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Baseline Evaluation

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Sesame Marketing and Exports (SESAME) Project Baseline Study Report

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Sesame Marketing and Exports (SESAME) Project
Baseline Study Report

v. May 8, 2017

Contents

List of Tables

List of Figures

List of Acronyms

Deff	Design effect
DGPER	Direction Générale de la Promotion de l'Économie Rurale/ Directorate-General of the Promotion of the Rural Economy
DGPV	Direction Générale des productions végétales/ Directorate-General for Vegetable Production
DRAH	Direction Régionale de l'Agriculture et de l'Hydraulique/ Regional Directorate of Agriculture and Water
FAO	Food and Agriculture Organization of the United States
FTE	Full Time Equivalent
GPS	Global Positioning System
ICC	Interclass Correlation
IFAD	International Fund for Agricultural Development
JICA	Japan International Cooperation Agency
LWR	Lutheran World Relief
MT	Metric Ton
NGO	Non-Governmental Organization
NPK	Nitrogen, Phosphorus and Potassium
OCADES	Organisation Catholique pour le Développement et la Solidarité/ Catholic Organization for Development and Solidarity
ONUDI	L'organisation des Nations Unies pour le développement industriel/ The United Nations Industrial Development Organization
PDA/GTZ	Programme de Développement de l'Agriculture/ Agriculture Development Program/ German Technical Cooperation
PEA	Producer Enterprise Agent
PMP	Performance Monitoring Plan
PSU	Primary Sample Units
SAFCOD	Société Africaine de Commerce et de Distribution/ African Society of Commerce and Distribution
SE/CNSA	Secrétariat Exécutif du Conseil National de Sécurité Alimentaire/ Executive Secretariat of the National Food Security Council

SEASME	Sesame, Marketing, and Exports
SPAPA	Service Provinciale des Aménagements et des Productions Agricoles/ Provincial Department of Agricultural Development and Production
SPSS	Statistical Package for the Social Sciences (software)
SRPER	Service Régionale de la Promotion de l'Economie Rurale/ Regional Service for the Promotion of Rural Economy
TOR	Terms of Reference

I. Executive Summary

This baseline study gathered data from 565 farmers to present the major challenges that will be addressed by the SESAME project funded by the USDA Food for Progress Program. The table below summarizes baseline values for the listed indicators. Other data collected include, but is not limited to, why the production process and exportation of sesame needs a complete overhaul in Burkina Faso in order to move farmers, families and the economy in a more positive direction towards better outcomes for all.

Table 1: Indicator baseline results

Indicator	Baseline
Standard indicator 13: Value of sales [of sesame] by project beneficiaries	$2,834,116 (1,700,469,728 F CFA)
At farm-gate	$2,351,300 (1,410,779,931 F CFA)
Union sales	$482,816 (289,689,797 F CFA)
Custom indicator 9: % of farmer sales through unions (calculation: farm-gate divided by union sales times 100%	17%
Standard indicator 14: Volume of commodities [sesame] (MT or metric tons) sold by project beneficiaries	3,603 MT
At farm-gate	3,028 MT
Union sales	575 MT
Custom indicators 2: % increase of price from the previous year per MT sold to trader/exporter as a result of USDA assistance	N/A
Farm-gate sales / MT = total sales (indicator 13) / MT sold (indicator 14)	465,911 F CFA/MT ($776.52/MT)
Union price / MT = total sales (indicator 13) / MT sold (indicator 14)	503,808 F CFA/MT ($839.68/MT)

The following recommendations are proposed as a result of the baseline study findings. The SESAME project managers will develop a management plan to define if they accept (and incorporate) or reject the recommendations.

