processing units but employ mainly women.

3.2.6 Transformation Process and Constraints that Processors Face

In the project area, nearly all of the processors do not store raw materials (millet) before processing. This is mainly due to the lack of available clean areas and storage space. Thus, processors order raw materials according to their current needs. Once millet is delivered, they begin the transformation process of the entire raw material.

Furthermore, it should be noted that the majority of the processors found were trained by the ITA (Institute of Food Technology) within the framework of the Kaolack Agri-food Cooperative, and have a good understanding of millet storage techniques according to HACCP principles. They are therefore optimistic about practicing storage according to these principles, despite the fact that storage-related constraints are high.

Once the raw material is available, the millet transformation process is done in seven (7) steps as noted in Figure 11.

Figure 11: Diagram of Millet Transformation Process



SOTERCO Group analysis, 2015

The supply of quality raw material poses no problem for processors. Indeed, within the framework of the first phase of the project, producers were taught well and have used quality seeds that produce quality millet. The processors are in partnership with these producers for the supply of raw material.

In the transformation process, processors often face various constraints.

During the baseline survey, all 20 processors supported by the first phase of the project were asked about the difficulties they face in relation to production, transport, pricing and market access. Focus groups with members from different companies as well as individual interviews with those responsible for food cooperative in the central area were conducted.

The main constraints identified and faced by processors are, essentially, in order of importance (based on analysis of the collected processor data):

- Lack of quality materials and equipment

- Inadequate processing equipment (over 50% of companies surveyed mention this problem): stone remover, husker, mill, dryer, bagger, etc. The few processors that are equipped have only a husker and a mill, the rest of the process is done by hand by the women.
- The processors that do not have a husker or mill are forced to outsource the service to other actors, which impacts the selling price of the finished product, but also the health and safety of the product (non-compliance of hygiene standards, etc.). The machines available for processing sometimes have low capacity, which does not always allow companies to respond to real, existing market opportunities (domestic and export markets).
- Premises not belonging to the company: only one processor out of the 20 surveyed owns its own premises.
- Lack of transportation to deliver finished goods to domestic markets.
- Marketing and sales flow of products: 30% of the processors surveyed have mentioned the problem with competition, the flow of their products and market access (participation in exhibition fairs, only 20% of processors supported during the first phase had to participate in exhibitions at fairs).
- Packaging, labeling: The packaging and labeling continues to be a problem (as identified in the project's first phase). Almost all processors encountered have raised this problem. In the project's first phase, a dozen processors received support in packaging. For them, the main constraint raised is the problem of personalization of packaging. Indeed, the packaging received has put more focus on the "USDA/CLUSA project" aspect than the "identity of the processing unit" aspect. After the start of the project (first phase), most supported and found themselves unable to sustain the gains achieved with this, because they lacked their own sufficient resources.
- Regarding the transport of finished products, the main constraint raised is the high cost of transport and inaccessibility to vehicles to move products to domestic markets.
- Constraints linked to price: Price volatility.
- Other constraints were also raised, including financing problems for activities, equipment, etc. and dilapidated premises.

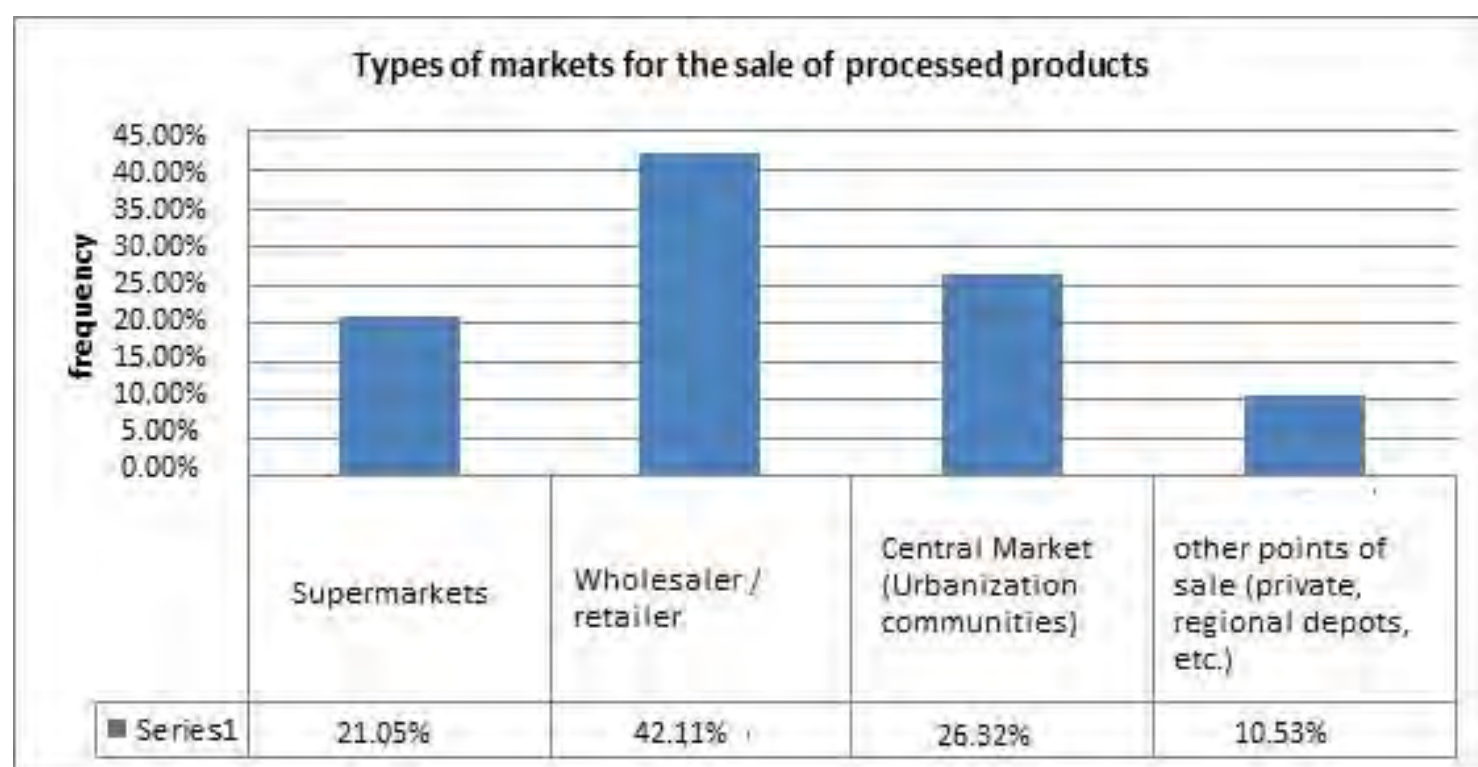
Price formation and margins

Processors source directly from the producer at market price plus the cost of transportation to the company, which may be in the range of an additional 20 to 25 FCFA on top of the market price. From August through September 2015, the market price varied between 170 and 190 FCFA per kilogram.

3.2.7 Market Access

It is clear from the study that the products processed from millet are generally sold in urban areas, or in regional markets in large cities (Dakar, Thies). The processing units directly supply several types of resellers (see Figure 12) depending on the market.

Figure 12: Types of Markets for the Sale of Processed Millet Products



The processing units supply at the local level (communes), wholesalers/shops (42.11%), regional markets and supermarkets (Dakar). They sometimes sell retail (sales to individuals, in regional garages, etc.) which accounts for nearly 11% of processors or sales.)

Products processed from millet have real opportunities, some processing units begin to export at the sub regional level and sometimes internationally.

3.3 Millet's Place in the Local Economy

Due to its importance, millet is a priority good in the project intervention area. Indeed, it is culturally the population's staple food, particularly so in rural areas. It represented almost 66% of cereal production in the project intervention area in 2013. It is therefore a key product in the food security of Senegal.

Long considered a food crop, millet is now used as a raw material in the food industry with the development of local cereal processors. Thus, millet is increasingly grown for commercial purposes. With the continuing decline in revenues from peanut due to the sharp decline in production, millet seems increasingly to be a credible alternative to compensate for the shortfall linked to peanuts. This situation could be explained by the development of small processing units across the country and especially in large urban centers which are an important market for processed products. Better production is strongly supported by the State of Senegal and by various projects (PAFA, PROFILES, respectively financed by IFAD and the European Union, etc.) from the grain crisis of 2008.

Millet requires less investment compared to other cereals grown in the area (maize, sorghum, rice). For (1) hectare of millet, it takes two (2) bags of fertilizer and two (2) bags of urea, versus four (4) of each for maize. For example, with 100,000 FCFA, one can sow a hectare of millet, while maize (corn) requires twice as much investment. In addition, it is a cereal particularly adapted to poor soils and can still grow with low rainfall. It is dependent on rainfall, but there are varieties that are more drought resistant than others and in general, it is a crop that does better with less rainfall.

3.4 Inventory and SWOT Analysis of the Millet Value Chain in the Project Intervention Area

A strengths, weaknesses, opportunities and threats (SWOT) analysis was conducted (Table 13) to provide a situational context to consider for future work plans. While the SWOT analysis is not used further in the baseline study, it is intended to provide contextual information for the project team to consider in future planning purposes.

Table 13: Summary SWOT Analysis of the Millet Value Chain at the Local Level

STRENGTHS	WEAKNESSES
▪ Availability of agricultural land ▪ Availability of agricultural labor ▪ Existence of skilled artisans ▪ Local network of input suppliers currently being formed ▪ Existence of DFS (Decentralized Financing Systems)	▪ Low yields ▪ Difficulties in access to inputs ▪ Inadequate and obsolete equipment ▪ Lack of storage infrastructure ▪ Lack of stakeholder training ▪ Difficulties in access to credit ▪ Soil degradation and salinization
OPPORTUNITIES	THREATS
▪ Growing demand (domestic and export) in processed products ▪ Appearance of processing units at local and national level ▪ Supplying of deficit or non-producing areas	▪ Climatic hazards ▪ Phytosanitary risk and pest attacks ▪ Rapid population growth and urbanization (land pressure)

Analysis: SOTERCO Group, 2015

3.4.1 Strengths: Advantages for the Project

The project intervention area has availability of land and agricultural labor. Land, labor, and water (rainfall) are the 3 basic elements of agricultural production including millet cultivation. 65 to 98% of the population engage in agriculture, depending on the region.

Sine Saloum is the largest production area of millet in Senegal. It has great potential (land, good farming knowledge, favorable climate and rainfall, availability of suitable varieties) for the development of millet production.

Input supply is provided by local suppliers. Artisans carry out repairs and to a lesser extent manufacture agricultural equipment.

Similarly, demand for millet continues to grow due to the development of processing units.

The benefit to the project is that the various players in the sector are represented in the intervention area (financing structures, input and equipment suppliers, producers, processors and consumers of raw millet and derivatives). This is a significant advantage for the project which intends to intervene along the value chain and will focus its interventions in a limited geographical area.

The project strategy will be to maintain and enhance the identified strengths for the future of the sector.

3.4.2 Weaknesses: Potential Impact on the Project

The weaknesses noted are challenges for the project to boost the sector. For this, the project will clearly identify strategies to activate and implement suitable measures to remove identified constraints, so as to achieve the desired results.

Despite the availability of land resources, poor access to inputs will affect the ability to develop land and improve yields.

If yields remain at a low level, the project's viability will be threatened. The project will use every available means (fertilization, varietal choice, and training) to increase yields. The training of producers and the use of improved technologies should positively influence the improvement of yields.

3.4.3 Opportunities: Possibilities for the Project

Demand has grown steadily in recent years both internally and externally and tends to drive prices and thus promote the profitability of the sector in the medium term.

In the marketing support that the project plans to bring to the actors, the external market could be targeted in addition to the local market, particularly for processed products. This will motivate interested processors to comply with standards and improve food safety.

3.4.4 Threats: Effects on the Project

The most significant threat is related to weather conditions when we know that agriculture is dependent on rainfall. This is also the main cause of annual variations in production. A non-rainy season will have a direct and negative impact on production and yield forecasts.

3.5 Definition and Understanding of Production, Marketing, Finance, Gender and Status of Environmental Compliance and Vulnerability of Potential Beneficiaries of the Program

3.5.1 Production

Producing millet is done in several steps:

- Soil preparation
- Seed treatment
- Seedling
- Thinning (at 0,91 metres per pocket)
- Weeding and hoeing
- Fertilization (mineral and organic)
- Disease control (mildew, ergot, coal), insects (millipedes, caterpillars, borers, beetles, leaf miner blight) and striga
- Harvesting and drying
- Storage
- Treatment of straw

The main obstacles to a potential increase in millet yields in rural areas are low intake of fertilizer and poor weed control, themselves limited by organic material resources (reduced by the disappearance of rangelands and fallow) and the difficulties of accessing animal traction equipment. The use of short-cycle varieties has been observed for

over 25 years in the groundnut basin including the project intervention area (Fatick, Kaolack and Kaffrine)¹⁹. This means that the ability to produce higher yields lie mainly in the correct application of agricultural techniques, such as organic fertilization that acts on the water retention capacity of the soil, thinning to 3 feet pockets and the control of parasites and other pests (firstly striga).

3.5.2 Marketing

Millet is usually sold just after harvest. The market is thus flooded with millet, leading to price declines. Hence it is important for producers to be organized at the municipal/regional level in connection with the services of the Ministry of Commerce to organize the marketing so as not to flood the market or create shortages. This assumes a quality post-harvest treatment and the availability of suitable storage infrastructure.

Strategies are developed under support projects and programs to allow producers to make better use of their harvest: warranties that require good organization of producers, storage of part of the production until market prices rise, etc.

Thus, the project's intervention of storage infrastructure is very relevant. It would be valuable for storage facilities to be renovated or built. It is important in order to support the organizing of POs in the establishment of an adequate marketing system for their members' products.

3.5.3 Finance

Funding for the sector is generally done by the MFIs through agriculture season funds requested by POs (which redistribute to their members) on the basis of co-securities as a guarantee or directly to large producers, processors, traders, carriers, etc. Access to funding remains a problem from several perspectives.

With agriculture credit made available for producers, it is mainly the delay in their attainment and sometimes the quality of inputs that pose the most problems. The new seed producers were denied credit after the first phase of the project ended due to lack of guarantee. The majority of processors have up to now found means of self-financing.

MFIs offer attractive products that are not explored by POs. This is the case of equipment/investment loans over 18 months which may allow organized POs to acquire post-harvest processing equipment, such as threshers. However, these long-term investments require mobilization of capital that inevitably will affect the treasury of these companies. External support will be necessary such as credit and/or grants.

3.5.4 Gender

A certain division of labor, with men responsible for heavy work (clearings, sowing, hoeing, and harvesting), and women responsible for thinning and weeding, is noted in the cultivation of millet. As for children, they participate in all operations, in particular handling horses or donkeys during clearings, hoeing, weeding and picking crops. It must be noted that women perform all post-harvest operations (threshing, winnowing) and processing some of the harvest for family meals.²⁰

While the cultivation of millet takes place over three months, the processing is done in accordance with consumption and is the occupation of women throughout the year. The small scale processing of millet is one of the household tasks which occupies women's days in areas without adequate facilities. The financing of equipment for the simplification of women's work, such as threshers and mills, can be used for income-generating activities, for example.

¹⁹See F.Affholder Variability of rain-fed millet yields in rural Senegal: influence of water supply, management of fertility and weed control, December, 1991

²⁰ Features of the millet value chain in the region of Kaolack: Determination of production costs; Final dissertation presented and publicly supported by Malick Diakhate, March, 2013 - ENSA, Thiès.

3.5.5 Compliance and Environmental Vulnerability Status

The practice of agriculture is not always consistent with the protection of the environment. Millet is no exception to this finding. The abandonment of local varieties in favor of selected short-cycle varieties, the non-integration of trees in the cultivation system, the abandonment of the long-duration fallows, the encroachment of land clearings on forest formations are all practices which go against the protection of the environment. These issues are important to consider in the implementation of the project.

In seeking to adapt to rainfall deficit, the use of selected short-cycle varieties is a growing trend, resulting in the abandonment of local varieties that are gradually disappearing. This leads to a loss of biodiversity that would be beneficial to retain for future generations with a view to improving the species, among others. Similarly, the non-integration of trees in the agricultural system also leads to a loss of genetic biodiversity, without counting the impact on the climate and landscape. The project could promote assisted regeneration of useful, protected or endangered species.

The abandonment of fallows and inconsistent use of organic matter contribute to soil impoverishment and degradation, resulting in a gradual decline in soil fertility and water holding capacity. It is in this context that the project introduced the use of rippers and organic manure in phase 1, which will be continued through conservation farming in phase 2.

The region of Kaolack was cited amongst those concerned by the encroachment of land clearings on forest formations²¹, resulting in a loss of biodiversity. The increase in yields expected from the intervention of the project should help to restrain new clearings.

1 ²¹Ndioufa DIOUF, biodiversité du Sénégal (Biodiversity of Senegal) (see <http://fr.calameo.com/read/00038599948ce7321eee8>)

4 Data Gathering

4.1 Data Collection Summary

The baseline team was successful in reaching the primary target groups as planned. Due to the need for the baseline to occur as soon as possible after project award, it is important to note that the data collection occurred between July-August, which coincided with the rainy season. Availability of target respondents, including producers (often dispersed in the fields) and input suppliers (in ongoing implementation outreach) was an unavoidable constraint. Table 14 below shows the data collection summary by target and by region relative to the original goal.

4.1.1 Producer Union

Out of the targeted 33 unions, 32 unions out were surveyed (22 former unions that benefited from support of the project's first phase as well as 10 new Unions identified for the 2th phase). Like the POs, the unions mainly derive their income from agricultural production and membership fees. Nevertheless, they engage in other activities such as breeding, marketing, the leasing of agricultural equipment, etc.

The Unions administratively corresponds to the rural community. From this perspective, it is estimated the total number of producers' unions of the three areas of intervention of the project to 90, that is to say the total number of rural communes of three regions. Those targeted by the project, and therefore surveyed, account for 36% of the whole.

4.1.2 Producer Organization (PO)

Out of the targeted 188 POs, 179 POs were surveyed. Surveyed POs derive their income mainly from agricultural activities, contributions and card purchases by members and market their products. They also engage in other secondary activities such as small loans to members.

Of the 188 POs planned to investigate 9 were ultimately declared ineligible for the survey. Their presence in the database of the first phase of the millet program is related to shortcomings in updating the database. However, they are kept in a register in case they are interested in Phase II.

POs administratively correspond to the village. Based on a Union having an average of about fifty villages in the southern area of the groundnut basin, the estimated total number of POs of the three areas of the project is 4,500.

4.1.3 Producer

An individual farmer is a producer who works for his own account. About 8,000 of them have benefited from the first phase of the millet program.

A PO has an average of 30 producers, therefore the estimate of the total number of producers in the three project regions affiliated to a producer organization is 135,000.

4.1.4 Inter-Regional Union

The inter-regional union brings together the three previous levels (Unions, POs, producers), and its role is to facilitate relations between producers and their partners at the national level.