1. Lower Year 1 targets for Indicator 16 and Indicator 17 and adjust Year 2-5 targets to achieve the initial Life of Project target.
2. Decide if Life of Project and Year 2-5 targets for Indicator 16 and Indicator 17 need to be adjusted.
3. Correct targets for Years 1-5 for Indicator 13.
4. Adjust definition of jobs and targets for Indicator 15.
5. Adjust PMP indicator definition for Standard Indicator 2.
6. Change Custom Indicator 3 and Custom Indicator 4.
7. Add evaluation questions to those included in the Evaluation Plan.
8. During coordination efforts with other stakeholders, pay close attention to efforts of existing partners and government departments working on SESAME.
9. Consider having activities that support local sesame processing by women's groups.
10. Develop interventions that facilitate access to equipment and other inputs.
11. Refine interventions with women to increase access to agricultural inputs and equipment to lower the discrepancy between income from sesame for men and women.
12. Continue to emphasize investment in clean/high quality sesame, though recognizing it is not the sole driver for higher sesame prices.
13. Develop mitigation measures to help producers manage weather hazards.

II. Project background

The SESAME project, a 5 year, $24 million project funded by USDA's Food for Progress Program, will assist more than 500,000 people directly and indirectly by working with farmers, agricultural cooperatives[1], buyers, exporters, financial institutions and government bodies to increase their capacity to meet sesame export quality standards, access lucrative markets and improve buyer-seller relationships. The project will focus on sesame production in the regions of Est, Boucle du Mouhoun, Hauts Bassins, and Cascades in Burkina Faso through seven major activities:

Activity 1: Market Access: Facilitate buyer-seller relationships
Activity 2: Capacity Building: Producer groups/cooperatives
Activity 3: Market Access: Facilitate access to market information
Activity 4: Financial Services: Facilitate agricultural lending
Activity 5: Capacity Building: Promote improved policy and regulatory framework
Activity 6: Infrastructure: Post-harvest handling and storage
Activity 7: Capacity Building: Agriculture extension agents/services

III. Purpose of the baseline study

The purpose of the SESAME baseline study was to document starting conditions relevant to the changes LWR expects to bring about through the project in order to be able to objectively measure impact. Specifically, the baseline study sought to:

1. Establish the baseline measures for selected project indicators.
2. Confirm/adjust calculations and assumptions used to calculate annual targets for project indicators.
3. Understand the basic situation to refine the implementation strategy of certain activities as well as identify potential threats to achieving project outcomes.
4. Understand additional conditions at the beginning of the project that will allow LWR to assess the impact of the project after five years.
5. Provide recommendations on how to adjust project targets, beneficiary targeting, indicator definitions, and/or strategies to mitigate threats.

There are additional components that LWR uses to understand baseline conditions but that are not included in this study (see *Annex A: Terms of Reference* for more details on how additional information will be collected and documented).

IV. Methodology

LWR conducted the baseline study using its own staff, using external technical assistance from research specialists at Ipsos Public Affairs to refine the appropriate sampling methodology for individual farmers. The SESAME Project M&E Specialist led the data collection, analysis and report writing process (see *Annex A: Terms of Reference* for a description of roles and responsibilities of LWR staff for the baseline study).

[1] Sesame farmers in Burkina Faso are organized under two legal modalities: unions and associations/cooperatives. Unions are organized at the same geographic levels as government administrative units (commune, province, region, national) whereas associations/cooperatives can encompass membership across geographical boundaries. In general, both represent a way for farmers to work collectively to advance their interests. In this study, LWR consulted both types of farmer organizations but did not separate any results. Therefore, throughout the document, the two types of organizations are combined and referred to as "unions/associations." LWR and its partners will further explore how functional differences may or may not affect the implementation of the project.

The M&E Specialist consulted secondary sources (see *Annex C: Bibliography*) to prepare the baseline study but not as data sources for the baseline findings themselves.

LWR collected quantitative and qualitative baseline data from primary sources:

- **Sesame farmers** who are members of unions in the Est and Boucle de Mouhoun regions.
- **Sesame buyers and exporters** that are the major exporters in Ouaga and buyers that have a presence in the target regions.
- **Key informants**, including leaders from the two regional unions and associations (Est and Boucle de Mouhoun) and the six targeted provincial unions, regional and provincial level technical staff from government ministries, NGOs, and other project leads that work on the sesame value chain in Burkina Faso.

1. Sampling methodology for individual farmers

For farm- and farmer-level measures, LWR sampled villages covered by the provincial unions/ associations in Est and Boucle de Mouhoun, the two regions where LWR will initiate extension services in Year 1 and used union/associations' member lists from those provinces (with a total of 7,698 farmers, lower than the 13,500 estimated from the project design phase). LWR sampled the following project-targeted provinces for the baseline: Gourma, Kompienga, and Tapoa in Est region and Banwa, Kossi, and Mouhoun in the Boucle de Mouhoun region.

The overall sample size was calculated to capture a representative sample of the existing members of the provincial unions (see "Sample size calculation" below). Specific respondents were randomly selected from membership lists using a three-stage cluster design: commune, village, union/association member.

In the first stage, communes were selected using probability proportional to size based on the total number of targeted farmers (current union/association members) within each cluster. Of note is that the targeted unions/associations do not have members in all communes, therefore some communes were excluded from the sample. The number of villages to be sampled in each region took into consideration the weight of each province in the region (based on the total number of union/association members in each province). LWR aimed to minimize a large design effect by balancing the number of clusters (villages) and primary sample units (PSUs, which in this study are farmers/cooperative members) sampled.

Sample size calculation

The following formula was used to calculate the sample size:

$$\text{No} = \frac{PP}{1+PP(ee^2)}$$

No = sample size
P= total number of members of unions in Est and Boucle du Mouhoun, which is 7698
e= sampling error

This formula assumes a maximum variance of 0.5 and will be used in the SESAME project to compare baseline values to endline values to be able to measure change over time. The type 1 error rate is 5% (e, or sampling error), and the power is 80% with a 95% confidence interval.

Based on these values, **No = 380**. This calculation was compared to two other calculations using the Chi squared test (one tailed, with an effect size of 0.3 and power of 80%) and the T test with the same parameters. The Chi squared test resulted in No = 396, and the T test resulted in No = 362. Therefore, the No of 380 was retained, balancing these two results and also considering the availability of resources such as financial, human, and time.

LWR then adjusted the initial sample size of 380, using a design effect (Deff) of 1.35 and an estimated 10% non-response rate. To calculate this design effect, LWR assumed a village-level intraclass correlation (ICC) of 0.014 and applied the following formula:

Deff= 1 + ICC (m-1), where
Deff = design effect
ICC = intraclass correlation
m = average number of farmers per village, which is 26.

Therefore, the sample size N was calculated using these values as follows:
N=No*Deff (1+non-response rate)

The **final sample size was 565** farmers to whom the questionnaire was delivered. A stratified sample for each geographic division (region, province, and commune) was calculated. That is, based on the proportion of total union members in each region, the size of the sample for Boucle de Mouhoun was **296,** and the sample size for Est was **269**. In the same way, the provinces and communes' sample sizes were calculated based on the proportion of members in each of the targeted provinces and communes. LWR then used list of villages in the communes selected in the sample, and any villages that had fewer than 20 union members were excluded from the sample (about 25% of villages were thus eliminated). Some communes only had villages with less than 20 members, and therefore, some communes were then taken out of the sample. Of the remaining villages, the sample size per village was calculated proportional to the weight of the village. Individual respondents were then selected at random from the list of union members.

LWR did not oversample any demographic subgroups of farmers (i.e., women farmers, older farmers, etc.). In electing not to oversample, LWR avoided incurring design effects resulting from the need to weight the data post hoc to bring sample sub-group proportions in line with population proportions. LWR relied on the demographic makeup of the current membership rolls. This strategy is consistent with the objective of achieving a self-weighting sampling design. Through focus groups (see below), LWR sought more specific perspectives of adult and young men and women (classified as youth).

Some individuals who were selected to be in the sample were unavailable (physically absent and/or not reachable by telephone when a number was available). In such a case, they were replaced by a randomly selected replacement farmer from the list of union members in the same village. To the extent possible, replacement farmers were matched in sex to the originally selected farmers.

Based on the methodology described above that was applied to the existing union membership roster, the sample can be summarized as follows in Table 2.