Table 14: Level of Achievement of the Target Survey: PO Performance, Union Producers by Region

Region	Study	Former Unions		New Unions		Control POs		TOTAL POs		Producers Sample	
		Union	PO	Union	PO	Old Towns	New Towns	Union	POs	PO	Sample. producers
Kaolack	Target	9	70	5	10	4	1	14	85	17	85
	Actual	9	68	5	10	0	1	14	79	17	65
Fatick	Target	6	55	4	8	4	2	10	69	13	65
	Actual	6	49	5	9	6	1	11	65	13	65
Kaffrine	Target	8	63	1	2	4	1	9	70	9	45
	Actual	7	62	1	2	4	1	8	69	9	47
Total Project Area	Target	23	188	10	20	12	4	33	224	39	195
	Actual	22	179	10	20	10	3	32	210	39	197

The old unions and POs are those who have already benefited from the support of first phase of the millet program and the new POs are those who have not yet benefited from the program, but that are targeted by its second phase.

With respect to the old counties, the missing union is that of Dianké Souf which is associated with the County of Ndioum Ngainth, providing for an achievement level of 32 against the 33 unions initially planned.

The variance in the number of POs reached with respect to the initial plan is to be put on the account of data “entries and exits” in relation to the starting list received from the project, as is the case at Diaoulé (1 entry, +1), Patar Lia (6 exits and 3 memberships, -3), Diossong (2 exits or -2), Ribot Escale (1 exits, -1), Djilor (1 exist and 2 merged, -2) Ndiaffate (2 entries, 2) Ndiébel (4 exits, -4), Dya (1 entry reported after the end of the investigations, +1), Patar Sine (1 exit, -1).

In regards to the new counties, it has been decided to research two (2) POs in each of the 10 counties selected. Thus, all 20 were surveyed.

With respect to the control POs, the objective was to have 12 in the old communes and 4 in the new ones; the performance level is 10 and 3, respectively.

Concerning the producers, it was planned to research 195 in the three regions; 197 producers were surveyed.

For processors, all processors initially targeted were carried out.

For seed producers, 24 were carried out over a target of 22. The two additional were carried out in Diaoulé and in Patar Lia. The contact persons initially listed occasionally changed, sometimes due to the target’s unavailability or because the new indicated person is more suited to respond to the questions asked.

Regarding the artisans, 10 were interviewed of the 13 initially targeted. This is due to the fact that non-beneficiary artisans of the first phase had been identified (2) on the starting list, and a refusal/unavailability in Koussanar.

4.2 Evaluation of the Methodology Used to Explain the Relevanace of the Approach and the Restrictions

The methodology for the achievement of this baseline study has covered all municipalities and villages involved in the project to meet all project targets (unions, PO, seed producers, artisans and processors indicated by the project).

The methodology was established by mutual agreement between the consultant, project and the project beneficiary organizations. During the development of the methodology, the latter have been approached several times to find a perfect compromise between the requirements/expectations of the investigation and the practical aspects linked to the targets and their environments (location, distance to location, availability, etc.).

The study implementation period (July-August 2015) corresponded to the rainy season. This is the time when producers return to their village for the purpose of the agriculture activities. In other words, it is the best time of the year to conduct such a study. It is possible that after a rainy day it might be difficult to find them on the site because they are scattered in the fields. This is also the case of input suppliers. In both cases, a date was negotiated with the target to find the most convenient time to provide input to our study.

5 Project Targets Characterization

While the focus of the baseline data collection was on the MSBP objectives (phase 2), because many of the MBSP beneficiaries were also involved with phase 1, it is important to understand the phase 1 impact on these beneficiaries. Understanding how they were affected by the project (e.g., results, trends), will help the MBSP team build upon what worked/didn't work. Thus, it is very important to take note of phase 1 results/trends when considering indicator baseline values, targets and work plans. However, it is also important to recognize that this data is not being collected, nor presented as a final evaluation of phase 1.

5.1 Producers: Socio-Economic Characteristics, Organizational System and Support Received

Producers are organized according to a pyramid scheme (see Figure 13).

Figure 13: Millet Producers Organizational System (USDA /MBSP)

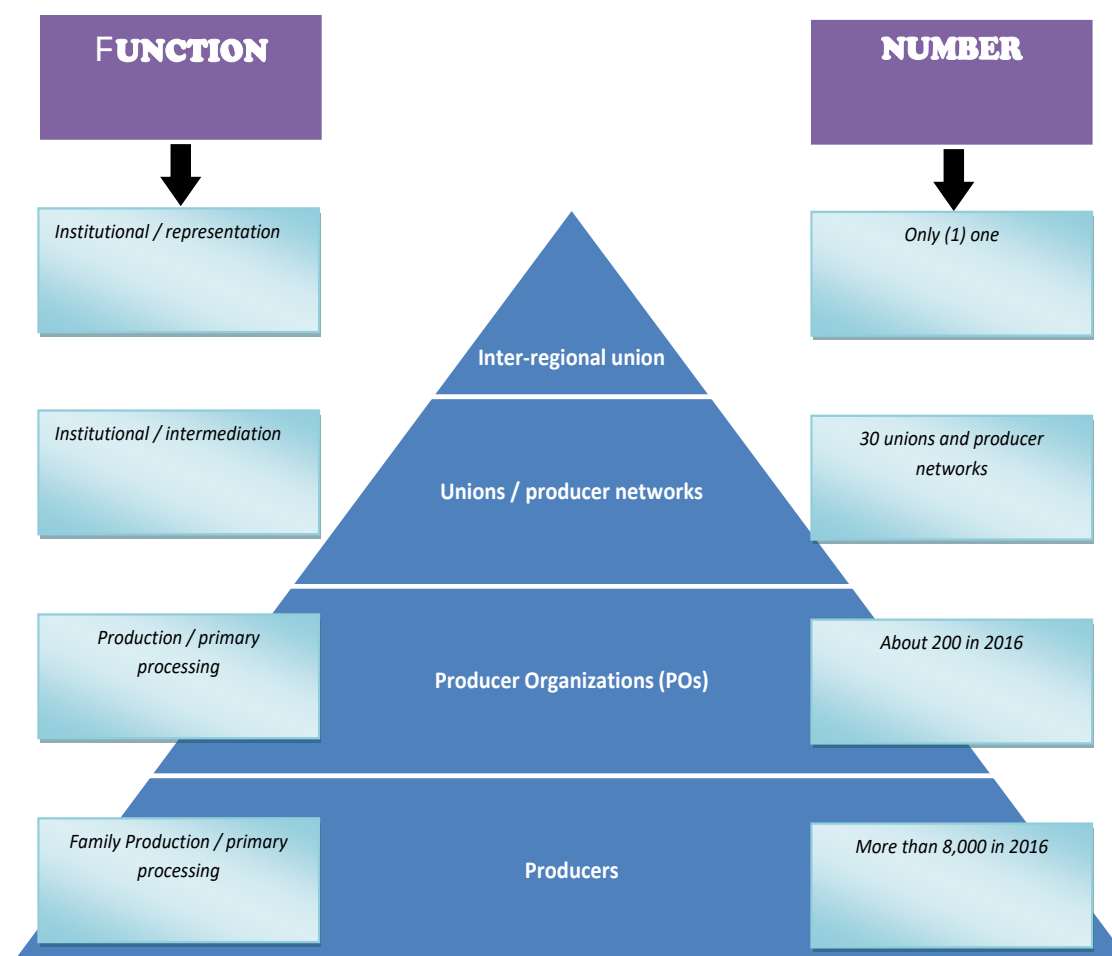


Figure: Millet producers organizational system (USDA|CLUSA project)

During the survey, about 439 producers were encountered in the project intervention area (197 member producers of PO, 210 PO presidents' producers and 32 PO union presidents' producers)

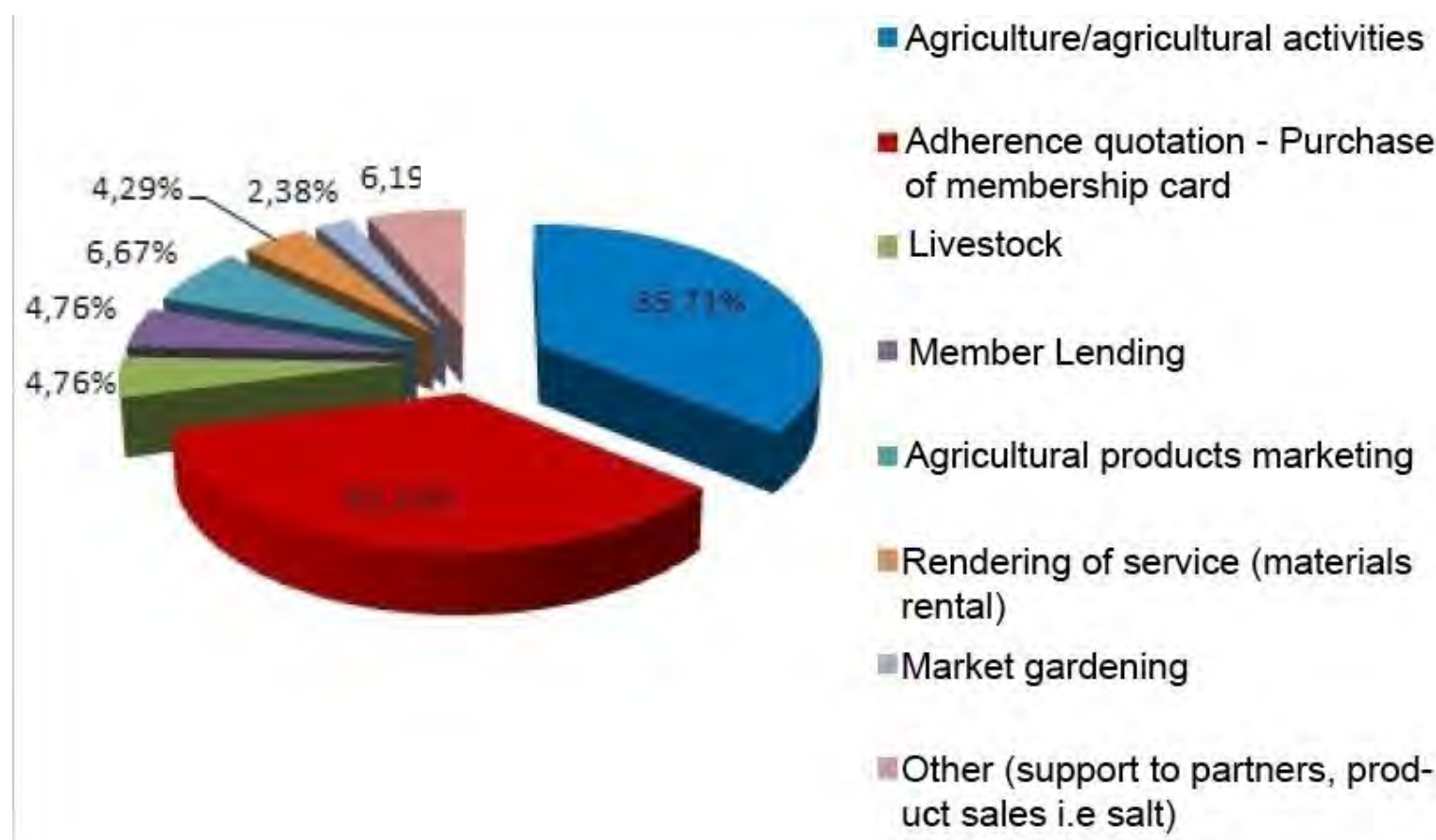
The 32 unions supported under the MBSP consist of the 22 former unions that benefited from the project's Phase I and 10 newly integrated unions in Phase 2. The unions are recognized legal entities and generally offer members services such as seasonal credits and marketing support.

Within these unions, 26 confirmed to have granted their members credit campaign funds and 19 supported their members in the marketing of their products. They derive their income mainly from membership fees, from the sale of membership cards and agricultural activities. They also provide other secondary activities such as livestock raising, marketing, credit to members, and rental equipment (chairs, mattresses, etc.).

Regarding access to credit, out of the 32 unions interviewed, only 9 (28.1%) reported receiving credit through the assistance of the USDA in its first phase. Note that these 9 are among the 22 unions that benefited from USDA's support in its first phase.

Regarding the POs, they derive their income (see Figure 14) mainly from agriculture (35%), contributions and card purchases by the members (35%) and in marketing their agricultural products (30%).

Figure 14: Main Sources of POs Income



Other secondary activities are also practiced: marketing of agricultural products (6.67%) small loans to members (4.76%), livestock (4.76%), etc. Like the unions, the POs offer credit services primarily to their members' and support services to market. Only 4.5% of respondent POs confirm the availability of storage infrastructure (beyond their homes) in their area. This confirms the finding that the lack of storage infrastructure for their products remains a major constraint for producers.

77.39% of POs encountered had access to credit through the assistance of the USDA, these POs (154) received support in Phase I.

The producers interviewed are as follows: 45.2% in Kaolack, 31% in Fatick, and 23.9% in Kaffrine. They consist primarily of men (93.40%). The average age of the producer is 31 year-old. They implement a diversification strategy of their sources of income by engaging more in trade.

They practice mostly dryland farming (99% of producers surveyed) and most frequently access land through inheritance (see Figure 15). With regard to acquiring land, 78% is inherited; 3% allocated by the rural council; 13% leased or borrowed; and only 1% is purchased; 1% is claimed through clearing rights; and the remaining is acquired 4% is through other customs, such as granted by the village chief.

Figure 15: Mode of Land Acquisition

Mode of Land Acquisition



Water is usually available in the producers' villages via drilling (or wells); it is generally not used for productive purposes but rather domestic.

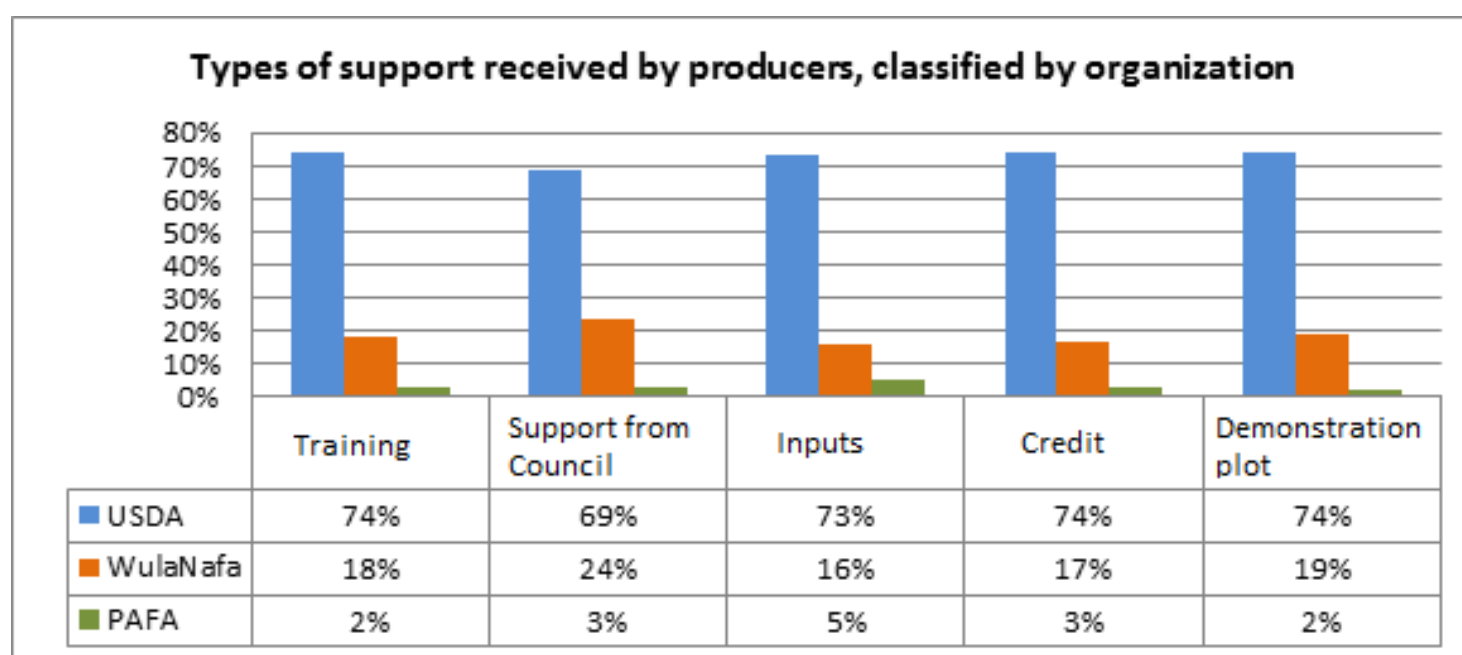
Producers in the project intervention area are organized around associations merged in organizations and union of producers.

The unions benefit from several types of support from NGOs, projects and programs (USDA, including Phase 1), local authorities, etc. The support received is mainly: training, provision of inputs, support for access to credit, and the provision of demonstration plots.

The survey shows (see Figure 16) that 26 of 32 respondent unions have received support from different organizations (all different support structure) such as training / capacity building (26/32); input support (21/32) support for access to credit (18/32) and provision of demonstration plots (21/32). The new unions integrated in the second phase have benefited from these different types of support through other projects intervening in the project area.

The POs have benefited from several types of support including: training (farming techniques) consulting support, access to quality inputs, access to credit, demonstration plots from the project and NGOs such as NCBA/CLUSA International, Program for the Development of Natural Resources (WULANAFA), PAFA, etc.

Figure 16: Type of Support Received Classified by Organization

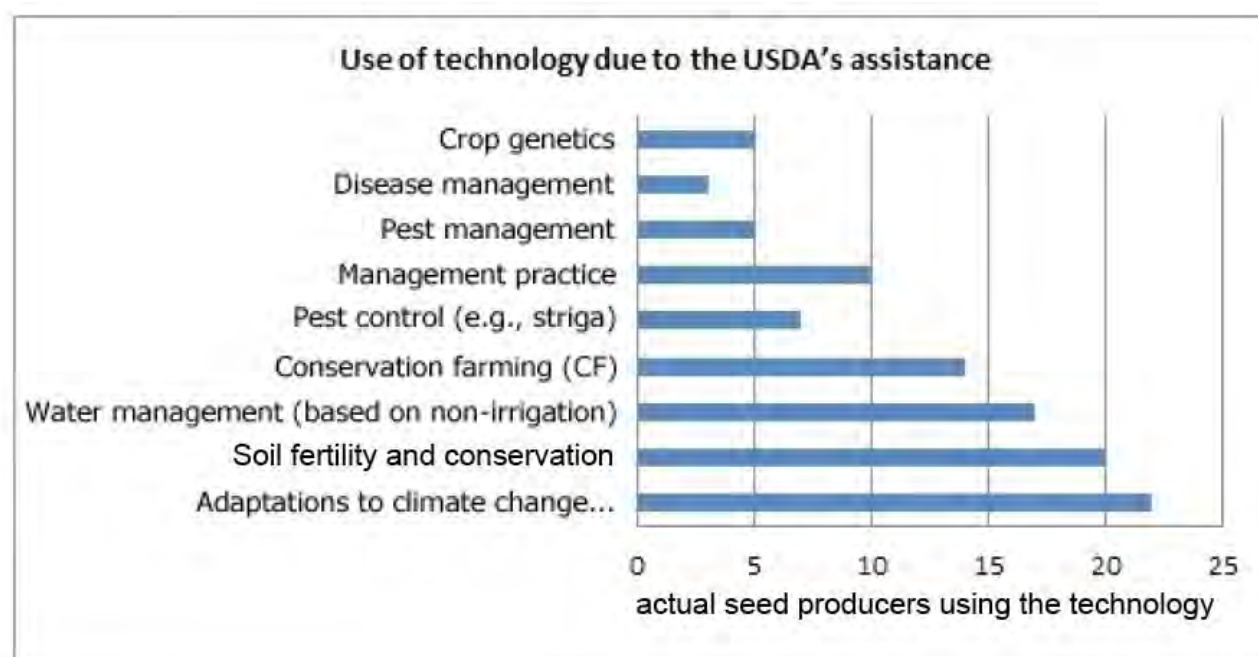


5.2 Seed Producers: Profile, Organization and Support Received

Out of a total of 24 seed producers encountered during the survey, only one woman was registered. Seed producers derive their income mainly from agricultural activities and marketing of seed and livestock/ cattle fattening. Activities such as teaching, market gardening and fishing are also practiced, although very rarely.