Table 2: Summary of sample by province, disaggregated by age and sex

Region/Province	Male		Total Male	Female		Total Female	Total of All
	Youth	Adult		Youth	Adult		
Est							
Gourma	23	67	90	15	46	61	**151**
Tapoa	7	44	51	10	12	22	**73**
Kompienga	2	25	27	2	16	18	**45**
Total	32	136	168	27	74	101	**269**
Boucle du Mouhoun							
Banwa	7	64	71	3	24	27	**98**
Mouhoun	11	61	72	3	10	13	**85**
Kossi	11	83	94	3	16	19	**113**
Total	29	208	237	9	50	59	**296**
Total	**61**	**344**	**405**	**36**	**124**	**160**	**565**

Youth are people aged 30 and under; adults are people aged 31 and older.

2. Composition of the focus groups

LWR organized focus groups to understand perceptions of sesame farmers on challenges and opportunities related to sesame production. LWR convened four focus groups per province: adult men and women aged 31 and over, and male and female youth aged 30 and under. Four villages were chosen randomly from all the villages in the provincial sample. One focus group was convened in each of those villages, and each group was made up of eight to twelve participants. The groups' composition was as follows:

Table 3: Focus group composition

Region/Province	Number of male youth	Number of male adults	Number of female youth	Number of female adults	Total participants
Est					
Gourma	5	5	5	5	**20**
Kompienga	5	7	5	7	**24**
Tapoa	6	8	7	6	**27**
Total	16	20	19	18	**73**
Boucle du Mouhoun					
Banwa	6	8	6	8	**28**
Kossi	11	11	4	8	**34**
Mouhoun	10	6	6	7	**29**
Total	27	25	16	23	**91**
Total	**43**	**45**	**35**	**41**	**164**

3. Key informant consultations

LWR interviewed resource persons in the Est, Boucle du Mouhoun and Ouagadougou. These interviews were designed to better understand the problems of sesame production, what lessons had been learned and what elements should be taken into account in the baseline study in order to effectively guide the implementation of the project and collect baseline data.

Government structures

Farmer organizations

Organizations with sesame projects

Sesame exporters and sesame traders

4. Data collection tools

The tested/finalized data collection tools were used to collect the information needed from various data sources (summarized below in Table 4; for the actual tools used, see *Annex D: Data collection tools*).

Table 4: Matrix of data collection methodology

Data source	Tool	Data/information needed	Type of data
Sesame farmers (men, women, adults and youth)	Questionnaire	-Area of sesame farming -Sesame production practices -Yields and sales (quantity and price) -Seasonal labor used -Income gained from sesame production -Roles of men/women, adults/youth at the farm level for the production and marketing of sesame	Quantitative
Groups of farmers: adult men, male youth, adult women, female youth (max. 12 people per group)	Focus group	-Specific needs that affect the quantity and quality of sesame produced -Role of sesame in farmers' livelihood strategies (current and potential)	Qualitative
Key informants from provincial unions (e.g. board chairpersons, union managers, marketing committee chairpersons)	Questionnaire	-Sesame from members (quantity and price paid) -Quantity of sesame sold -Main buyers and prices offered -Sales contracts (existence, problems faced in managing them) -Existence, condition, management of warehousing -Type of employment available at the union level	Quantitative
Key informants from provincial and regional level government agencies involved in agriculture and economic development	Semi-structured interview	-State of sesame warehousing (current or planned) -Other planned projects related to sesame (storage or cleaning infrastructure, technical assistance, financing, etc.)	Qualitative and quantitative
Projects	Semi-structured interview	-State of sesame warehousing (current or planned) -Other planned projects related to sesame (storage or cleaning infrastructure, technical assistance, financing, etc.)	Qualitative and quantitative

Key informants from buyers/exporters	Semi-structured interview [possibly a group interview if accessing information through any trade association.]	-Warehousing infrastructure (existing or planned) -Cleaning equipment (existing or planned) -Main constraints related to ability to offer higher prices for quality sesame and needed conditions in order to raise prices -Estimate of future price increases for quality sesame -Quantity of clean sesame (>95% clean) bought and quantity of less clean sesame (<95%) -Types of employment available with buyers/exporters -Sales contracts (existence, problems faced in managing them)	Qualitative and quantitative