Following the USDA/CLUSA support (first phase), almost all seed producers encountered use at least one technology or improved crop technique (see Figure 17). Adaptations to climate change (22 out of 24 seed producers surveyed); fertility and soil conservation, composting (20 out of 24); water management (17 out of 24), conservation farming (CF) and management practices (10 out of 24) are the most used.

Figure 17: Use of New Technologies or Practices Following USDA's Phase One Assistance



Seed producers in the project intervention area are organized by union and / or cooperative. Indeed, 17 seed producers encountered during the survey are members of a union or of a seed producer cooperative (seed producers' cooperative of Sine, Alliance of Kaolack seed producers, seed producers Kaolack Union, etc.).

They generally receive support from state agencies (DRDR) and from projects and programs occurring in the area. The type of support received are essentially: training / capacity building; marketing support, support for access to credit.

5.3 Processors: Profile, Activities and Support Received

As part of the MBSP baseline survey, 20 millet processors (target population identified at the start of the baseline study) were surveyed: 10 in Kaolack, 8 in Fatick, and 2 in Kaffrine. 90% are economic interest groups (EIGs). These are the units that the millet program worked with during its first phase. Thanks to this baseline study, however, 237 new processing units were identified in the three project areas, in addition to Diourbel. The database put together is given to the project and help identify and target new processors interested in the second phase.

Like all food processing organizations of the central region, millet processor members are mainly women within the project intervention area. They are also well represented in decision-making bodies:²²General Assembly, (96%), Administrative Council (94%) and Board (100%).

Their main activity is the transformation of the millet (100% of respondent processors). The processors primarily derive their income from the processing of the millet and the sale of derivatives. They have other secondary activities such as service provision and sales of cashew nuts.

During the first phase of the project (2011, 2012 and 2013), the income generated by the conversion / sale of millet increased from 59,742,230 CFA francs in 2011 to 64,405,420F CFA in 2013 with a decline of about 10 million CFA noted between 2011 and 2012. Revenues from secondary activities are less than 15,000,000 FCFA per year.

²² Source: Baseline surveys, SOTERCO Group June-July 2013

The quantities of millet processed by companies rose over the three (3) years of the project, from 52.27 tons in 2011 to 169.48 tons in 2013.

The processors are organized into EIG and most are members of professional networks (75%). Their clients are mainly wholesalers and semi-wholesalers, local populations and NGOs/projects intervening at the local level (contracting). They work informally with their clients. Only 25% of companies surveyed have established a formal partnership (contracting) with clients, who mainly consist of NGOs and/or development projects at the local level.

During the first phase of the project, the processors received support in various areas, including:

- Support for supply of quality raw materials by establishing relationships with quality millet suppliers located nearby.
- Training in processing and marketing techniques (98% of companies surveyed and their members have received this support).
- Support for participation in fairs (20% of processors surveyed).
- Coaching in marketing and hygiene and processing practices.
- Support for market access (establish relationships, creation of points of sale, preparation for contracting, etc.).
- Packaging: high quality packaging lots were offered to approximately ten businesses by USDA/CLUSA.

5.4 Artisans: Features, Organization and Support Received

Out of the total of 13 artisan²³ beneficiaries of the first intervention phase, of which 10 were surveyed, all were men. The average age of family members involved (also all male) in the activity is 23 years. Members involved in the activity are either welder, apprentice or worker.

The artisans mainly derive their income from craft activity/welding (75% of artisans).

It is to be noted that two of the artisans encountered cited agriculture as the main source of income. These skilled artisans are struggling to grow their business due to the various constraints they face. These include:

- High cost of raw materials (iron, etc.);
- Lack of premises/workspace;
- Lack of resources (adequate materials and work equipment);
- Difficulties in access to finance: Almost all of the artisans encountered mentioned the constraint of credit access for their activity. Only one artisan out of 10 received credit thanks to USDA's phase 1 assistance;
- Transportation problems and flow of finished products (high cost of transporting finished goods to domestic markets). Problem of participation in exposition and trade fairs (only one artisan participated in an exposition thanks to USDA/MBSP support during Phase I);and
- Difficulties in identifying partners and establishing a formal partnership with potential clients (only 2 artisans among those interviewed signed sales agreements over the 3 years of the project).

For these types of targets, the second phase of the project should focus on access to finance of their activities; on marketing (relationship building, searching for partners, exposing at fairs, etc.), and a workspace for the artisans.

Like the other groups, the artisans are organized in an EIG Associations and professional networks. All artisans encountered are association members and / or (STH Malem metal joinery association, EIG Dekal sounou souf (artisan group) professional network of metal carpenter, etc.).

They usually receive support from state agencies and projects and programs operating in the area. The types of support received are essentially training and support for access to credit.

²³ The first phase of the program has worked with 13 artisans only, three of which reside outside of the project area (Kédougou, Matam, etc.). The second phase plans to increase this number based on its objectives. The identification of new beneficiaries will be in agreement with the artisans union who currently has over 70 members. The union of artisans has been a net development after the end of the first phase going from 13 to over 70 members today. The artisans, like other categories of beneficiaries, usually work isolated and rarely figure in official databases. Which makes their identification difficult.

6 Suggestion on Indicators

Based on the collected data for the baseline study, baseline values and comments/recommendations related to the original targets are noted in Table 15. The project team is expected to use this information to then update their work plan and PMP after the baseline study has been completed.

Table 15: Comments and Recommendations on Indicators

Indicator	Baseline Value	Original Target	Comments / Recommendations
1. Number of individuals benefiting directly from USDA - funded assistance	9,065	22,150 producers 16,630 traders	During the first phase the number of identified (via general survey) producers is 7,992 for 179 POs averaging 44.7 members per PO. During the second phase, the project intends to support 199 PO hoping to reach 3 times more producers. This is not realistic. Unless the project is planning to increase the number of PO / village through common intervention and hoping that the results of the first phase will push producers to adhere more to the project. Proposed target 15,000 producers.
1.1. Number of individuals benefiting directly from USDA - funded assistance (men)	4,967	Not applicable	
1.2. Number of individuals benefiting directly from USDA - funded assistance (women)	4,098	Not applicable	
1.3. Number of individuals benefiting directly from USDA – funded assistance (continuing)	9,065	Not applicable	
1.4. Number of individuals benefiting directly from USDA - funded assistance (new)	0	Not applicable	
2. Number of individuals benefiting indirectly from USDA – funded assistance	33,618	136,350 agricultural 146,540 traders	136350 / 22150 =6.1 31 283/7 394 =4.3 Surveys show that a producer supports 4 other people and not 6. With an objective of 15,000 the project will indirectly reach 60,000 individuals.
3. Volume of millet harvested [sold] in kilograms or tons	830	1,422	The average yield is of the order of 830 or 886 whereas it is calculated on the PO or the producer questionnaire. It is around the average yield of the area according to agricultural statistics. 688 for Fatick and 832 Kaffrine and 826 for Kaolack (average 2012–2014) Proposals: Fatick and Kaolack 900 Kaffrine, 1T

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Indicator	Baseline Value	Original Target	Comments / Recommendations
4. Number of hectares under improved techniques or technologies as a result of USDA assistance	9,012	42,000	In view of the indicator 5, a third of producers used improved technology on approximately 9,000 ha. With a target of 15,000 producers, the treated areas may be tripled. Producers have to be made more aware of the benefits of the use of technology. Proposed goal 18,000
4.1. Number of hectares under improved techniques or technologies as a result of USDA assistance (continuing)	9,012	17,000	Not applicable
4.2. Number of hectares under improved techniques or technologies as a result of USDA assistance (new)	0	25,000	Not applicable
4.3. Number of hectares under improved techniques or technologies as a result of USDA assistance (crop genetics)	155	1,000	Not applicable
4.4. Number of hectares under improved techniques or technologies as a result of USDA assistance (pest)	809	10,000	Not applicable
4.5. Number of hectares under improved techniques or technologies as a result of USDA assistance (disease management)	211	7,000	Not applicable
4.6. Number of hectares under improved techniques or technologies as a result of USDA assistance (soil conservation and fertility)	2,643	30,000	Not applicable
4.7. Number of hectares under improved techniques or technologies as a result of USDA assistance (water management; non-irrigation)	2,170	2,000	Not applicable
4.8. Number of hectares under improved techniques or technologies as a result of USDA assistance	6 069	500	Not applicable

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Indicator	Baseline Value	Original Target	Comments / Recommendations
(climate change mitigation or adaptation)			
4.9. Number of hectares under improved techniques or technologies as a result of USDA assistance (Other)	15	1,000	Not applicable
4.10. Number of hectares under improved techniques or technologies as a result of USDA assistance (Total w/one or more improved technologies or techniques)	9,012	500	Not applicable
5. Number of individuals and others who have applied new techniques or technologies as a result of USDA assistance	2,921	12,000	Compared to the total number of producers concerned in the first phase, about 30 to 37% used at least one of the technologies promoted by the project. In the second phase we can target up to 45% of producers for technology adoption that is to say 6,750 individuals.
5.1. Number of individuals and others who have applied new techniques or technologies as a result of USDA assistance (men)	2,429	5,160	Not applicable
5.2. Number of individuals and others who have applied new techniques or technologies as a result of USDA assistance (women)	492	6,840	Not applicable
5.3. Number of individuals and others who have applied new techniques or technologies as a result of USDA assistance (continuing)	2,921	5,000	Not applicable
5.4. Number of individuals and others who have applied new techniques or technologies as a result of USDA assistance (new)	0	7,000	Not applicable
6. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations	211	100	Not applicable

Indicator	Baseline Value	Original Target	Comments / Recommendations
(CBOs) that applied new technologies or management practices as a result of USDA assistance			
6.1. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance (continuing)	211	25	Not applicable
6.2. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance (new)	0	75	Not applicable
6.3. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance (PO)	179	40	Not applicable
6.4. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance (women's groups)	0	35	Not applicable
6.5. Number of private enterprises, producers organizations, water users	0	10	Not applicable

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Indicator	Baseline Value	Original Target	Comments / Recommendations
associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance (trade and professional associations)			
6.6. Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance (private companies)	8	30	Not applicable
7. Value of inputs and support services sold by agricultural input suppliers to farmers in US dollars in the regions	2,310,159	3M	Compared to the core value, it will make a 30% increase. The goal is realistic.
8. Number of agro dealers developed into networks	44	250	The project will support the networking of all artisans, seed producers and processors beneficiaries currently to the target of 54. We understood that for the processor target and the project will work nationally. 237 processors were recorded in the central zone (CLUSA area + area of Diourbel and Thiès). The project will take stock on the processors at a national level and rectify the goal. The project will work with businesses outside of the production zones.
9. Number of input suppliers trained in extension skills by input firms	950	250	Unable to access the data supplier, the goal will be largely revised upwards. To track this indicator, the project will collaborate with input companies.
10. Number of input demonstration fairs	12	60	The local fair organization is not very inked. There are 2 yearly national agricultural fairs (FIDAK and FIARA). The project will support the beneficiaries to take part. The organization of an annual fair at the project area would be a performance. Revise the target to 10
11. Number of individuals receiving financial services as a result of USDA assistance	4,478	6,500	Realistic goal

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Indicator	Baseline Value	Original Target	Comments / Recommendations
11.1 Number of individuals receiving financial services as a result of USDA assistance (men)	4,392	1,500	Not applicable
11.2 Number of individuals receiving financial services as a result of USDA assistance (women)	86	5,000	Not applicable
12. Number of loans disbursed as a result of USDA assistance	242	750	Achievable goal.
13. Value of agricultural and rural subsidies granted following the assistance of the USDA Value of agricultural and rural grants provided as a result of USDA assistance	10,915.67 USD	1,830,000 USD	The demand for post-harvest equipment and processing is important and can absorb much more than the target.
14. Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance	3,851	30,000	The project will pay attention to the calculation of this indicator because very often these are the same people who receive different training and are counted as many times.
14.1. Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance (men)	2,664	15,000	
14.2. Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance (women)	1,187	15,000	Not applicable
14.3. Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance (producers)	3,528	25,000	Not applicable
14.4. Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance (processors)	299	3,000	Not applicable

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Indicator	Baseline Value	Original Target	Comments / Recommendations
14.5. Number of people receiving training in short-term productivity of the agricultural sector or food security following the assistance of the USDA (traders)	0	500	Not applicable
14.6. Number of people receiving training in short-term productivity of the agricultural sector or food security following the assistance of the USDA (contractors/ suppliers)	0	500	Not applicable
14.7. Number of people receiving training in short-term productivity of the agricultural sector or food security following the assistance of the USDA (government extension officers)	0	1,000	Not applicable
15. Number of millet producers who have been trained by government extension agents	1,470	10,000	Since the project will sign a partnership agreement with ANCAR, which was not the case during the first phase, specific targets will be assigned to the agency.
16. Number of producer organizations/ cooperatives with certified extension officers/agents	221	60	The results of the survey shows that overall POs benefited from the support of a certified extension worker. Possibly not an important indicator to measure.
17. Number of Producer Organization (PO) members trained in extension skills	0	360	Unless the project decides to extend the number of POs per intervention municipality, limit the target to the number of POs targeted in the second phase that is to say 199.
18. Number of demonstration plots created	440	330	Further, clarify the concept of demonstration plot to differentiate from the model producer. A demonstration plot per village that is to say 199 seems reasonable, unless the project requires to increase the number of villages to support.
19. Value of millet sales in the target zones	\$ 1,443,395	\$ 12,500,000	Increase millet sales by 8.7 in 3 years is unrealistic. Revise the numbers downward and index to the number of supported producer
20. Number of jobs attributed to USDA assistance	230	600	No comment
20.1. Number of jobs attributed to USDA assistance (men)	139	375	Not applicable

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Indicator	Baseline Value	Original Target	Comments / Recommendations
20.2. Number of jobs attributed to USDA assistance (women)	91	225	Not applicable
21. Total increase in installed storage capacity as a result of USDA assistance	0	10,000	The PAFA, which is involved in the same areas as the project, has already made important achievements in terms of warehousing. Instead of duplicating the infrastructure, the project could, in synergy with the PAFA, focus on training Management Committee (MC) and store managers.
22. Number of agriculture producers in target region that have access to effective off-farm storage for their product	3,422	6,000	No comment
23. Number of market outlets in which selected agricultural products is sold	93	200	No comment
24. Number of service provider/ input supplier employees trained in marketing techniques	43	425	Concerns seed producers and artisans. OK
25. Number of agreements signed (contracts, MOUs etc.) between buyers/ sellers	31	300	No comment
26. Number of producer organizations/groups with marketing specialists	34	60	If the option is to support producers across union for marketing, then the objective is too high since 30 unions are targeted for the second phase. However, if the production marketing is organized on the village scale (PO), the objective should be increased to 199.

7 Analysis of Activities Planned in the Second Phase of the Project

Based on the collected data for the baseline study, the baseline team provided comments for all of the planned activities/sub-activities (see Table 16). The project team is expected to use this information to then update their work plan and PMP after the baseline study has been completed.

Table 16: Recommendations of Activities Planned in the Second Phase

Activities	Sub-Activities	Comments
Capacity Development: Agricultural extension officials/services, producers and private sector	• Partnership with the ISRA to upgrade the skills and knowledge of DRDR agents on the latest research on millet production. • Strengthening of DRDR extension capacities through relationships with the POs/Unions and partial coverage of the transportation and communication costs that are essential to the participation of millet producers. • Strengthening of unions capabilities through: - Support for unions in the selection and reception of a millet extension specialist. - Training of extension specialists on the latest millet crop technologies. - Support for DRDRs in the establishment of farm schools (introduction of the latest millet production technologies) directed by union extension specialists. • Training by the ANCAR, a private organization, and the unions to provide producers with technical information on how to use their products. • Constitution of a network of agents for input suppliers.	• If one compares the missions, the mechanism and the availability of human resources of the DRDR and ANCAR, the latter is most appropriate/equipped to support aspects of agricultural counsel and animation. • The DRDR has a mission centered on the compliance of the current programs, the supervision and monitoring of campaigns (agricultural and marketing, supervision of infrastructure created (retaining dam, dike) and to a lesser extent, agricultural counsel (technical support to the POs and LCs in the development of agricultural LDPs). • A contract must be established with the ANCAR for guidance and support for producers.