5. Data collection, cleaning, and analysis

The baseline study lead, LWR's M&E Specialist, created a data collection form on paper and in Excel for the farmer questionnaire. Twenty-one enumerators and six supervisors carried out the farmer questionnaires. After training on the questionnaire and GPS units, the enumerators and supervisors tested the draft questionnaire. The finalized questionnaire included adjustments from the field test, and each enumerator was assigned his/her sample. Each enumerator used a paper questionnaire, then entered the responses per the agreed upon coding in Excel. The supervisors verified that the data were collected accurately- checking most of the data collected in the first few days, then a sample of data every day thereafter. Any questionable data were verified through field visits and via telephone with the respondent. The M&E Specialist spot checked the accuracy of data collected. He then combined the data and cleaned the data again, triangulating with other primary data. For instance, if the volume of sesame sold exceeded the yield, then the yield value was corrected to the same quantity sold. He then analyzed the cleaned data set using Excel.

For qualitative data collected through focus groups and the interviews with union officials, supervisors collected and documented responses directly on paper forms. The M&E Specialist compiled and analyzed those responses. The M&E Specialist also conducted interviews with other key informants, recording responses on paper forms, which he then compiled.

V. Findings and analysis

The following sections categorize findings into several topics: the baseline values for select project indicators, quantitative and qualitative findings related to sesame farmers, information about sesame aggregation/sales, and findings related to employment in the sesame sector that most relate to project results.

1. Baseline values

The baseline study established the following baseline figures. Baseline figures derived from individual farmer responses were extrapolated from a **sample of 565 farmers (405 male, 120 female)** as detailed in the methodology section above.

Table 5: Baseline values for Standard Indicator 13 and 14, and Custom Indicator 9

Indicator	Baseline
Standard indicator 13: Value of sales [of sesame] by project beneficiaries	$2,834,116 (1,700,469,728 F CFA)*
At farm-gate	$2,351,300 (1,410,779,931 F CFA)
Union sales	$482,816 (289,689,797 F CFA)
Custom indicator 9: % of farmer sales through unions (calculation: farm-gate divided by union sales times 100%; "as a result of USDA assistance" crossed out as the project has not started)	17%
Standard indicator 14: Volume of commodities [sesame] (MT) sold by project beneficiaries	3,603 MT
At farm-gate	3,028 MT
Union sales	575 MT
Custom indicators 2: % increase of price from the previous year per MT sold to trader/exporter as a result of USDA assistance	N/A**
Farm-gate sales / MT = total sales (indicator 13) / MT sold (indicator 14)	465,911 F CFA/MT ($776.52/MT)
Union price / MT = total sales (indicator 13) / MT sold (indicator 14)	503,808 F CFA/MT ($839.68/MT)

**Exchange rate used: $1.00 = 600 F CFA, which was the approximate rate at the time of the study.*
*** There is no specific baseline for this indicator. However, to report on it for the end of Year 1, the price per MT reported is the baseline price against which the percentage change will be measured.*

Further details on these baseline values are outlined in the following section.

2. Sesame production techniques

Area devoted to sesame production

An average of 2 hectares of sesame per farm was used to calculate annual targets for Indicator 1 (Number of hectares of land under improved techniques or technologies as a result of USDA assistance). Using GPS measures, the hectares of sesame planted by farmers during the 2016 season showed farmers planted an **average of 2 ha per farmer**, *matching the value used for the initial targets for this indicator.* A breakdown of this average is shown in the following table.

Table 6: Average area dedicated to sesame production in hectares

Region/Province	Male	Female	Male/Female Combined
Est			
Gourma	2.61	1.11	2.01
Tapoa	1.67	0.94	1.45
Kompienga	2.33	2.77	2.51
Average	2.28	1.37	1.94
Boucle du Mouhoun			
Banwa	1.67	1.44	1.62
Mouhoun	1.73	0.79	1.58
Kossi	2.94	1.67	2.72
Average	2.19	1.36	2.04
Overall average	**2.23**	**1.37**	**1.99**

Source: farmer survey

The disaggregated data is shown below in Table 7. The average area cultivated by men (2.23 ha), is significantly different from that of women (1.37 ha). There is no significant difference between the average area sown by adult men and young men on the one hand and between adult women and young women on the other hand, irrespectively of region and province. Overall (male and female combined), the average area is 1.99 ha. The highest average areas are found in Kossi for men and in Kompienga for women. The average area cultivated by women in the Kompienga is even higher than that cultivated by men.