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Activities	Sub-Activities	Comments
	• Training of unions and POs to improve their marketing skills and support in the selection of qualified specialists	
Financial services: Facilitating Agricultural Loans	• Identification of MFI partners and support for the development of commission credit intermediaries. • Identification and recruitment of local financial service coaches for community support in the selection of intermediary credit services providers (FSICs) of the village. • Facilitating access to equipment credit and working capital for processing businesses. • Support for the development of business plans for processing businesses. • Organization of regional processor/MFI meetings.	This pattern seems quite extensive and introduces additional intermediaries who will participate in increasing the cost of credit, of which the elevated cost is already criticized by producers. While the experience acquired by the interregional project with SENCHIM after the end of the first phase was eye-opening for producers who wish to depart from the MFIs and deal directly with input businesses by positioning themselves as a central purchasing unit so as to create economies of scale and lower production costs. It is evident that this interregional project ambition is not feasible in the short/medium term, but one can try to improve the current system without introducing elements of cost increase while continuing to strengthen the capacity of the umbrella organization.
Training: Improving agricultural production techniques	• Establishing relationships between private seed suppliers and producers for the information of the latter on planting techniques and fertilizer use. • Training in agricultural production techniques by the DRDR and extension officers of the POs and ANCAR.	Despite the extension of cultivation techniques by past and ongoing programs (including MBSP), the adoption rate remains low. In the extension program of cultivation techniques to implement, it is important to raise awareness of the effects induced by each technique among producers in order to facilitate their adoption. Control plots will be established in schools farms.
Inputs: Development of agricultural product suppliers and input suppliers	• Strengthening of the capabilities of four (4) types of business services (seed suppliers, fertilizer suppliers, suppliers of machinery for conservation agriculture and ploughing services for conservation agriculture) to increase their reach in targeted areas. • Grants for the training and monitoring of agents. • Support for input supply before the end of the marketing year.	• The delay in the implementation of inputs is a major headache for producers. • Advance purchase may well be a solution, but educating producers on storage conditions will be necessary in order to minimize the risk of quality deterioration and prevent risks of resale, especially if it is subsidized fertilizer. • The artisans are able to manufacture most of the agricultural equipment used (see mixed farming photo (Annex 17) made by a

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Activities	Sub-Activities	Comments
	• Support for the artisans union in marketing their tools and demonstrations.	artisan of Kaolack (Lahat Niasse, not the beneficiary of the first phase). Unfortunately, they face competition from imports and are not involved in the agricultural equipment program. It is important to continue building the momentum of the first phase and put them in touch with the producers.
Training: Post-harvest treatment and processing	• Setting up meetings between millet producers and processing businesses on the topic of millet quality. • Training of producers in post-harvest processing techniques. • Meetings between processing businesses and warehouse managers on good storage techniques. • Training of warehouse managers in finance, logistics and administrative management. • Training of processing businesses in: - Value-added production; - Diversification of production; - Packaging; - Food Safety and Hazard Analysis Critical Control Point (HACCP) • Support for the identification of providers of repair services for processing machines.	These activities respond to specific concerns of processors and should lead to resolutions to the main constraints raised by stakeholders during the study.
Infrastructure: Post-harvest treatment and storage	• Support for the acquisition of threshers (loans, grants). • Partnership with Post-Harvest Technologies (P-HT) for the design and promotion of affordable and automated millet threshers. • Support for the renovation of warehouses by POs and unions.	• Producers' acquisition of threshers is expected to facilitate access and reduce costs. • Would it not be best to start with local models (see Annex 17) made by artisans and seek to improve and automate them if necessary?

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Activities	Sub-Activities	Comments
		The availability of quality storage infrastructure should enable POs to have better organization of the marketing of production and significantly reduce storage losses.
Infrastructure: Post-harvest processing	- Facilitating processors access to processing equipment - Support for the cost/benefit analysis detailed in business plans	With few exceptions, the processors do not have their own premises and generally occupy the premises of a member. Husking and grinding are usually outsourced services. If they receive material support as part of the second phase of the project, the premises which will accommodate each stage of the production line must be integrated
Training: Improvement of marketing and branding strategies	- Marketing training for PO members. - Advocacy for local/millet consumption.	The profile (interest and commitment in working for the PO, having the confidence of members of the PO, education, negotiation capacity, etc.) of the person to be chosen as PO Communication Specialist to be trained will be crucial to ensure a lasting effect (impact). For greater certainty, the project should select and train more than one individual in order to meet possible resignations or low capacity.
Market access: Develop buyer-seller relationships	Facilitating the establishment of relationships between: 1) Producer and processor organizations, 2) Processors and retailers, and 3) Service providers for machines and processing businesses	This will allow for smoother relations between the various actors in the sector and in particular selling before production.

Analysis: SOTERCO Group, 2015

For greater consistency, project activities described in the scope of work would benefit from being restructured and regrouped into five (5) components as follow:

Component 1: “Building Capacity”

This component includes all building and training activities:

- Government extension officers (DRDR, ANCAR, SRDC, etc.)
- Producers (extension specialists, trade specialists)
- Suppliers
- Warehouse managers
- Processors

Component 2: “Funding”

This component will encompass all that is related to:

- Grants
- Shared costs
- Access to credit

Component 3: “Access to inputs: fertilizers, seeds and crop protection products”

- Establishing relationships between suppliers/producers
- Anticipated input supply
- Raising awareness on storage conditions

Component 4: “Agricultural infrastructure and equipment”

- Access to cultivation equipment
- Access to processing equipment
- Warehouse renovation
- Identification of repair service providers

Component 5: “Marketing and Market Access”

- Establishing relationships between actors for signing mutually beneficial contracts
- Organizing meetings aimed at exchanging information between actors

8 Relevance, Efficiency, Sustainability and Impact of the MBSP

The questions raised in this section are those of the project (see Request for Proposal (Annex 1) and the responses of the consultant. These are essentially based on observations and data collected during the study.

8.1 Relevance

Is the proposed project aimed at the appropriate goods?

Yes, section 3.3 on "Place millet in the local economy."

Does the NCBA CLUSA focus the implementation of the program in relevant areas?

Yes. The first phase of the project focused its interventions on the weak links in the value chain (quality of inputs, extension of appropriate cultivation techniques, support for the organization of producers, empowerment of processing units in terms of organization and management) and the establishment of relations between different actors. This allowed: i) the emergence of new local actors for quality seed production, in particular in the Municipality of Niakhar; ii) the promotion and enhancement of the knowledge of certain actors such as hitherto marginalized artisans and can therefore be a contribution to the industry through the production of agricultural equipment, post-harvest treatment and processing; iii) the establishment of a regional union of producers that is becoming more and more consolidated through its ambitions for the sector and for its members (raising of awareness of leaders, partnership initiatives, etc.); iv) better organization of processing units. The second phase, which builds upon the prior phase, aims to strengthen the achievements and develop the relationship of actors, processing, marketing and infrastructure (warehouse) and equipment (post-harvest, processor-level) components.

Does the NCBA CLUSA have the most appropriate impact measurement indicators?

Quantitative impact indicators are comprehensively taken into account. It would be desirable to add indicators on the financial capacity of organizations as well as qualitative indicators allowing for monitoring of the level of empowerment and dynamism of stakeholder organizations (eg. number of own initiatives taken by organizations, innovative actions in the practice of business, etc.).

What factors, which could affect the proposed outcome indicators, should NCBA CLUSA take into consideration?

Climatic hazards and particularly the rainfall deficit. However, a new era of prosperity seems to be beginning and that drought is certainly behind us. In the coming years, monitoring of the rainy period, the number of days of rain and the distribution of quantities of water will be needed in order to prevent possible adaptations of farming practices. Indeed, an increase in water quantities has been noted in recent years, along with a prolongation of the winter period. The risk with the nearly universal use of short-cycle varieties is that the millet matures before the end of the rainy season. These "late" rains could deteriorate the quality of the seeds before producers have time to stock them safely. In this case, it may be necessary to provide covered drying periods. This year, the first useful rains were recorded late in the first ten-day period of July, but the rain continued during the month of October. If this trend continues and the delay in starting up is reduced, we are moving towards seasons over five months long, almost twice the cycle duration of early varieties. Which would allow for the cultivation of millet 2 times a year... or at least for growing more with an offset in seedlings, as is the case for rice in the valley.

8.2 Effectiveness

What type of organization is needed to produce the desired results?

A project approach will be set up for the support, guidance and empowerment of stakeholders and their organizations, so as to make them self-sustaining by the end of the project. The coaching provided should work in this direction.

Which partners should be solicited in this process in order to achieve effective results?

Given the concerns communicated by various stakeholders in the sector and the activities planned for the second phase, the project could collaborate, in addition to MFI-identified partners, suppliers of inputs, ANCAR, DRDR, with community development services for the organization of millet processors and EIG artisans and micro-enterprises, and the training of members of the administrative and financial management committees of these micro enterprises.

8.3 Efficiency

Is the project approach appropriate for the desired results (indicators)?

The project's decision to work along the value chain offers the advantage of allowing the development of synergy between actors, lifting the constraints of circulation of products between two links, etc.

What type of approach should the project consider to intervene along the value chain?

The current approach may be enhanced by two-level exchange visits: between similar actors for sharing successful experiences, as well as between customers and suppliers to further raise their awareness of the production constraints, particularly in relation to the quality of products sold.

8.4 Sustainability

Is there an exit strategy for the project to continue once the grants are withdrawn?

The project will continue support to the POs in place as they formalize and strengthen themselves organizationally and financially. A strong organization will more easily find ways and means to identify its constraints and raise the skills to resolve them through the negotiation of support and funding agreements (for example, APROVAG banana producers who recruit agricultural engineers to advise and support the production and marketing).

How are private sector partners integrated?

During the first phase, the project served as an intermediary between the private sector (DFS, input suppliers, artisans) and POs through the taking-over of the guarantee and payments. Thus, some activities could not continue for some actors (access to seed funding, grouped purchase of quality fertilizers, adequate monitoring of seed production plots) in the absence of the project. A progressive withdrawal system for actors will be set up so as to ensure the functionality of mechanisms prior to withdrawal of the project. An interesting experiment that took place at the end of the first phase is worth studying and capitalizing on: the support of the president of the interregional project at the Mutuelle Téranga for the recovery of seasonal credits.

What is the current role of the government and the private sector and how should the project integrate them?

Avoid paying for state services, e.g., travel stipends, for the conduct of their official missions. The consequence of the financial agreements is that from the start of the project, the structures go back to square one under the pretext of lack of means. If we take the example of the seed producers whose production plots the DRDR must visit for certification, a sustainable mechanism between the two actors must be found for the sustainability of the system.

At the end of the study, it appears that the best sustainability factor is the adherence of actors with the techniques and strategies promoted by the project. As proof, there is the example of the seed producers of Niakhar headed by their president who, after the start of the project, continued to produce and sell seeds despite constraints. The second example is that of the interregional leaders who are aware of the opportunities that such an organization can offer for the development of their millet production activity and in the absence of the project, supported DFSs in the recovery of seasonal credit granted under the project.

8.5 Impact

What are the expected revenues for producers if this project is carried out as such?

With increased yields, better product quality and promotion through trade fair and establishing buyer/seller relationships, producers should be able to increase their income by 75 - 100%. The current yield is in the range of 830 kg per ha and the project plans to increase it by 50%. Combined with product quality and marketing strategy capacity enhancements, better prices can be expected. There is a step between popularizing technology and seeing it applied correctly by producers. This is why it is important to convince the producers of the impact of technology on yields through demonstration.

Should other factors be taken into consideration in order to work within the value chain of goods, in terms of project impact and future impacts?

Yes, the other stakeholders in the sector: finding consultation frameworks to avoid duplication and other conflicting messages in order not to confuse the producers.

9 Support Needs Analysis of Actors and Recommendations for the Implementation of the Project

Based on the collected data for the baseline study, additional recommendations for each of the target groups was compiled (see Table 17). The project team is expected to use this information to then update their work plan and PMP after the baseline study has been completed.

Table 17: Support Needs Expressed by Stakeholders and Recommendations

Category of Actors	Needs	Recommendations
Producers and their organizations (POs, Unions)	- Timely access to inputs - Renewal of agricultural equipment - Access to post-harvest equipment at union level - Access to the warehouse - Training/raising awareness on technical itineraries and crop protection - Construction of the interregional project headquarters and union meeting spaces	- Further facilitate producer access to credit - Further facilitate access to inputs - Train producers on millet crop management techniques in order to improve yields - Strengthen the marketing technique capacities of umbrella organizations (bundling)
Seed producers	- Control of seed production standards - Effective monitoring of plots by the DRDR in light of approval following the cultivation declarations - Availability of transport means for the collection of production and delivery to the packing center - Marketing (non-approved seed competition) - Having access to the warehouse - Control of production costs deemed to be too high	- Further facilitate access to credit for seed producers. Raise DRDR awareness on the proper monitoring of crops reported by seed producers to avoid losses - Promote local consolidation of seed producers for better interaction, sharing of resources and control of production costs. - Remove subsidies on seeds to eliminate intermediaries (economic operators) who often compete seed with "bit-run" seed. Enhance the know-how of the local artisans for access to agricultural equipment
Artisans	- Access to credit (working capital) - Modernize production tools	Facilitate artisans' access to credit to deal with the high cost of raw material (iron)

**USDA CLUSA - IMPLEMENTATION OF THE BASELINE STUDY BASELINE STUDY REPORT
MILLET BUSINESS SERVICES PROJECT**

Category of Actors	Needs	Recommendations
	• Networking of artisans • Having an exhibition space for the network • establish partnerships with producer organizations and their donors (equipment ordering)	• To support the establishment of relationships between artisans, producers and processing businesses • To support the artisans for better extension of their products and the manufacturing of equipment suited to the needs of producers and processing businesses • Development of contracting and partnerships
Processors	• Modernizing the production chain (production tools). • Strengthening commercialization: establishing purchase and supply contracts. • Develop ways of handling and transportation: having a means of transport suitable for the delivery of products.	• To support the processors (credit and subsidy) to ensure the provision of equipment and proper packaging, dedicated premises, and compliance with product quality standards. • Support the establishment of relationships between processors/POs for raw material supply and with resellers (local, national or export).

Annex 1: Baseline Request For Proposal

REQUEST FOR PROPOSAL

The Cooperative League of the United States of America –NCBA CLUSA Senegal
Millet Business Service Project
Baseline Survey

This Request for Proposal (RFP) is aimed at soliciting proposals from competent organizations interested in conducting research and baseline surveys.

Program Background

NCBA CLUSA Senegal is initiating the implementation of a three-year commercial development program hereunder known as the Millet Business Services Project (MBSP) with funding from the United States Department of Agriculture. The project will reach a host of beneficiaries particularly in the millet producing areas in selected central Senegal regions including specific rural communities in Kaolack, Kaffrine and Fatick.

National Cooperative Business Association aka the Cooperative League of the USA (NCBA CLUSA) will monetize 20,000MT of soybean meal and, over a period of approximately three years use the proceeds from such sale to implement a project in Senegal focused on achieving the following objectives:

- Increase agricultural productivity of the millet value chain by: developing processing systems; building capacity of producers to improve production and quality; training producers and processors in improved production techniques, post-harvest handling, marketing, and seed production; and providing grants and loans for equipment and inputs; and
- Expand trade of millet by developing public-private relationships, facilitating trade relationships, researching export opportunities, building agricultural extension capacity, and promoting food safety issues and requirements.

Project Implementation

NCBA CLUSA will use the donated commodities and the monetization proceeds to carry out the following project activities:

1. Capacity Building: Agricultural Extension Agent Services, Producers, and the Private Sector

NCBA CLUSA will strengthen agricultural extension agents from governments, millet producers unions and the private sector by conducting capacity building training activities.

NCBA CLUSA will support government extension services in two ways. Firstly, the NCBA CLUSA will work with the Senegal Institute for Agriculture Research (ISRA, in French) to

provide refresher trainings in the latest millet production research to Direction Régionale de Développement Rural (DRDR) agents in Kaolack, Kaffrine, and Fatick. Secondly, NCBA CLUSA will strengthen the extension capacities of DRDR by facilitating contact with millet unions and associations by assuming some transport and communications costs involved in reaching millet producers thus allowing a greater number of producers to be reached with less investment of government resources.

NCBA CLUSA will also strengthen the capacity of existing inter-village millet unions and other high-producing millet groups in the regions of Kaolack, Kaffrine and Fatick not previously targeted by USDA Millet Value Chain project (Agreement FCC-685-2009/014-00) to develop internal extension services. NCBA CLUSA will achieve this through a three-pronged approach. First, NCBA CLUSA will assist millet unions in electing millet extension specialists and in allocating an appropriate level of financial resources to cover their costs. Second, NCBA CLUSA will teach union extension specialists' the latest millet production technologies. Third, NCBA CLUSA will support DRDR in developing millet producer field-schools, which will be led by union extension specialists, and used to demonstrate the latest millet production technologies.

In addition to providing support to public sector extension services, NCBA CLUSA will work to build producer organization (PO) extension services, currently in short supply in Senegal. NCBA CLUSA will train Agence Nationale de Conseil Agricole et Rural (ANCAR, National Agricultural And Rural Advisory Agency), a private entity, and local firms such as the seed and the conservation agriculture equipment unions, to provide technical information to producers on how to use their products. NCBA CLUSA will provide grants to support ANCAR in developing seed demonstration fairs with sample seed and logistical costs for agents.

Beneficiaries will be chosen using the guidelines under the section "Method for Choosing Beneficiaries." NCBA CLUSA will also assist input suppliers that develop agent networks to train their agents in the necessary extension services associated with their products.

NCBA CLUSA will take a two-step approach in building marketing capacity for unions and POs. First, NCBA CLUSA will train relevant unions and POs in improved marketing skills. Then, NCBA CLUSA will work with unions and POs to elect qualified marketing specialists to help guide their marketing activities, ensuring that through these activities, the unions or POs can generate enough additional value to support the costs associated with the position.

2. Financial Services: Facilitate Agricultural Lending

NCBA CLUSA will work to increase access to credit so that producers can purchase needed inputs from local agro dealers and input suppliers. NCBA CLUSA will work to identify micro finance institutions (MFIs) that are interested in establishing credit services and help them develop commission-based credit intermediaries. NCBA CLUSA will then support these MFIs by providing grants to buy down risk. With support from local financial services coaches recruited and identified by NCBA CLUSA, communities will select the village based credit intermediary service providers (CISPs) based on financial skills. CISPs must be vetted and approved by the MFIs and eventually they will earn a small commission for connecting these MFIs to potential clients. The CISPs rely on the efficiency of the market to distribute services, and develop a loyal clientele since they serve as their community's chosen "representative" or business intermediary to gain access to necessary goods and services. NCBA CLUSA will work with existing POs and unions based on the "Pathways to

Prosperity” strategy, which stratifies individuals and groups according to their financial needs and their capacity to absorb various financial instruments.

Where necessary, financial services coaches with support from CISPs will support POs to revise or develop business plans. These business plans will be the basis of agreement with MFIs.

NCBA CLUSA will work to increase access to credit for processors and field based post-harvest businesses so that they can purchase post-harvest machinery and other equipment from suppliers, or secure operating loans to buy appropriate quantities of raw millet. NCBA CLUSA will increase access to credit by strengthening and operationalizing the business plans of selected processing firms, threshing providers, and warehouse teams, and where business plans are absent, NCBA CLUSA will develop them. NCBA CLUSA will host regional meetings to build linkages between millet processing firms and MFIs: one regional meeting will take place before the production period each year and another will take place following production, prior to the commercialization period each year. These meetings will also serve as a capacity building opportunity to share information, reinforce skills, and harmonize systems and coordination to create demand and profits for all parties.

3. Training: Improved Agricultural Production Techniques

NCBA CLUSA will link private sector seed suppliers with producers to provide information on correct seed planting and fertilizer use. NCBA CLUSA will arrange for DRDR and PO extension agents to train producers in more general techniques such as spacing, rotation practices, striga control and improved weeding schedules, all the while encouraging those that have not purchased conservation agriculture inputs of improved seeds and fertilizers to do so. NCBA CLUSA will continue to support conservation agriculture practices such as minimum tillage agriculture using ripper tines instead of disc ploughs, water harvesting, composting, intercropping for nitrogen fixation, crop rotation, retention of crop residue, precise spacing of crops and precise application of inputs, and usage of zai basins with millet production in order to retain soil organic matter, reduce erosion, and increase fertilizer efficiency to improve the quality of land resources.