Table 7: Average disaggregated area by sex and age

Region/Province	Male (M)		Average M	Female (F)		Average F	Total Average
	Youth	Adult		Youth	Adult		
Est							
Gourma	2.50	2.64	2.61	0.85	1.19	1.11	**2.01**
Tapoa	1.47	1.70	1.67	1.17	0.74	0.94	**1.45**
Kompienga	3.05	2.27	2.32	1.06	2.98	2.76	**2.50**
Average	2.31	2.27	2.28	0.99	1.51	1.37	**1.94**
Boucle du Mouhoun							
Banwa	1.06	1.73	1.66	0.60	1.52	1.44	**1.61**
Mouhoun	1.62	1.74	1.72	0.62	0.84	0.79	**1.58**
Kossi	1.89	3.11	2.97	1.34	1.73	1.66	**2.75**
Avereage	1.59	2.29	2.20	0.88	1.44	1.36	**2.05**
Average	**1.97**	**2.28**	**2.23**	**0.96**	**1.48**	**1.37**	**1.99**

Source: farmer survey

For Standard Indicator 1 "Number of hectares of land under improved techniques or technologies as a result of USDA assistance," 2 ha is an appropriate amount to use for the calculation of indicator targets as the average hectarage under sesame cultivation by farm.

Improved sesame growing techniques

To calculate the number of hectares of land currently under improved techniques or technologies, LWR consulted farmers and asked if they sowed sesame using at least one of the improved techniques. The

findings are summarized in Table 8 below, with further disaggregated data in Tables 18.1-26 in *Appendix E*.

It should be noted that 92% of producers (94% men and 89% women) plow/till their fields before planting sesame (see Tables 18.1 and 18.2 in *Appendix E*). All women in the Boucle du Mouhoun region practice plowing, while 82% of women practice it in the Est region. In the Est region, it can be noted that in the provinces of Gourma and Kompienga, all men also practice plowing against 97% and 89% respectively for women. On the other hand, at in Tapoa, 61% of men practice plowing, and only 36% of women till their fields before planting.

- ✓ In the case of seeding in line, only 67% of producers (men and women) use this technique. Women are slightly more likely to practice seeding in line compared to men. In fact, 70% of women practice seeding in line compared to 66% of men. In the provinces of Gourma and Kompienga, both men and women apply this technique of seeding. In the province of Tapoa, broadcast sowing remains preferable, especially among women. In the the Boucle du Mouhoun region, in line seeding is not common in the Banwa and Kossi provinces. It is only practiced 19% in the Banwa province and 21% in the Kossi province. In the same region, the same trends were observed in men who mainly practice broadcast sowing at the expense of in line seeding, except in the province of Mouhoun, where this trend is reversed (see Tables 18.3 and 18.4 in *Appendix E*).

- ✓ Regarding the use of improved seed), 68% of producers (both men and women) reported using improved seed versus 32% who did not use improved seed. Overall, there is no significant difference between men and women in the use of improved seed. The utilization rate of improved seed in Mouhoun is the highest. In this province, 97% of male producers and 100% of women reported using improved seed. In general, the percentage of women using improved seed in the Boucle du Mouhoun region is significantly higher than in the Est region (84% in Boucle du Mouhoun compared to 59% in the Est region) (see Tables 18.5 and 18.6 in *Appendix E*.

- ✓ Concerning the application of mineral fertilizer in sesame fields, only 26% of producers reported applying fertilizer to their fields at an average rate of 39 kg / ha. There is no significant difference between men and women in the use of fertilizer (26% men apply fertilizer compared to 24% of women) (see Tables 18.7, 18.8, 22, and 23 in *Appendix E*).

- ✓ In rural areas, some producers have built small storage facilities with thin sheets of metal to stockpile their production. However, a large majority (43%) store their production in their homes (see Table 27 in *Appendix E)*.

Table 8: Total area in hectares treated with improved sesame production techniques

Region/Province	Tillage	Seeded area in line	Seeded area with improved seed	Area fertilized with fertilizer	Area fertilized with organic manure	Area treated with at least one water/ soil conservation technique	Area treated with a phytosanitary product	Total area having benefited from one or more improved technique (s)*
Est								
Gourma	3663	3656	3132	541	2599	1741	507	3669
Tapoa	1031	1564	1298	77	1795	806	325	1820
Kompienga	1068	1273	273	504	1040	678	3085	1272
Average/Total	5761	6493	4703	1122	5434	3226	3917	6761
Boucle du Mouhoun								
Banwa	2226	783	1694	732	1164	143	1273	2248
Mouhoun	1801	1594	1785	807	727	1439	1748	1840
Kossi	4312	1060	1857	870	599	2765	4659	4338
Average/Total	8339	3437	5337	2409	2490	4347	7680	8426
Total	**14,100**	**9,930**	**10,040**	**3,532**	**7,924**	**7,573**	**11,597**	**15,187**

Source: farmer survey

** When a farmer's response was any one or more of the listed techniques, that area was counted.*

For Standard Indicator 1 "Number of hectares of land under improved techniques or technologies as a result of USDA assistance," LWR needs to add to the indicator definition the list of improved techniques the following practices in bold:

- Pest management: application of pesticides (phytosanitary products)
- Disease management: *not applicable to disaggregate since included in pest management as phytosanitary products*
- Irrigation: *not applicable in this project*
- Soil-related fertility and conservation: soil tillage, development of wind-breaks, application of fertilizer, practice of crop rotation, water conservation
- Water management: non-irrigation based: *not applicable in this project*
- Climate mitigation or adaptation: *not applicable in this project – component of use of improved seeds*
- Other: use of improved seeds, adequate date of seeding, **seeding in lines,** thinning of seedlings, weeding, **proper post-harvest storage**

The baseline study found that in all provinces, the majority of sampled male and female farmers already apply one of the improved techniques that the project will promote. In most provinces, 90% to 100% male and female farmers apply an improved technique. The lowest percentage of farmers is in Tapoa province in Est where 73% of women apply an improved technique.

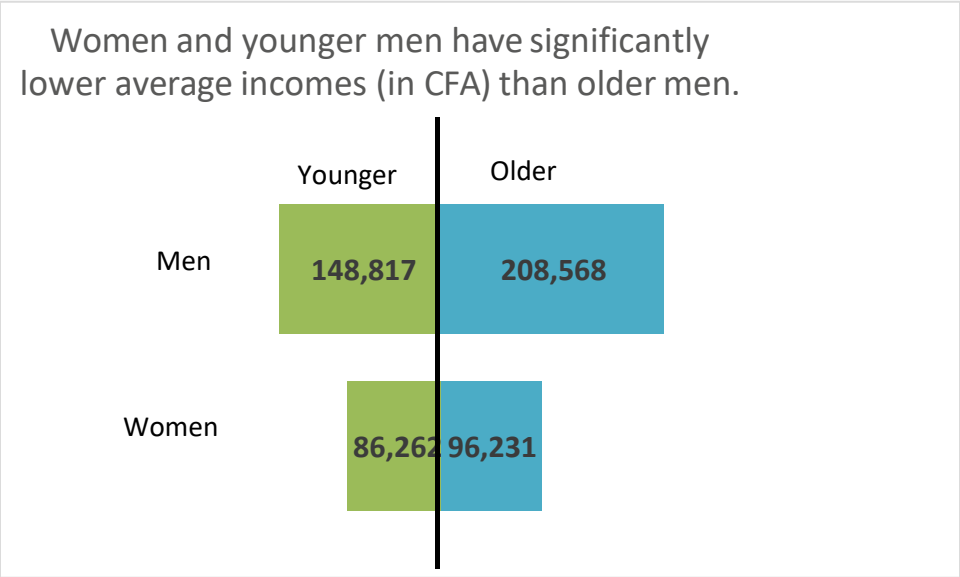
For Standard Indicator 1 "Number of hectares of land under improved techniques or technologies as a result of USDA assistance," LWR has defined individuals as "sesame farmers targeted by PEAs who apply one or more improved sesame cultivation techniques (per PMP)." The baseline findings are that already a majority of farmers already apply at least one technique.