4. Inputs: Develop Agro-dealers and Input Suppliers

NCBA CLUSA will employ a market facilitation approach to input provision, reinforcing the efficiency of millet production business services so that they, in conjunction with public and PO extension services rather than NCBA CLUSA, will support millet producers’ increase in production capacity.

NCBA CLUSA will strengthen the capacities of four business services (seed providers, fertilizer providers, Conservation Agriculture (CA) machinery providers and CA plowing services) to increase coverage in the targeted area. Activities for developing business services will vary according to the nature of input based on NCBA CLUSA's assessment. NCBA CLUSA will assist targeted firms to buy down risks, notably the costs associated with training and monitoring agents, with the provision of grants. NCBA CLUSA will also work with seed unions to sell improved seed and with fertilizer suppliers, to sell fertilizer earlier in the season when producers still have money. NCBA will work to strengthen the existing Conservation Farming (CF) Tool Union to better market their tools, and provide demonstration of their products to continue to grow demand. Finally, NCBA CLUSA will work with local third party plowing services that will provide CF ripping services for producers. In order to support

these third party plowing services, NCBA CLUSA will provide them with basic business skills training.

5. Training: Post-Harvest Handling and Processing

NCBA CLUSA will facilitate discussion between millet processors and producers in regards to the quality of the millet they require. Processors will formalize the standards required in contracts and, with support from NCBA CLUSA, will train producers in improved post-harvest handling techniques required. NCBA CLUSA will also facilitate discussion between millet processors and warehouse managers on proper storage techniques. NCBA CLUSA will also train warehouse managers in financial, logistic and administrative management to ensure that warehouses are run as businesses that can cover the costs of the services they provide.

NCBA CLUSA will train processing businesses in four types of activity; 1) Value added production; 2) Diversification of production; 3) Packaging; and 4) Food Safety and Hazard Analysis and Critical Control Points (HACCP). As millet firms purchase new processing technologies, NCBA CLUSA will work with the providers of these technologies to ensure that processors are appropriately trained in how to use them. NCBA CLUSA will also ensure that processors can identify repair service providers to assist them if these machines break down.

Where market analysis shows potential, NCBA CLUSA will train millet processing businesses in product diversification, with a particular focus on micronutrient enrichment. Finally, NCBA CLUSA will train all processing business to develop a HACCP plan, which will assist the business in monitoring the health of employees, maintaining the cleanliness of processing areas, and establishing food safety practices.

6. Infrastructure: Post-harvest Handling and Storage

NCBA CLUSA will facilitate the purchase of threshers through small grants or loans with MFIs by producer unions and third party providers interested in investing in threshing provision, in order to reduce post-harvest loss experienced through traditional threshing methodologies. NCBA CLUSA will also collaborate with Post-Harvest Technologies (P-HT), an American firm that has worked with long term partners in China to design and promote low-cost, machine- driven millet threshers. NCBA CLUSA will conduct a feasibility study with P-HT to see how this small-scale appropriate technology could feed into the commercial potential of millet at the village-level market. Additionally, NCBA CLUSA will assist local construction service providers to refurbish the warehouses of millet unions that are actively seeking to bulk their millet production. NCBA CLUSE will require PO members to contribute labor to carry out the refurbishing work, while a combination of savings, credit and grants will be used to purchase materials and to pay local masons and other specialized services.

7. Infrastructure: Post-Harvest Processing

NCBA CLUSA will facilitate the purchase of processing equipment by millet processing firms in order to improve quality and reduce spoilage of the product, and increase diversification of the product line. In order to decide what equipment to purchase, NCBA CLUSA will require millet processors to carry out cost-benefit analyses that will be elaborated in business plans. NCBA CLUSA will ensure processing firms will finance the purchase of threshing infrastructures, mostly through credit. NCBA CLUSA will also use

CCC funds to provide grants to cover up to 45% of the cost as necessary, until this technology has been tested, adopted and proved. NCBA CLUSA will engage with millet firms through public outreach campaigns and local demonstrations to promote three types of processing infrastructure: grading and processing equipment, packaging technologies that reduce spoilage, and equipment for micronutrient fortification.

8. Training: Improved Marketing and Branding

NCBA CLUSA will build upon the establishment of marketing specialists in producer unions and associations to provide marketing training to relevant producer committee members in how to better market their products through improved communication and networking, contract negotiation skills, and increasing price through bulking and quality control. Along with supporting improved quality of primary and processed millet products, NCBA CLUSA will work with firms to register these products for the marketplace through national registration procedures in order to allow processors to sell their products in supermarkets and other larger shops. With an emphasis on “Buy Locally” and “Millet is Good for You,” messaging, NCBA CLUSA will also assist in advertising locally produced millet on the Senegalese marketplace as an alternative to imported rice and other alternative grains.

9. Market Access: Facilitate Buyer-Seller Relationships

NCBA CLUSA will facilitate linkages at three levels: 1) between producer organizations and processors, 2) between processors and retailers and 3) between machinery service providers and processors. NCBA CLUSA will ensure that these entities have requisite business planning and negotiations skills in order to create the linkages that will lead to the expansion of contracts outlining quality demanded and price paid. In addition, NCBA CLUSA will also facilitate regular meetings between processing firms and urban retailers, such as supermarkets, working to address issues of quality control, regularity of supply and price, which will in turn be formalized through contracts. NCBA CLUSA will facilitate meetings between machinery suppliers and processors to discuss technologies, value added, and the provision of repair services.

Method of Choosing Beneficiaries

NCBA CLUSA will work with processors, services providers, and millet producers in the Kaolack, Kaffrine, and Fatick regions of Senegal, as well as private sector firms that have links to the value chain in Dakar. NCBA CLUSA will follow the value chain actors working with producers that already supply, or could supply, targeted businesses with millet of appropriate quality and in sufficient volumes. NCBA will also work with those producers targeted by the input services looking to expand into rural areas and to support millet producers.

Others

In addition to the above, the program is also interested in generating data on other key areas including gender, access to financial services as well as environmental compliance of the targeted beneficiaries as specified in this RFP.

Objective of the Assignment

As NCBA CLUSA Millet Business Service Project begins operations, a baseline study is scheduled to assess the current status of potential project beneficiaries and status of varied issues. In this regard, the particular objectives of the baseline activities are as follows:

- Establish baseline values for monitoring indicators and program outcomes;
- Assess and validate the targets that the program intends to accomplish over the three years;
- Provide a more precise definition and understanding of the production, business marketing, finance, gender and environmentally compliant status and vulnerability of potential program beneficiaries;
- Identify problems and constraints that may occur during program implementation;
- Provide actionable recommendations and improvements to program design and implementation.

NCBA CLUSA Senegal seeks proposals from Senegal based research firms that have experience in conducting baseline studies on household and community indicators, especially on agricultural and economic growth activities. In addition, the firms should have expertise in the regions where the baseline will be conducted.

Back-up support from the NCBA CLUSA Senegal team

The consultant will be working in coordination with the following:

- Chief of Party (Team Leader) - Senegal
- Deputy Chief of Party - Senegal
- Monitoring and Evaluation Specialist and Assistant/s - Senegal
- Home Office Monitoring, Evaluation, and Learning Director - US
- Home Office Senior Program Manager - US

Scope of Work

The research firm shall collaborate with the NCBA CLUSA Senegal team to develop appropriate survey tools and methodology (including sample sizes) for conducting the baseline survey. The research firm will then be expected to take the primary lead in providing local expertise in the design phase, actual enumeration, and data collection during implementation in the field, data analysis, and interpretation, as well as drawing conclusions.

The selected firm will implement the following activities:

- Undertake a literature review of the relevant documents on millet value chain development and any other country reports and documentation in this area (some to be provided by NCBA CLUSA Senegal);
- Acquaint itself with the program indicators as specific in the Progress Measurement Table provided to the firm by NCBA CLUSA Senegal;
- Design appropriate survey tool(s) which considers but not limited to, the following items as described in the Program;

- Pre-testing, editing, translation, finalization, and reproduction of survey instruments (final survey tools to be approved by the NCBA CLUSA Senegal team before finalized);
 - Integrate qualitative data collection methodology and survey tools;
 - Apply statistical techniques for designing, analysing and reporting quantitative data;
 - Hire, train and orient and supervise field interviewers and enumerators;
 - Undertake field data gathering using tested survey tools to address objectives of this baseline study and apply quality assurance;
 - Process and analyse collected survey data;
 - Perform quality assurance during design, testing, fieldwork, data entry, data analysis and reporting;
 - Organize all data collected into a database. This database will ensure anonymity of survey participants by using identification numbers and separating names from survey participants' data;
 - Reporting the results in appropriate tables, charts, and narrative;
 - Presentation of findings, conclusions and recommendations (in both written report and PowerPoint formats.)
- d. Consider the following outputs when designing and carrying out the baseline:
- Establish baseline values for indicators as set in the Progress Management Table (PMT);
 - Validate targets set in the PMT;
 - Supported by hard data, suggest amendments to the PMT;
 - Suggest improvements to the Performance Management Plan;
 - Establish baseline values for other monitoring and impact indicators as discussed with the program team during the elaboration of data collection methods;
 - Carry out an analysis of anticipated problems or constraints for the implementation of activities.

Key Questions

There are key questions at project outset to ensure successful implementation to be answered as part of the primary evaluation. The following are some examples of these key questions.

Relevance	• Does the proposed project focus on the appropriate commodities? • Is NCBA CLUSA focusing implementation in appropriate areas? • Does NCBA CLUSA have the most appropriate indicators to measure impact? • What are the factors that could affect the outcomes of the proposed indicators that NCBA CLUSA needs to take into consideration?
Effectiveness	• What staffing structure is required to deliver the anticipated results? • Which partners need to be engaged in the process in order to have an effective outcome?
Efficiency	• Does the project have the proper delivery method for reaching the indicators?

	• What delivery methods should the project consider for interventions along the value chain?
Sustainability	• Is there an exit strategy in place from the beginning that once subsidy is removed, the project can still carry on? • How are the private sector partners integrated? • What is the government and private sector role currently and how should the project incorporate both?
Impact	• What are the anticipated incomes of producers if this project were implemented as stated? • Are there other factors to take into consideration in working in the said value chain commodities in terms of project impact and future impacts?

Besides the initial key questions to review with an independent consultant to ensure the project is a success, there are also key questions to be answered at the “mid” and “final” evaluations of the project. This information will assist in ensuring that indicators are met. The following are some examples of these key questions.

Relevance	• Is the program in-line with other USG projects focus commodities or regions? • Is the program in-line with GOS strategic plans? • Is the program contributing to the growth of partners?
Effectiveness	• Are project staff well trained to provide trainings and support to beneficiaries? • Are third party implementers providing proper trainings to beneficiaries? • Are synergies created with partners to benefit the communities at large?
Efficiency	• Are field technical staff being efficient in providing extension services to smallholder producers in improved farming and post-harvest handling? • Are producer groups enhancing their ability to market and manage their commodity businesses?
Sustainability	• Do producers and POs have access to financing to buy materials and inputs? • Do millet processing businesses have access to financing and markets? • Are value addition technologies in place for future growth? • Is an adequate supply chain in place for agro-dealers, input suppliers, producers and processors to grow their businesses?
Impact	• Are the incomes of producers increasing? • Are the revenues of warehouses and processing business as well as other input suppliers increasing? • Are the agro-dealer networks expanding?

Methodology

Value Chain Actor/Partner	Method of Choosing	Method of Data Collection	Comments
Implementing Partners NCBA CLUSA and CRS	Sample size of 100% of total, population-based with controls.	One pre-designed and approved questionnaire for implementing partners	Survey partner to understand capacity in reaching targets and goals
Cooperatives & Producer Organizations (POs)	Sample size chosen per each of the regions where program will operate The consultant will review the listing of all potential cooperatives & producer organizations (POs) to be trained in the regions	One pre-designed and approved questionnaire for cooperatives & producer organizations (POs)	To collect maximum data we are asking to collect from the regions where cooperatives & producer organizations (POs) will be trained
Producers	Sample size of households that will be trained by NCBA CLUSA (average is 7 members per immediate family)	One pre-designed household survey	To collect maximum data we are asking to collect from individual households that will be trained
Agro-dealer and input suppliers	Sample size of those agro-input suppliers (commercial) Sample size of those agro-input suppliers that will be trained by NCBA CLUSA for seed production, tool manufacturing, etc., as well as fertilizer vendor/s. Baseline exists from predecessor project.	One pre-designed and approved questionnaire which includes specific information collected from the providers	To collect maximum data we are asking to collect from commercial agro-dealers and input suppliers. To collect maximum data we are asking that the POs that will participate as agro-dealers and input suppliers be sampled.
Buyers (Storage and Handling and Processing)	Sample size of Buyers of commodity produced by the producer/POs	One pre-designed and approved questionnaire which includes specific	Buyers who are expected to buy from producer organizations or producers

		information collected for Buyers.	associated with the program. To collect maximum data we are asking to collect from the points of purchase within the millet value chain.
Financial Institutions	Sample size of potential financial service institutions program partners	One pre-designed and approved questionnaire which includes specific information collected for financial service institution.	To collect maximum data we are asking to collect from mutual (credit unions), MFIs, private banks, and government banks.

***sampling methodology should be designed to allow for representative estimations of project indicators and their required disaggregation**

Expected Deliverables

Deliverables under this assignment will include the following;

- Baseline Protocol and Methodology Report;
 - Timeline (activities, responsible party, outputs, and timing);
 - Survey instruments, both quantitative and qualitative data collection instruments and completed questionnaires;
 - Cleaned quantitative and qualitative datasheets in Microsoft Excel (.xls) format;
 - Draft of the baseline report;
 - An electronic version of the final Power Point presentation based on the baseline report.
- A presentation to the NCBA CLUSA Office.

The report should contain the following sections;

1. Executive Summary;
2. An introduction containing the objectives of the scope of work (SOW) and a brief description of the program;
3. Methodology;
4. Results and Findings;
 - o Establish baseline values for indicators as set in the Results Table;
 - o Validate targets set in the Results Table;
 - o Supported by hard data, suggest amendments to the Results table;
 - o Suggest improvements to the Performance Management Plan;
 - o Establish baseline values for other monitoring and impact indicators as discussed with the program team during the elaboration of data collection methods; and

- o Analysis of anticipated problems or constraints for the implementation of activities.
5. Data limitations;
- o Include all appendixes as described in the main report.
 - o One (1) electronic folder of any applications, modules, and scripts developed to organize process and analyse the data;
 - o Electronic file(s) in Microsoft Excel (.xls format) of the clean (final) quantitative data set collected without significant gaps or errors;
 - o Electronic folder(s) of any applications, surveys, scripts, codebooks and data collection instruments developed to organize the process and analyse the data;
 - o Some specific impact quotes from the various stakeholders from interviews and focus group discussion;
 - o 20-25 high quality photographs (minimum 300 dpi resolution photos) of some Program Evaluation data collection activities i.e. survey, interviews, focus group discussions among others burned onto a CD-ROM disc and provided to MBSP.

Time Frame

For purposes of the proposal, the firm should present a proposed timeline for completion of the aforementioned activities with an overall duration of no more than 60 days including 21 days of field work and 39 days of data management, analysis and report writing. It is anticipated that the assignment will commence on February 1, 2015.

Activity	Estimated Date of Completion
Selection of Candidates	April 16, 2015
USDA and selected consultant/firm discuss baseline survey prior to commencing activities	April 20, 2015 (1 day)
Draft survey tools	April 21-22, 2015 (2 days)
Tools sent to USDA for review and approval	April 23-24, 2015 (2 days)
Data Collection	April 27-May 11 (15 days)
Data entry and analysis	May 12-26 (15 days)
Draft report writing	May 27-June 1, 2015 (6 days)
Draft report due to NCBA CLUSA	June 2, 2015
Feedback to consultant on draft report	June 3-11, 2015 (9 days)
Consultant returns second draft to NCBA CLUSA	June 16, 2015 (> 5 days)
Consultant sends in final report to USDA for review	June 19, 2015 (> 3 days + 1 day to finalize)

Audience for the Evaluation

The evaluation results will be shared with the following audiences:

1. USDA Washington DC and Field Offices;
2. NCBA CLUSA head office and other field offices;
3. NCBA CLUSA MBSP managers and staff;

4. Key stakeholders including producers, local and national government counterparts, related private sector partners and other non-governmental organizations

The purpose of sharing the findings will allow all partners to work towards strengthening implementation activities in their different roles.

Submission Requirements

Registered local firms and consultants interested in implementing this assignment are requested to submit the following (typed no smaller than 12-point font) in the specific order below in order to be considered for this contract:

1. Technical proposal

The technical proposal, (not exceeding 25 pages), should reflect how the offeror will undertake all the tasks in the SOW. The bidding firms will provide a detailed plan of specific activities, timetable for carrying out the assignment, data collection and analysis activities. Furthermore, it will include a proposal for the statistical approach/method used to identify control/treatment groups within identified regions for comparison.

2. Financial Budget

The bidding firm shall propose a realistic cost estimate for this assignment, including a breakdown of the budget and justification of expenses. The budget shall include only those costs that can be directly attributed to the activities proposed with explanation of line items. All training costs including venue hire, anticipated travel etc. must be clearly articulated per training. Bidder must show existence of financial and administrative systems to adequately account for funds provided under this assignment.

3. Organization

The bidding firm shall list and briefly describe the history, vision/objectives of the organization, its legal status, type of ownership and management, current projects/services, current clients/grantors, current geographical outreach and description of experience.

4. Personnel

The bidding firm shall list and briefly describe the name and qualifications of the key staff proposed to work on the assignment. (CVs of proposed personnel to be included in the annex) The proposed team composition must be multi-disciplinary preferably including at minimum a) Monitoring and Evaluation Team Leader – Agricultural Economist, Rural Development Specialist, or related qualifications with expertise in economic development and data collection activities. Specific experience in target areas is desirable; b) Statistician and or analyst familiar with quantitative and qualitative data analysis; c) Data Entry team and d) Enumerators.

5. Demonstration of Experience

Bidding firms will have to demonstrate experience in carrying out similar assignments by listing of all contracts, and/or cooperative agreements involving similar or related work in the last two years.

6. Legal Registration

Bidding firms will have to provide copies of legal documentation to demonstrate the firm is legally authorized to perform work in the country of assignment (Senegal); including work permits should the bidding firm have third country nationals within the proposal personnel.

Proposal Evaluation Criteria

The following are criteria, which all proposals will be judged on:

1. Quality of technical approach and methodology (40%)
2. Individual and/or organization past experience with USDA and/or USAID or other International Development organizations (10%)
3. Demonstrated experience and technical competence of Team (15%)
4. Completeness of proposal (includes timeline, total budget, CVs of staff, etc. (15%)
5. Cost Realism, Budget Justification, and Effectiveness (20%)

Submission Due Date

Submissions must be in French and typed single-spaced. All pages must be numbered and include the RFP reference number and name of organization on each and every page. The proposals must be emailed to NCBA CLUSA Senegal at the following address: emplois@ncba.coop , with a copy to Psem.AO.2015@gmail.com .

Please include the name of the person in your organization who is submitting the application as well as the current telephone, fax and email contacts. All submissions made after 18.30 hrs on April 14, 2015 will NOT be considered.

Should you require any further clarification, please contact us at our offices at the above email addresses.

NCBA CLUSA Senegal reserves the right to fund any or none of the applications submitted and/or make changes to the terms of reference/geographic areas before work commences.

Progress Measurement Indicators

Indicator by Activity
Cross-cutting Indicators
Number of individuals benefiting directly from USDA- assistance
Number of individuals benefiting indirectly from USDA-funded assistance
Capacity Building: Agricultural Extension Agent Services, Producers, and the Private Sector
Number of Producer Organization (PO) members trained in extension skills
Number of demonstration plots created
Number of producer organizations/cooperatives with certified extension officers/agents
Number of millet producers who have been trained by government extension agents
Financial Services: Facilitate Agricultural Lending
Number of individuals receiving financial services as a result of USDA assistance
Number of loans disbursed as a result of USDA assistance
Value of loans provided to firms as a result of USDA assistance (USD)
Training: Improved Agricultural Production Techniques
Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance
Number of hectares under improved techniques or technologies as a result of USDA assistance
Number of individuals who have applied new techniques or technologies as a result of USDA assistance
Number of private enterprises, producers organizations, water users associations, women's groups, trade and business associations, and community-based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance
Inputs: Develop Agro-dealers and Input Suppliers
Number of agro dealers developed into networks
Value of inputs and support services sold by agricultural input suppliers to producers in US dollars in the regions
Number of input suppliers trained in extension skills by input firms
Number of millet producers trained in input use by agro dealers
Training: Post-Harvest Handling and Processing
Infrastructure: Post-harvest Handling and Storage
Total increase in installed storage capacity as a result of USDA assistance

Number of agriculture producers in target region that have access to effective off-farm storage for their product
Infrastructure: Post-Harvest Processing
Training: Improved Marketing and Branding
Number of producer organizations/groups with marketing specialists
Number of service provider/ input supplier employees trained in marketing techniques
Market Access: Facilitate Buyer-Seller Relationships
Number of jobs attributed to USDA assistance
Value of millet sales in the target zones
Volume of millet sold (kg, MT)
Number of market outlets in which selected agricultural products is sold
Number of agreements signed (contracts, MOUs etc.) between buyers/ sellers

Indicator Disaggregation

Household/Producers Information
○ General Beneficiary Information ○ Name ○ Unique Document of Identity (DUI) ○ Date of birth ○ Age ○ Household head sex ○ Marital status of household head ○ Family size(size of households) ▪ Total ▪ Males ▪ Females ○ Main income generating activity ○ Age and sex of the household members involved in production ○ Personal Address ○ Address ○ Rural Community ○ Department ○ Region ○ Phone1 ○ Phone2 ○ Geographical Reference ▪ masl (msnm) ▪ Longitude W ▪ Latitude N ○ Farm/Plot location ○ Address ○ Rural Community ○ Department ○ Region ○ Geographical Reference ▪ masl (msnm) ▪ Longitude W ▪ Latitude N ○ Total size of land the producer owns ○ Size of land under farming ○ Type of farming ○ Access to water ○ Water source ○ Class and texture of soil

- o Slope/Grade
- o How did they acquire the land
- o Types of Crops produced
- o Other Information
 - o Quantity and types of crops produced in the last two seasons
 - o Constraints facing crop production
 - o Type of support from NGOs/Rural Communities, Government Programs
 - o All other income generating activities per household and basic investment and proceeds from each activity
 - o Accessibility of market and market information
 - o Type and frequency of services accessed from government extension staff

Information per Producer Organization or Producer Union

- o Number of producer groups in existence in target zones municipality and contacts
- o Number of active producer groups in existence in target zones
- o # of members per PO/PU
- o Geographic location
- o Types of crops bulked
- o Types of any other income generating activities
- o Type of support accessed from NGO/RC
- o Type of services producer groups need that are not currently accessing
- o Does the PO/PU have any type of financial assistance available to members
- o How producer groups operate (meetings, membership, gender/group development)
- o Problems producer groups face on accessing markets, production, transportation, pricing etc.
- o Number of producers accessing essential services for production, value addition and marketing and finance.
- o Purpose of borrowing and its expenditure
- o Benefits members get from producer organizations
- o Benefits whole communities get from producer organizations
- o Incomes of the producer organizations

Information per Agro-dealer and Input Supplier

- o Available suppliers of inputs; names and contact information
- o Geographic locations
- o Which Cooperatives and/or PO's, or area does input supplier sell to producers
- o Is information disseminated to producers
- o Is extension or training offered to producers regarding inputs
- o What company/lead producer is the main supplier of seeds, what type is sold,
- o What company provides fertilizer, herbicides, and what type?
- o Experience with fake inputs
- o Experience of producers with plowing services/purchasing tools?

Warehousing, Processing and Marketing Handling Information

- o Names of buyers and contact information
- o Location of buyers
- o # of employees
- o Maximum capacity for millet (MT) ?
- o Volume of sales? In Kg and CFA?
- o What is the amount for growth in terms of collection of more millet?

Financial Lending Information

- o Number of POs and businesses with financial help
- o Number of producers/POs and processing business with bank accounts
- o Which banks service the groups/producers/agro-dealers and input suppliers
- o Which POs/producers/agro-dealer and input suppliers have loans? For what? What terms? Which financial institutions?

Gender Information

- o Number of men and women producers trained & actively participating in the production
- o Number, type and gender of people engaged and employed in POs, trade associations, businesses
- o Number of men and women trained on sustainable agriculture techniques by type
- o Gender of buyers
- o Male and female members of the producer groups
- o Marital Status
- o Number of female-headed households participating in agriculture value chain activities
- o Household size
- o Percentage of producer groups and businesses with a minimum of 30% membership of women (new and existing)
- o Percentage of producer groups and businesses with women in leadership/management roles (new and existing)
- o Number of enterprises within the value chain that are women-owned
- o Adoption of technologies by gender
- o Receipt of financial services (grants or loans) by gender
- o New jobs by gender

Environmental Information

Techniques and technologies adopted such as :

- o Crop genetics
- o Pest management
- o Disease management
- o Soil-related fertility and conservation
- o Water management, non-irrigation based
- o Climate mitigation or adaptation

Annex 2: Baseline Team Composition

Last name and first name(s)	Positions	Tasks
Aïssatou SAKHO	Agro-economist engineer --- Head of Mission	- Contract management; - Schedule monitoring; - Internally inspecting respect of ToR and quality of the deliverables; - Coordinating all the team activities during the entire duration of the mission; - Ensuring consistency of the works and achieving objectives; - Developing the research reference protocol; - Leading the design of collection tools; - Dealing with aspects related to the millet value chain in the project intervention zone; - Documenting and evaluating the project reference indicators; - Analyzing the relevance of the program objectives; - Providing recommendations and feasible improvements for the design and operation of the program; - Preparing the project reference report; - Coordinating meetings, dialogue or restitution sessions.
Youssef Ahmed Mmadi ²⁴	Expert Statistician specializing in data analysis	- Assisting in the development of the study's reference protocol (sampling definition and distribution of the sample, activity timeline, etc.); - Finalizing collection tools (maintenance guides and questionnaires); - Participating in training investigators and supervisors;

²⁴ Replacing the expert presented in the offer, Mr. Sagna, who is currently unavailable.

		• Developing the plan and implementing data collection; • Developing and setting up of the control and data quality assurance device; • Designing the entry programs; • Supervising all the field activities of the mission; • Inspecting and coding data; • Supervising entry; • Processing data and designing the statistical processing report; • Designing the study's different databases; • Developing reports.
Dame Dieng	Expert in IT development --- Database and Information System Specialist	• Analyzing the monitoring evaluation system of the project; • Designing and setting up the project's reference database; • Setting up a dynamic online IT platform for sharing, analyzing and updating data; • Helping with the design of the reference report.
Mamadou Lamine Dia	Monitoring evaluation expert ---- Support Expert	• Participating in the startup meeting • Reviewing and observing collection tools; • Participating in the investigator training; • Contributing to the analysis of the results by an in-depth analysis of the monitoring evaluation system.
Supervisors		• Supervising and inspecting the work of investigators on the field; • Controlling consistency and quality of data; • Collecting data with the targets from [sic]; • Monitoring the collection schedule; • Mid-term evaluation of collection operations; • Developing the supervision report at the end of collection.
Investigators		• Collecting data with the targets;

	Controlling consistency and quality of data.
Data entry operator	- Controlling consistency and quality of data; - Entering data under CPro 5.0.

Annex 3: Baseline Study Calendar

Activity	Period	Observations/ Benchmarks
Candidate selection		
USDA and the consultant/company selected discuss the reference investigation before launching activities	June 15, 2015	Completed
Draft investigation tools	June 16 to 17, 2015	Exchanges between the consultant team and the CLUSA team on the collection tools and investigation methodology
Tools sent to the USDA to be examined and approved	June 18 to 19, 2015	
Provisional version, methodological note sent for examination	June 20 to 22, 2015	Methodological Guidance Note V0
Investigator training	June 24 to 26, 2015	
Data collection on the field	June 30 to 11, 2015	
Entering and analyzing data	July 13 to August 2, 2015	
Developing and putting online the database/ draft of the report project	July 25 to August 10, 2015	
Sending report project to NCBA CLUSA	August 11, 2015	August 11 - Provisional report + Dynamic IT platform
Comments to the consultant on the report project	12 to August 20, 2015	
Consultant sends second version to NCBA CLUSA	21 to August 25, 2015	August 25, 2015 - Final report
Consultant sends final report to USDA for examination	26 to August 30, 2015	
Finalizing and closing the mission	August 31, 2015	

Annex 4: Collection agent training program

CLUSA USDA/MBSP - Baseline: Investigator training program

Wednesday, June 24 to Friday, June 26, 2015

Day	Time	Activity	Participant
Wednesday, June 24, 2015	8:30 a.m.	- Arrival of participants	-
	9 - 9:15 a.m.	- Opening of the Introductory session for the training (subject of the training, presentation of participants) - Presentation of the training agenda - Rules of the game	- Head of Mission •
	9:15 - 9:45 a.m.	- Presentation of the NCBA CLUSA program (approach and achievements) - Presentation of the research objectives - Review of indicators to be provided	- Head of Mission - Representative of the NCBA CLUSA •
	9:45 - 10:00 a.m.	- Discussion (question-answer, misc.)	- All participants
	10 - 10:15 a.m.	- Presentation of the methodology (device) of the investigation - Discussion (question-answer, misc.)	- Head of Mission - Expert Statistician - All participants
	10:15 - 1:30 p.m.	- Review different collection tools question by question	All participants
	1:30 p.m. - 2:30 p.m.	- BREAK	
	2:30 p.m. - 5 p.m.	- Review of tools with regard to indicators to provide	

Thursday, June 25, 2015	8:30 - 11 a.m.	- Review of tools in detail (question by question)	
	11 - 11:15 a.m.	- Break	
	11:15 - 1:30 p.m.	- Continue review of tools	
	2:30 p.m. - 5 p.m.	- Role play for administering tools	
Friday, June 26, 2015	Morning	- Tools test	All participants
	Afternoon	- Debriefing: correction and review of mistakes - Organizing and scheduling investigations	

Annex 5: Collection Tools

PRODUCERS' UNION QUESTIONNAIRE

Q01. Questionnaire number /_/_/_/_/ (To be filled out by the codification team)

Q02. Region	1. Fatick 2. Kaolack/_/_/ 3. Kaffrine
Q03. Municipality	_____ _____ _____ _____
Q04. Date of interview	/_/_/_/_/_/_/_/_
Q05. Interviewer	_____ -/_/_/_/
Q06. Supervisor	_____ -/_/_/_/
Q07. Coder agent (control office)	_____ -/_/_/_/ Entry date /_/_/_/_/_/_/_/_
Q08. Entry Operator	_____ -/_/_/_/ Entry date /_/_/_/_/_/_/_/_

Q09. Start time	HH / __ / __ : MM / __ / __ /
------------------------	-------------------------------

Q10. Name of Union-----

Q11. Creation date----- / __ / __ / __ / __ /

Q12. Number of PO members ----- / __ / __ / __ /

Q13. Number of USDA beneficiary POs----- / __ / __ / __ /

Q14. Terms of Union Membership *(Multiple responses are possible)*

Registration	1	Membership card purchase	2	Monthly contribution	3	Annual contribution	4	Other (specify)- ----- ----- ----- ----- ----- ----- ----- -----	5
Amount (CFA F)									

Q15. Services offered by the Union to PO members *(Multiple responses are possible)*

Member credit (seasonal credit) 1 Marketing support 2 Other (specify) 3

Q16. Main sources of Union income over the past 04 years

Activities/sources	Amount generated			
	2011	2012	2013	2014
	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /
	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /
	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /
	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /
	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /
	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /	/ / / / / / / / / / /

Q17. Census table of PO members

No.	Denomination	Headquarters	Total number of members	Men	Women	Name and contact information of President	Main activity of the PO
1.			/ / / / /				
2.			/ / / / /				
3.			/ / / / /				
4.			/ / / / /				
5.			/ / / / /				
6.			/ / / / /				
7.			/ / / / /				

No.	Denomination	Headquarters	Total number of members	Men	Women	Name and contact information of President	Main activity of the PO
8.			/ / / /				
9.			/ / / /				
10.			/ / / /				
11.			/ / / /				
12.			/ / / /				
13.			/ / / /				
14.			/ / / /				
15.			/ / / /				
16.			/ / / /				
17.			/ / / /				
18.			/ / / /				
19.			/ / / /				
20.			/ / / /				
21.			/ / / /				
22.			/ / / /				
23.			/ / / /				
24.			/ / / /				
25.			/ / / /				
26.			/ / / /				
27.			/ / / /				

No.	Denomination	Headquarters	Total number of members	Men	Women	Name and contact information of President	Main activity of the PO
28.			/ _ / _ / _ /				
29.			/ _ / _ / _ /				
30.			/ _ / _ / _ /				
31.			/ _ / _ / _ /				

Q18. Have you received USDA support for the first phase of the project?
(if yes continue, if not, do not ask questions 19, 20, 21, 22, 23 and 27)

Yes 1 No 2

Q19. If not, quantity and value of cumulative millet production of your members during the past season (2014)

..... in en
Tonnes CFA F

Q20. If so, what is the level of cumulative millet production your members with the USDA (3 years of the project, 2011, 2012 and 2013)?

Year	2011	2012	2013
------	------	------	------

Total Union
production of
millet (T)

Q21. Access to credit through the USDA

Yes 1 No 2

Q22. If yes, status of funds received through the USDA over the three years of the project

Year	Purpose of Loan	Amount (CFAF)	Duration (in months)	Financial institution 1 = PAMECAS 2 = U IMCEC 3 = CCI-AK 5 = Mutuelle "Teranga" 6 = Specify other	Number of PO beneficiaries
2011		/ / / / / / / / / / / /	/ / /	/ /	/ / / /
		/ / / / / / / / / / / /	/ / /	/ /	/ / / /
2012		/ / / / / / / / / / / /	/ / /	/ /	/ / / /
		/ / / / / / / / / / / /	/ / /	/ /	/ / / /
2013		/ / / / / / / / / / / /	/ / /	/ /	/ / / /

Q23. Have you received grants through USDA?

Q24. If yes, in what year, for what purpose and value received

2013 / / / / / / / / / /

Q25. Types of support from NGOs, rural communities, government programmes

Q26. Functioning of the Union

Q26.1. Frequency of body meetings

	Established frequency	2012		2013		2014	
		Number of meetings	Yes/No	Number of meetings	Yes/No	Number of meetings	Yes/No
Body	1 = Weekly						
	2 = Monthly	1	1 =	1	1 =	1	
	3 = Bi-monthly	=	Yes		Yes	=	
	4 = Quarterly	Yes	2 =		2 =		
	5 = Bi-annually	s	No		No		
	6 = Annually						

7 = Seasonally	• 2			
8 = Other (specify)	=			
	No			
AG	/ _ /			
CA	/ _ /			
Office	/ _ /			
Renewal of bodies	/ _ /			
Other, specify	/ _ /			

Q26.2. Gender ratio at leadership level

Bodies	Total number of members	Men	Women	Gender of Director 1 = Male 2 = Female
CA	/ _ / _ / _ /	/ _ / _ / _ /	/ _ / _ / _ /	/ _ /
Office	/ _ / _ / _ /	/ _ / _ / _ /	/ _ / _ / _ /	/ _ /
Credit Committee	/ _ / _ / _ /	/ _ / _ / _ /	/ _ / _ / _ /	/ _ /
Marketing Committee	/ _ / _ / _ /	/ _ / _ / _ /	/ _ / _ / _ /	/ _ /
Production Committee	/ _ / _ / _ /	/ _ / _ / _ /	/ _ / _ / _ /	/ _ /
Specify other Committee	/ _ / _ / _ /	/ _ / _ / _ /	/ _ / _ / _ /	/ _ /
.....				

Q26.3. Communication tools

Meeting minutes	Technical/activity report	Financial report	Specify other
1	2	3	4

Q27. What is the number of contracts concluded by your union with producers/POs or partners

Type of agreement	Year	Partner	Purpose	Duration	Amount
1. Sales contract					
2. Memorandums of understanding					

3. Specify other

Q28. Number of jobs created following the support of the USDA:

1. /_/_/_/_/_/
2. Female...../_/_/_/_/_/
3. Total...../_/_/_/_/_/

Q29. Do you have marketing specialists within the Union?

- Yes • 1 • No • 2

•

- Q30. Major constraints faced by the Union?

	Q31. Challenges the union faces for access	Q32. Proposed Solutions
1. For the market		
2. For production		
3. For transportat ion		
4. For pricing		

Q33. What types of services does your organisation need but not currently have access to?

Interview End Time / ____ / ____ // ____ H / ____ / ____ / ____ mn /

PO QUESTIONNAIRE

Q01. Questionnaire number / __ / __ / __ / __ / (To be filled out by the codification team)

Q02. Region	4. Fatick 5. Kaolack/__/____/ 6. Kaffrine
Q03. Municipality	_____ _____ _____ _____
Q04. Date of interview	/ __ / __ // __ / __ // __ / __ /
Q05. Interviewer	_____ -/ __ / __ /
Q06. Supervisor	_____ -/ __ / __ /
Q07. Coder agent (control office)	_____ -/ __ / __ / Entry date / __ / __ // __ / __ // __ / __ /
Q08. Entry Operator	_____ -/ __ / __ / Entry date / __ / __ // __ / __ // __ / __ /
Q09. Start time	HH / __ / __ : MM / __ / __ /

Q10. Name of PO-----

•

Q11. Creation date----- / __ / __ // __ / __ // __ / __ /

•

Q12. PO Status

EIG 1 Association 2 Other 3

Q13. Total number of members :

1. Men / __ / __ / __ /
2. Women / __ / __ / __ /
3. Total...../ __ / __ // __ / __ //

•

Q14. Terms of Membership *(Multiple responses are possible)*

Registration	1	Membership card purchase	2	Monthly contribution	3	Annual contribution	4	Other (specify)----- ----- -----	5
Amount									

Q15. Services offered to members *(Multiple responses are possible)*

Member credit 1 Marketing support 2 Other 3

Q16. Main source activities of PO income over the past 4 years

Activities/sources	Amount generated			
	2011	2012	2013	2014
	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _
	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _
	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _
	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _
	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _
	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _	/ _ / _ / _ / _ / _ / _ / _ / _ / _

•

- Q17. Have you received USDA support for the first phase of the project?
- (if yes, continue and skip question 19, otherwise do not ask questions 18, 25, 26, 27, 29, 30)

Yes 1 No 2

Q18. If yes, quantity and value of millet production during the three years of the project (2011, 2012 and 2013)?

•

Year	Production in Tonnes	Value in CFA F
2011		
2012		
2013		

Q19. If not, quantity and value of cumulative millet production of your members during the past season (2014)

..... in Tonnes

.....en CFA F

Q20. Who are your millet input suppliers

• Inputs	• Type	• Suppliers	• Observation on quality
• Seeds	• Certified	•	•
	• Bit-run	•	•
• Fertiliser	• NPK	•	•
	• Urea	•	•

Q121. Have you ever experienced false inputs

Yes 1 No 2

•

• Q22. If yes, explain

.....

.....

.....

.....

.....

•

• Q23. Have you ever needed to call on ploughing services or to purchase tools for this?

Yes 1 No 2

- Q24. Census table of beneficiary members

[illegible]

[illegible]

[illegible]

[illegible]

Q25. Number of demonstration plots created with the assistance of the USDA

......./ _/ _/ _/ _/ _/ _/ _/ _/ _/ _/

Q26. Area of availability or warehouses installed through the USDA

Yes 1 No 2

Q27. If yes, state the capacity (Tonnes)

......./ _/ _/ _/ _/ _/ _/ _/ _/ _/ _/

Q28. if not, availability of other storage facilities in the area

Yes 1 No 2

Q29. If yes, location

-

-

Q30. PO points of sale (marketplaces)? (list)

Market/shop name Location (municipality/town

•

• Q31. Access to credit through the USDA

Yes 1 No 2

•

• Q32. If yes, status of funds obtained through the USDA during the years of the project

Year	Purpose of Loan	Amount	Duration	Financial institution 1 = PAMECAS 2 = U IMCEC 3 = CCIAC 5 = Mutuelle "Teranga" 6 = Specify other	No. of beneficiary individuals
2011					

2012

2013

Q33. Grants received from the USDA:

Yes 1 No 2

Q34. if yes, provide details in the table below

Year Amount Purpose

• **Q35. Training in agricultural productivity and food security received through the USDA**

Subject	Year	Number of beneficiary producers		
		men	women	Total

• **Q36. Types of support from NGOs, municipalities, government programmes**

Type	Yes	No	Government extension worker (1 = ANCAR, DRDR = 2, 3 = other)	No. of beneficiary members	Other support organisation (USDA = 1, 2 = WulaNafa, 3 = PAFA, 4 =)	No. of beneficiary members
Training	1	2				
Inputs	1	2				
Credit	1	2				

Demonstration 1 2
plot
Other 1 2

- Q37. Number of jobs created through the USDA

•

1. Men / _ / _ / _ /
2. Women / _ / _ / _ /
3. Total / _ / _ / _ /

Q38. PO Operation

Q38.1. Frequency of meetings of bodies

		Established frequency		2012	2013	2014
		1 = Weekly				
		2 = Monthly				
		3 = Bi-monthly				
Body	4 = Quarterly	• 1 =	Number of meetings	• 1 =	Number of meetings	• 1 =
	5 = Bi-annually	Yes		Yes		Yes
	6 = Annually	• 2 =		• 2 =		• 2 =
	7 = Seasonally	No		No		No
	8 = Other (specify)					
AG	/ _ /	/ _ /		/ _ /		/ _ /
CA	/ _ /	/ _ /		/ _ /		/ _ /
Office	/ _ /	/ _ /		/ _ /		/ _ /
Renewal of bodies	/ _ /	/ _ /		/ _ /		/ _ /
Other, specify	/ _ /	/ _ /		/ _ /		/ _ /

Q38.2. Gender ratio at leadership level

Bodies	Total no. of members	Men	Women	Gender of Director (1 = H, 2 = F)
AG				
CA				
Office				

Specify other Committee

Meeting minutes	Technical/activity report	Financial report	Specify other
1	2	3	4

Type of agreement	Year	Partner	Purpose	Duration	Amount
Sales contract					
Memorandums of understanding					
Specify other					

Yes 1 No 2

[illegible]

	Q42. Difficulties faced by producer groups in accessing:	Q43. Proposed Solutions
5. For the market		

6. For production		
7. For transportation		
8. For pricing		

Q44. What types of services does your organisation need but not currently have access to?

Interview End Time / __ / __ // __ H _ / __ / __ / __ _ mn /

PRODUCER QUESTIONNAIRE

Q01. Questionnaire number / __ / __ / __ / __ / (To be filled out by the codification team)

Q02. Region	1. Fatick 2. Kaolack /__/ 3. Kaffrine
Q03. Municipality	----- ----- ----- -----
Q04. Membership Town/PO	----- -----
Q05. Date of interview	/ __ / __ / / __ / __ / / __ / __ /
Q06. Interviewer	-----/ __ / __ /
Q07. Supervisor	-----/ __ / __ /
Q08. Coder agent (control office)	-----/ __ / __ / Entry date / __ / __ / / __ / __ / / __ / __ /
Q09. Entry Operator	-----/ __ / __ / Entry date / __ / __ / / __ / __ / / __ / __ /
Q10. Start time	HH / __ / __ : MM / __ / __ /

Q11. First and last name of producer

.....

Q12. CNI No. / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ /

Q13. Birth date / __ / __ / / __ / __ / / __ / __ / or Age / __ / __ / years old

Q14. Sex

- Male 1 Female 2

Q15. Marital status

- Married • 1 • Single • 2 • Widower • 3 • Divorced • 4

Q16. Contacts: Phone 1 / _ / _ / _ / _ / _ / _ / _ / _ / _ / **Phone 2** / _ / _ / _ / _ / _ / _ / _ / _ / _ /

Q17. Geographic reference (decimal coordinates)

Q17.1. Longitude O
.....

Q17.2. Latitude N

Q18. Number of people in charge

- • Men • Women
- Household members • /__/_/_/_/ • /__/_/_/_/
- Employees (sourgha) • /__/_/_/_/ • /__/_/_/_/
- •

Q19. What are the three main income-generating activities in order of importance?

Activities	Amount generated		
	2012	2013	2014
1.	/__/_/_/_/_/_/_/_/_/_/	/__/_/_/_/_/_/_/_/_/_/	/__/_/_/_/_/_/_/_/_/_/
2.	/__/_/_/_/_/_/_/_/_/_/	/__/_/_/_/_/_/_/_/_/_/	/__/_/_/_/_/_/_/_/_/_/
3.	/__/_/_/_/_/_/_/_/_/_/	/__/_/_/_/_/_/_/_/_/_/	/__/_/_/_/_/_/_/_/_/_/

Q20. Age and sex of household members involved in the production

First and last name	Age	Gender	Activity
		(1 = male 2 = female)	
	/__/_/_/	/__/_/	
	/__/_/_/	/__/_/	
	/__/_/_/	/__/_/	
	/__/_/_/	/__/_/	
	/__/_/_/	/__/_/	
	/__/_/_/	/__/_/	

Q21. Total area of land owned by the producer / __ / __ / __ / __ / __ / __ / __ ha**Q22.** Area of land cultivated / __ / __ / __ / __ / __ / __ / __ ha

Q23. Type of culture

Rain-based 1 Irrigated 2

Cereal-based 3 Vegetable-based 4

Q24. Access to water in the town?

Yes 1 No 2

Q25. Water source:

Well 1 Drilling 2 Pond 3 River 4 Other 5

Q26. Class and texture of the soil

Dior 1 Deck 2 Deck-dior 3 Other 4

Q27. Slope

Low 1 Average 2 Significant 3

Q28. How did you become the owner of your land?

Modalities	Yes	No
Inherited	1	2
Allocated by the Rural Council	1	2
Rented or borrowed	1	2
Purchased	1	2
Cleared (axing right)	1	2
Allocated by the town leader	1	2
Donation	1	2
Other (specify)	1	2

Q29. Using improved agricultural techniques and technologies during the three years of the project

9.1.1.1.1 Technologies	Yes	No	Area treated (ha)	Through what organisation did you hear about this technology
1. Adaptations to Climate Change (use of the early season variety souna 3)	1	2	/ / / / / / / / / /	/ / /
2. Conservation of soil fertility	1	2	/ / / / / / / / / /	/ / /
3. Water Management	1	2	/ / / / / / / / / /	/ / /
4. CA (conservation agriculture)	1	2	/ / / / / / / / / /	/ / /
5. Pest Control (striga)	1	2	/ / / / / / / / / /	/ / /
6. Management Practice	1	2	/ / / / / / / / / /	/ / /
7. Pest Management	1	2	/ / / / / / / / / /	/ / /
8. Disease Management	1	2	/ / / / / / / / / /	/ / /
9. Crop Genetics	1	2	/ / / / / / / / / /	/ / /
10. Other				

Organisation Code

USDA|CLUSA WULANAFA PAFA ANCAR PO VOISIN Other

1 2 3 4 5 6 7

Q30. Experience with false inputs

Yes 1 No 2

.....

.....

.....

.....

.....

Yes 1 No 2

Private individual	1	Business	2	other	3
--------------------	---	----------	---	-------	---

		Millet	Corn	Peanuts	Sogho	Other	Observations
2013	Qty (T)						
	Area						
2014	Qty (T)						
	Area						

.....

.....

.....

.....

.....

Q36. Proposed solutions for each cited constraint.

.....

.....

.....

.....

.....

.....

Q37. Types of support from NGOs, rural communities, government programmes

Type	Yes	No	Government extension worker (1 = ANCAR, DRDR = 2, 3 = other)	Annual frequency	Other support organisation (USDA = 1, 2 = WulaNafa, 3 = PAFA, 4 =)	Annual frequency
Training	1	2				
Support Council	1	2				
Inputs	1	2				
Credit	1	2				
Demonstration plot	1	2				
Other	1	2				
•						

Q38. Access to credit through the USDA

Yes	1	No	2
-----	---	----	---

Q39. If so, the status of funds over the three years of the project

Year	Purpose of Loan	Amount	Duration in months	Financial institution 1 = PAMECAS 2 = U IMCEC 3 = CCIAC 5 = Mutuelle "Teranga" 6 = Specify other	Cost in CFA	Reimbursed Y/N (1 = yes; 2 = no)
2011		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
2012		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
2013		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /

•

Q40. Grants received through the USDA:

Year	Amount	Purpose
2011	/ / / / / / / / / /	
2012	/ / / / / / / / / /	
2013	/ / / / / / / / / /	

Q41. Millet production destination

- Auto consumption
- 1
- Sale
- 2
- Seed selection
- 3
- Other
- 4

•

Q42. Accessibility of the market and price information

- Yes • 1 • No • 2

Q43. Number of Agreements signed with processors, service/input providers or other partners?

Type of agreement	Year	Partner	Purpose	Duration/Period	Amount (CFA)
Sales contract	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /
Memorandums of understanding	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /
Other	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /

Interview End Time / _ _ / _ _ // _ H _ / _ _ / _ _ / _ _ mn /

SEED PRODUCER QUESTIONNAIRE

Q01. Questionnaire number / __ / __ / __ / __ / (To be filled out by the codification team)

Q02. Region	4. Fatick 5. Kaolack / __ / 6. Kaffrine
Q03. Municipality	----- ----- ----- -----
Q04. Town	----- -----
Q05. Date of interview	/ __ / __ / / __ / __ / / __ / __ /
Q06. Interviewer	-----/ __ / __ /
Q07. Supervisor	-----/ __ / __ /
Q08. Coder agent (control office)	-----/ __ / __ / Entry date / __ / __ / / __ / __ / / __ / __ /
Q09. Entry Operator	-----/ __ / __ / Entry date / __ / __ / / __ / __ / / __ / __ /
Q10. Start time	HH / __ / __ : MM / __ / __ /

Q11. Geographical coordinates

Q11.1. Longitude O

Q11.2. Latitude N

.....

Q12. Phone / __ / __ / __ / __ / __ / __ / __ /

Q13. First and last name of the seed producer

.....

Q14. CNI No. / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ /

Q15. Birth date: / __ / __ / / __ / __ / / __ / __ / or **Age :** / __ / __ / Years old

Q16. Sex

Male 1 Female 2

Q17. Marital status:

- Married • 1 • Single • 2 • Widower • 3 • Divorced • 4

Q18. Number of people in charge (household members and employees)

1. Men /_/_/_/_/
2. Women /_/_/_/_/
3. Total/_/_/_/_/

Q19. Age and sex of household members involved in the production

First and last name	Age	Sex (1 = M, 2= F)	Main activity
1.	/_/_/_/	/_/_/	
2.	/_/_/_/	/_/_/	
3.	/_/_/_/	/_/_/	
4.	/_/_/_/	/_/_/	
5.	/_/_/_/	/_/_/	
6.	/_/_/_/	/_/_/	

Q20. What are your three main income-generating activities in order of importance?

1. 2. 3.

Q21. What kind of millet seed do you sell?

- Certified • 1 • Not certified • 2

Q22. Are you aware of other seed companies based in the area?

- Yes
- 1
- No
- 2

Q23. If so, please provide their name(s) and location(s)

- [illegible]

Q24. Learned new technologies or management acquired or applied, following assistance from the USDA *(circle the technology codes cited)*

Adaptations to Climate Change (use of early season variety: Souna 3)	Fertility and conservation and soil fertility (compost)	Water management (based on non-irrigation)	(CA) Conservation Agriculture	Pest Control (striga, for example)	Management Practice	Pest Management	Disease Management	Crop Genetics	Other
1	2	3	4	5	6	7	8	9	10

Q25. Which company provides you with fertiliser, herbicides, and what kind?

- | | |
|------------------|-------------|
| • Inputs | • Suppliers |
| • NPK fertiliser | • |
| • Urea | • |
| • Pesticide | • |

Q26. Are you a member of a professional network?

- | | | | |
|-------|-----|------|-----|
| • Yes | • 1 | • No | • 2 |
|-------|-----|------|-----|

Q27. Which one(s)?

.....

.....

.....

.....

.....

Q28. Who are your customers?

- | | | | |
|-------------|-----|--------------|-----|
| • Private | • 1 | • Businesses | • 2 |
| individuals | | | |

Q29. How is contact with your customers generally made?

.....

.....

.....

.....

.....

Q30. How do you work with them? - With or without formal contractualisation?

Contractualisation	1	Informally	2
--------------------	---	------------	---

Q31. Progress of your annual turnover over the last three years

-
- 2012 /_/_/_/_/_/_/_/_/_/ 2013 /_/_/_/_/_/_/_/_/_/ 2014
/_/_/_/_/_/_/_/_/_/

Q32. Training received and partner organisation:

Subject	Input business/year (1 = SENCHIM 2 = SEDAB 3 = TOOLOU BAYE; 4 = ISRA; 5 = Other)	Total number of employees concerned	Men	Women
Production Technique	/ _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /
Marketing	/ _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /
Management	/ _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /
Other	/ _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /	/ _ / _ / _ / _ /

Q33. Participation in input exhibitions/presentations

Yes 1 No 2

Q34. If yes, where, when and who invited you or helped you to participate

Year	Period (months)	Location	Support organisation
2010			
2011			
2012			
2013			
2014			

Q35. Types of support from NGOs, municipalities, government programmes

Type	Yes	No	Government extension worker (1 = ANCAR, DRDR = 2, 3 = other)	Other support organisation (USDA = 1, 2 = WulaNafa, 3 = PAFA, 4 =)
Training	1	2	/__/	/__/
Inputs	1	2	/__/	/__/
Credit	1	2	/__/	/__/
Demonstration plot	1	2	/__/	/__/
Other	1	2	/__/	/__/

Q36. Access to credit through the USDA

Yes 1 No 2

Q37. If yes, status of funds over the past five years

Year	Purpose of Loan	Amount	Duration in months	Financial institution 1 = PAMECAS 2 = U IMCEC 3 = CCIAK 5 = Mutuelle "Teranga" 6 = Specify other	Cost in CFA	Reimbursed Y/N (1 = yes; 2 = no)
2011		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
2012		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
2013		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /	/ /	/ / / / / / / / /	/ /

Q38. Grants received through the USDA:

Year	Amount	Purpose
/ / / / /	/ / / / / / / / / / /	
/ / / / /	/ / / / / / / / / / /	
/ / / / /	/ / / / / / / / / / /	

Q39. Total number of employees in your millet seed production operations

[illegible]

Q40. Number of agreements with producers/POs or partners

Type of agreement	Year	Partner	Purpose	Duration/Period	Amount
Sales contract	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /
Memorandums of understanding	/ _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /
Other	/ _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /

Q41. In your opinion, what company or leading producer is the principal seed supplier?**What is the type of seed sold?**

Company/Producer	Type of seeds sold
------------------	--------------------

Q42. Is the seed production (millet) packaged?

- Yes
- 1
- No
- 2

Q43. Type and frequency of services obtained from advisory support staff of government structures

Type of service	Annual frequency
-----------------	------------------

Interview End Time / ____ / ____ // ____ H ____ / ____ / ____ / ____ mn /

PROCESSOR QUESTIONNAIRE

Q01. Questionnaire number / __ / __ / __ / __ / (To be filled out by the codification team)

Q02. Region	7. Fatick 8. Kaolack / __ / 9. Kaffrine
Q03. Municipality	----- ----- ----- -----
Q04. Town	----- -----
Q05. Date of interview	/ __ / __ // __ / __ // __ / __ /
Q06. Interviewer	----- / __ / __ /
Q07. Supervisor	----- / __ / __ /
Q08. Coder agent (control office)	----- / __ / __ / Entry date / __ / __ // __ / __ // __ / __ /
Q09. Entry Operator	----- / __ / __ / Entry date / __ / __ // __ / __ // __ / __ /
Q10. Start time	HH / __ / __ : MM / __ / __ /

•

Q11. Name of ET-----

•

Q12. Creation date / __ / __ // __ / __ // __ / __ /

•

Q13. ET Status

EIG 1 Association 2 Other 3

Q14. Total number of members:

1) Total..... / __ / __ // __ / __ //

2) Men...../___/___/___/___/.....

3) Women..... /__/_/_/_/_/.....

-

Q15. Census table of ET members

[illegible]

Q16. Terms of Membership

Registration	1	Member ship card purchase	2	Monthly contribution	3	Annual contribution	4	Other (specify) ----- ----- ----- -----	5
Amount (CFA F)									

●

Q17. ET Activities

Millet Supply 1

Processing 2

Marketing 3

Other 4

Q18. Main source activities of PO income of the company

Activities

Amount generated

2011

2012

2013

Processing/sale

/ /

Provision of service

/ /

Other

/ /

Q19. Progress of processed millet quantities over the three years of the project in Tonnes (T)

●

2011 /	/T	2012/	/T	2013/	/T
--------	----	-------	----	-------	----

●

Q20. What is the % growth in terms of millet collection

Year

2011

2012

2013

Qty of millet
collected (T)

% of growth

%

%

Q21. Current production capacity / / / / / / / / / (T/year)

Q22. Volume and value of sales for the past year (2014)?

/_/_/_/_/_/_/_/_/_/_/T
 ?

/ / / / / / / / / /CFA

Q23. Technologies or management practices acquired or adopted by your members through the USDA

Technique or technology	Adaptations to Climate Change (use of an early season variety)		Conservation of soil fertility (compost)		Water Management		Conservation Agriculture • (CA)		Pest Control (striga)		Management Practice		Pest Management		Disease Management		Crop Genetics		Other	
1 = Yes 2 = No																				
No. of members concerned	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F

Q24. Are you a member of a professional network?

Yes 1 No 2

Q25. If yes, which one(s)

.....

Q26. Who are your customers?

•

.....

•

•

.....

•

Q27. How do you work with them? - With or without formal contractualisation?

Contractualisation 1 Informally 2

Q28. Number of points of sale (markets, shops or other). (List and indicate their location).

Market/shop name

Location

Q29. Participation in trade fairs/exhibitions?

Yes 1 No 2

●

Q30. If yes, where, when and who invited you or helped you to participate

Year	Period (months)	Location	Type (1. trade, 2. agricultural, 3. national, 4. international)	Support organisation
2010				
2011				
2012				
2013				
2014				

Q31. Access to credit through the USDA

Yes	1	No	1
-----	---	----	---

Q32. If yes, status of funds over the past five years

Year	Purpose of Loan	Amount	Duration	Financial institution	Cost	Reimbursed Y/N
				1 = PAMECAS 2 = U IMCEC 3 = CCIAC 5 = Mutuelle "Teranga" 6 = Specify other		
2011						
2012						
2013						

Q33. Grants received through the USDA:

Year	Amount	Purpose
------	--------	---------

Q34. Types of support from NGOs, municipalities, government programmes

Type	Yes	No	Government extension worker (1 = ANCAR, DRDR = 2, 3 = other)	Other support organisation (USDA = 1, 2 = WulaNafa, 3 = PAFA, 4 = Municipality, 5 = Other)
Training	1	2		
Inputs	1	2		
Credit	1	2		
Demonstration plot	1	2		
Other	1	2		

•

Q35. Number of agreements with producers/POs or partners

Type of agreement	Year	Partner	Purpose	Duration	Amount
Purchase Agreement					
Sales contract					
Memorandums of understanding					
Other					

Q36. Company operation

Q36.1. Frequency of body meetings

Body	Established frequency	2012	2013	2014
	1 = Weekly 2 = Monthly 3 = Bi-monthly 4 = Quarterly 5 = Bi-annually 6 = Annually 7 = Seasonally 8 = Other (specify)	• 1 = Yes • 2 = No	• 1 = Yes • 2 = No	• 1 = Yes • 2 = No
AG	/__/_/	/__/_/	/__/_/	/__/_/
CA	/__/_/	/__/_/	/__/_/	/__/_/
Office	/__/_/	/__/_/	/__/_/	/__/_/
Other, specify	/__/_/	/__/_/	/__/_/	/__/_/

Q36.2. Gender ratio at leadership level

Bodies	Total number of members	Men	Women	Gender of Director (1 = H, 2 = F)
CA				
Office				
Other (specify)				

•

• Q36.3. Communication tools

Meeting minutes	Technical report	Financial report	Other
1	2	3	4

Q37. Number of jobs created through the USDA

- 1) Total..... /__/_/___/___/.
- 2) Men...../__/_/___/___/.....
- 3) Women..... /__/_/___/___/.....

Q38. Number of employees trained in processing and marketing techniques

Total.....M..... F.....

Q39. Do you have marketing specialists within the company?

- Yes • 1 • No • 2

•

Q40. If so, place of learning

•

Q41. Key constraints faced by the ET?

•

.....
.....
.....
.....

•

•

	Q42. Difficulties faced by processors in accessing:	Q43. Proposed Solutions
9. For the market		
10. For production		
11. For transportation		
12. For pricing		

•

•

Q44. What types of services does your organisation need but not currently have access to?

.....
.....
.....
.....
.....

Interview End Time /__/_//__/_/

ARTISAN QUESTIONNAIRE

Q01. Questionnaire number / __ / __ / __ / __ / (To be filled out by the codification team)

Q02. Region	10. Fatick 11. Kaolack / __ / 12. Kaffrine
Q03. Municipality/Rural Community	----- ----- ----- -----
Q04. Town	----- -----
Q05. Date of interview	/ __ / __ // __ / __ // __ / __ /
Q06. Interviewer	-----/ __ / __ /
Q07. Supervisor	-----/ __ / __ /
Q08. Coder agent (control office)	-----/ __ / __ / Entry date / __ / __ // __ / __ // __ / __ /
Q09. Entry Operator	-----/ __ / __ / Entry date / __ / __ // __ / __ // __ / __ /
Q10. Start time	HH / __ / __ : MM / __ / __ /

Q11. First and last name of the artisan/company

.....

Q12. CNI No. / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ / __ /

Q13. Date of Birth / __ / __ // __ / __ // __ / __ / or **Age** / __ / __ / years old

Q14. Sex

- Men • 1 • • 2

Women

•

Q15. Marital status

- Married • 1 • Single • 2 • Widower • 3 • Divorced • 4

Q16. Number of people in charge

4) Total..... /_/_/_/_/_/.

5) Men...../_/_/_/_/_/.....

6) Women..... /_/_/_/_/_/.....

•

Q17. Age and sex of household members involved in the activity

First and last name	Age	Gender (1 = male 2 = female)	activity
---------------------	-----	------------------------------	----------

/_/_/_/

/_/_/

/_/_/_/

/_/_/

/_/_/_/

/_/_/

/_/_/_/

/_/_/

/_/_/_/

/_/_/

/_/_/_/

/_/_/

Q18. What are your three main income-generating activities in order of importance?

9. Location

10. Business address

11. Home address

Region

Fatick 1 Kaolack 2 Kaffrine 3 Other 4

Fatick 1 Kaolack 2 Kaffrine 3 Other 4

region

region

Department

Municipality

Town

Geographical coordinates

Phone

Mail

Q19. Are you a member of a professional network?

Yes

1 No

2

Q20. If yes, which one(s)

Q21. Who are your customers ?

- -----

Q22. How do you work with them? - With or without formal contractualisation?

Contractualisation

1

Informally

2

Q23. What is your annual turnover for the 3 years of the project

2011 _____/ 2012 / _____/ 2013
 / _____/

Q24. Participation in exhibitions/presentations

Yes 1 No 2

-

Q25. If yes, where, when and who invited you or helped you to participate?

Year

Period

Location

Support organisation

(months)

2010

2011

2012

2013

2014

Q26. Number of Employees

Positions	Total	Men	Women	Created with the assistance of the USDA
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
	/ / / / /	/ / / / /	/ / / / /	/ / / / /
Total	/ / / / /	/ / / / /	/ / / / /	/ / / / /

•

Q27. Have you been trained (you or your staff) in extension skills by government agents or certified extension agents?

Subject	No. of beneficiary agents	Support organisation 1 = Government Agent (specify) 2 = Other certified Agent (specify)
Subject 1:	/ _ / _ / _ / _ /	/ _ /
Subject 2:	/ _ / _ / _ / _ /	/ _ /
Subject 3:	/ _ / _ / _ / _ /	/ _ /

Q28. Types of support from NGOs, municipalities, government programmes

Type	Yes	No	Government extension worker (1 = ANCAR, DRDR = 2, 3 = other)	Other support organisation (USDA = 1, 2 = WulaNafa, 3 = PAFA, 4 =)
Training	1	2	/ _ /	/ _ /
Inputs	1	2	/ _ /	/ _ /
Credit	1	2	/ _ /	/ _ /
Demonstration plot	1	2	/ _ /	/ _ /
Other	1	2	/ _ /	/ _ /

•

Q29. Access to credit through the support of the USDA

Yes	1	No	1
-----	---	----	---

Q30. If yes, status of funds received through the USDA over the three years of the project

Year	Purpose of Loan	Amount	Duration in months	Financial institution	Cost in CFA	Reimbursed Y/N (1 = yes; 2 = no)
2011		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
2012		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
2013		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /
		/ / / / / / / / / /	/ / /		/ / / / / / / / / /	/ /

Q31. Grants received through the USDA:

Year	Amount	Purpose
	/ / / / / / / / / / / / / / / /	/ / / / / / / / / / / / / / / /
	/ / / / / / / / / / / / / / / /	/ / / / / / / / / / / / / / / /
	/ / / / / / / / / / / / / / / /	/ / / / / / / / / / / / / / / /

Q32. Technologies or management practices acquired or adopted by your members through the USDA

Management technology or practice	Adaptations to Climate Change (use of an early season variety)		Conservation of soil fertility (compost)		Water Management		Conservation Agriculture (CA)		Pest Control (striga)		Management practices		Pest Management		Disease Management		Crop Genetics		Other	
1 = Yes, 2 = No	/__/		/__/		/__/		/__/		/__/		/__/		/__/		/__/		/__/		/__/	/__/
No. of members concerned	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F

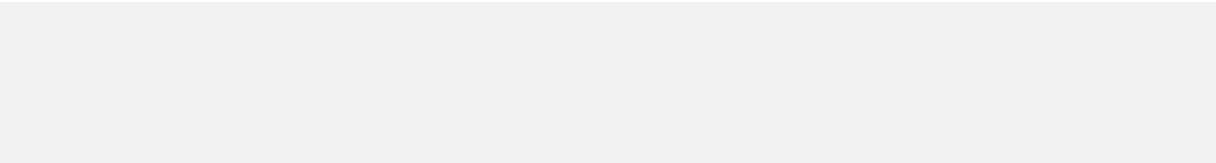
Q33. Key constraints you are faced with?

	Q34. Difficulties faced by producer groups in accessing:	Q35. Proposed Solutions
13. For the market		
14. For production		
15. For transportation		
16. For pricing		

Q36. Number of agreements with producers/POs or partners

Type of agreement	Year	Partner	Purpose	Duration/Period	Amount
Sales contract	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /
Memorandums of understanding	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /
Other	/ _ / _ / _ / _ /			/ _ / _ / _ /	/ _ / _ / _ / _ / _ / _ / _ / _ / _ /

Interview End Time / ____ / ____ // ____ H ____ / ____ / ____ mn /



Annex 16: Baseline Indicator Calculation Method

INDICATOR CALCULATION METHOD

Indicator 1 : Number of individuals directly benefiting from USDA-funded assistance

Targets	PO	Processors	Artisans	Seed specialists
Questions involved	Q13	Q15	Q14	Q16
Method of calculation	The sum of men and women	The sum of the men and women	The sum of men and women	The sum of men and women

Indicator 2: Number of individuals indirectly benefiting from USDA-funded assistance

Targets	PO	Processors	Artisans	Seed specialists
Questions involved	Q24	Q15	Q16	Q18
Method of calculation	The calculation was performed after filtering new and former POs, then we examined Q24, the number of people in charge and we called upon former POs	The sum of people in charge	The sum of men, and women	The sum of men and women

Indicator 3 : Volume of millet sold in kg or MT

Targets	
Questions involved	Q24
Method of calculation	The sum of the output column was calculated

Indicator 4: Number of hectares under improved techniques or technologies as a result of USDA assistance

Targets	PO
Questions involved	Q24

Method of calculation	The overall number of hectares treated was calculated in aggregate, then filtered under the former PO and we examined Q24 to see the distribution per technology.
------------------------------	--

Indicator 5: Number of individuals and others who have applied new techniques or technologies as a result of USDA assistance

Targets	PO	Processors	Artisans	Seed specialists
Questions involved	Q24	Q23	Q32	Q24
Method of calculation	It was calculated by summing the number of men and women	The number of members concerned was calculated	The number of artisans who used at least one technology was counted	We counted the number of people who used at least one technology in Q24

Indicator 6 : Number of private businesses, producer organizations, water user associations, women's groups, trade and business associations and community--based organizations (CBOs) that applied new technologies or management practices as a result of USDA assistance

Targets	PO	Processors	Artisans	Seed specialists
Questions involved	Q24	Q23	Q32	Q24
Method of calculation	It was calculated by summing the number of organizations who used at least one technology	The number of members concerned was calculated	We counted the number of artisans who used at least one technology	We counted the number of people who used at least one technology in Q24

Indicator 7: Value of inputs and support services sold by agricultural input suppliers to farmers in US dollars in the regions

Targets	Artisans	Seed specialists
Questions involved	Q23	Q31
Method of calculation	The sum of the turnover per year was calculated	The sum of the turnover per year was calculated

Indicator 8: Number of agro-dealers developed into networks

Targets	Processors	Artisans	Seed specialists
Questions involved	Q24	Q19	Q26
Method of calculation	The total “Yes” in Q24 was calculated	The total “Yes” in Q19 was calculated	The total “Yes” in Q26 was calculated

Indicator 9 : Number of input suppliers trained in extention skills by input firms

Targets	Seed specialists
Questions involved	Q32
Method of calculation	This is the number of input suppliers formed by input companies (Toolu Baye, SEDAB, SENCHIM, etc.)

Indicator 10 : Number of input demonstration fairs

Targets	Processors	Artisans	Seed specialists
Questions involved	Q30	Q25	Q34
Method of calculation	The different trade fairs funded by the USDA were counted and duplicates were removed	The different trade fairs funded by the USDA were counted and duplicates were removed	The different trade fairs funded by the USDA were counted and duplicates were removed

Indicator 11 : Number of individuals receiving financial services as a result of USDA assistance

Targets	PO	Processors	Artisans	Seed specialists
Questions involved	Q32	Q32	Q29	Q36
Method of calculation	The people who said “Yes” to Q31 were filtered for and the number of beneficiaries were counted (last column in Q32) per year	Only the “Yes” in Q31 were considered	Only the “Yes” in Q29 were considered	Only the “Yes” in Q36 were considered

Indicator 12: Number of loans disbursed as a result of USDA assistance

Targets	Artisans	Seed specialists
----------------	-----------------	-------------------------

Questions involved	Q30	Q37
Method of calculation	The people who have said “Yes” to Q29 were filtered for and the total number of loans was calculated by eliminating the number of duplicates	The people who said “Yes” to Q36 were referred to and the number of loans was examined in Q37

Indicator 13: Value of agricultural and rural grants provided as a result of USDA assistance

Targets	PO	Processors	Artisans	Seed specialists
Questions involved	Q34	Q33	Q31	Q38
Method of calculation	The “Yes” in Q33 were filtered for and the sum of the amounts in Q34 was calculated	Subsidies were calculated in the column “Amount” in Q33	The sum of the “Amount” column in Q31 was calculated	The sum of the amounts was calculated.

Indicator 14 : Number of individuals receiving short-term agricultural sector productivity or food security training as a result of USDA assistance

Targets	PO	Seed specialists
Questions involved	Q35	Q35
Method of calculation	The sum of men and women in Q35, the number of beneficiary producers, was calculated	The sum of people who answered “Yes” to training was calculated and duplicates were eliminated

Indicator 15 : Number of millet producers who have been trained by government extension agents

Targets	PO
Questions involved	Q36
Method of calculation	The sum of Column 5: Number of beneficiary members in Q36 was calculated

Indicator 16: Number of producer organizations/ cooperatives with certified extension officers/agents

Targets	PO	Processors	Artisans	Seed specialists
----------------	-----------	-------------------	-----------------	-------------------------

Questions involved	Q36	Q34	Q27	Q35
Method of calculation	Based on Q36 "Type of Training", a PO was counted once "Yes" was circled in training, while eliminating duplicates	Based on Q34 "Type of Training", a processor was counted once "Yes" was circled in training, while eliminating duplicates	It was calculated from Q27 from the sum of beneficiary agents	Based on Q35 "Type of Training", a seed producer was counted once "Yes" was circled in training, while eliminating duplicates

Indicator 17: Number of producer organization (PO) members trained in extension skills

Targets	PO
Questions involved	Q35
Method of calculation	Q35 does not allow for the calculation of this indicator

Indicator 18: Number of demonstration plots created

Targets	PO
Questions involved	Q25
Method of calculation	The sum of demonstration plots was calculated

Indicator 19: Value of millet sales in the target zones

Targets	PO	Processors
Questions involved	Q24 (last column)	Q22
Method of calculation	The sum of the total sales amounts with the USDA over three years was calculated, and divided by 3 to calculate the average	The sum of sales amounts in CFA for the past year was calculated.

Indicator 20: Number of jobs attributed to USDA assistance

Targets	PO	Processors
Questions involved	Q37	Q37

Method of calculation	The sum of the men and women was calculated	The sum of the men and women was calculated
------------------------------	---	---

Indicator 21: Total increase in installed storage capacity as a result of USDA assistance

[Note: as this is a new area for the project in phase 2, and the baseline is “0”, there is no need to collect data for this indicator.]

Indicator 22: Number of agriculture producers in target region that have access to effective off-farm storage for their product

Targets	PO
Questions involved	Q26; Q27
Method of calculation	The people who answered “Yes” to Q26 were counted. One does not have the corresponding capacity for Q27

Indicator 23: Number of market outlets in which selected agricultural products is sold

Targets	PO	Processors
Questions involved	Q30	Q28
Method of calculation	The Market Name Column that was crossed was considered as localization. Duplicates were also removed	The Market Name Column that was crossed was considered as localization. Duplicates were also removed

Indicator 24: Number of service provider/input supplier employees trained in marketing techniques

Targets	Artisans	Seed specialists
Questions involved	Q27	Q32
Method of calculation	Marketing was selected in Themes and the number of beneficiary officials in Column 2 was calculated	Marketing was selected in Themes and the total number of employees concerned in Column 3 was calculated

Indicator 25: Number of agreements signed (contracts, MOUs, etc.) between buyers/sellers

[Note: as this is a new area for the project in phase 2, and the baseline is “0”, there is no need to collect data for this indicator.]

Indicator 26: Number of producer organizations/groups with marketing specialties

[Note: as this is a new area for the project in phase 2, and the baseline is “0”, there is no need to collect data for this indicator.]

Annex 17: Photo Album

1. Training for the Enumerators





2. Testing Tools²⁵



²⁵ The camera used to take pictures in the field was lost one day of the end of investigations.

3. AGRICULTURAL EQUIPMENT PRODUCED BY AN ARTISAN IN KAOLACK (LAHAT NIASS)