Yields, marketing and income

LWR expects that sesame farmers will increase their income from sesame sales over the life of the project as yields and/or quality increases as well as the benefits of collective marketing are realized. Therefore, the baseline study examined how much on average the sampled farmers are making from sesame.

The average income is 210,000 F CFA for adult men and only 110,880 for adult women. At the youth level, the income of young men is 169,500 F CFA compared to 78,500 F CFA for young women. Whatever the region, the income of men is significantly different from that of women. This can partially be explained by the role of women in marketing. As Figure 1 below shows in more detail, 92% of men sell their own sesame, while women only sell 51% of theirs. When the a woman does not sell her sesame directly (in 42% of cases), it is the husband who deals with the marketing.

Figure 1: Average net income of disaggregated sesame producers by sex and age



Source: farmer survey

The quantities of sesame produced by men are on average higher than the quantities produced by women (see Table 9). The difference is 24 points against women (a significant difference). This same trend is observed between young women and young men in the production of sesame.

Table 9: Amount of sesame produced (in tonnes) on average by youth and adult males and females

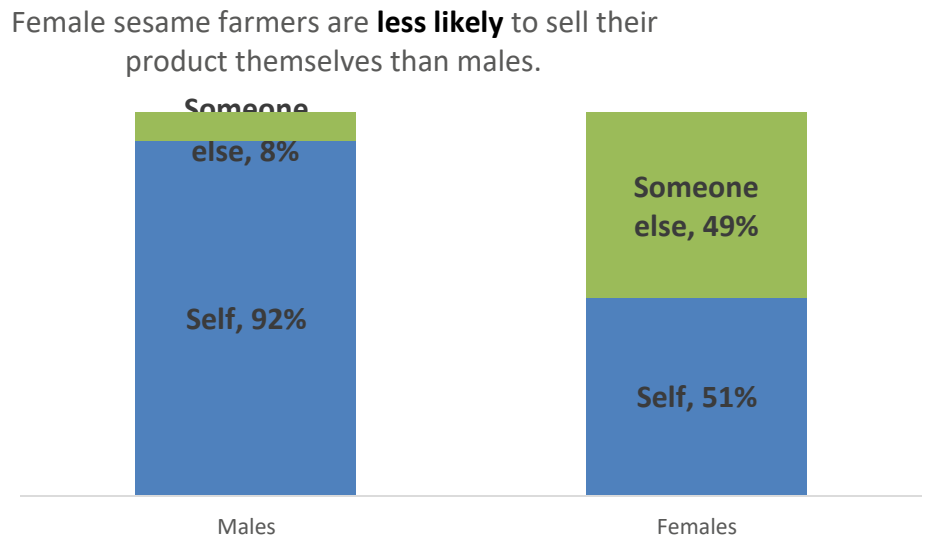
Region/Province	Male		Average All Males	Female		Average All Females	Overall Average
	Youth	Adult		Youth	Adult		
Est							
Gourma	0.84	0.85	0.85	0.25	0.51	0.44	**0.68**
Tapoa	0.33	0.49	0.47	0.19	0.18	0.18	**0.38**
Kompienga	0.72	0.74	0.74	0.29	0.36	0.36	**0.58**
Average	0.73	0.71	0.72	0.23	0.42	0.37	**0.58**
Boucle du Mouhoun							
Banwa	0.35	0.34	0.34	0.12	0.18	0.18	**0.30**
Mouhoun	0.29	0.38	0.37	0.14	0.16	0.16	**0.34**
Kossi	0.28	0.55	0.52	0.37	0.28	0.29	**0.48**
Average	0.30	0.44	0.42	0.22	0.21	0.21	**0.38**
Moyenne	0.52	0.54	0.54	0.23	0.33	0.31	**0.48**

Source: farmer survey

As far as marketing is concerned, 92% of men answer that they sell their sesame themselves, whereas with women, it is only 51% that sell their sesame. Forty-nine percent of women say that it is someone else who is responsible for selling their sesame product. When women declare that it is someone else who sells their sesame, in the majority of cases it is their spouse (48%), and when it is not their spouse, it is their brother-in-law.

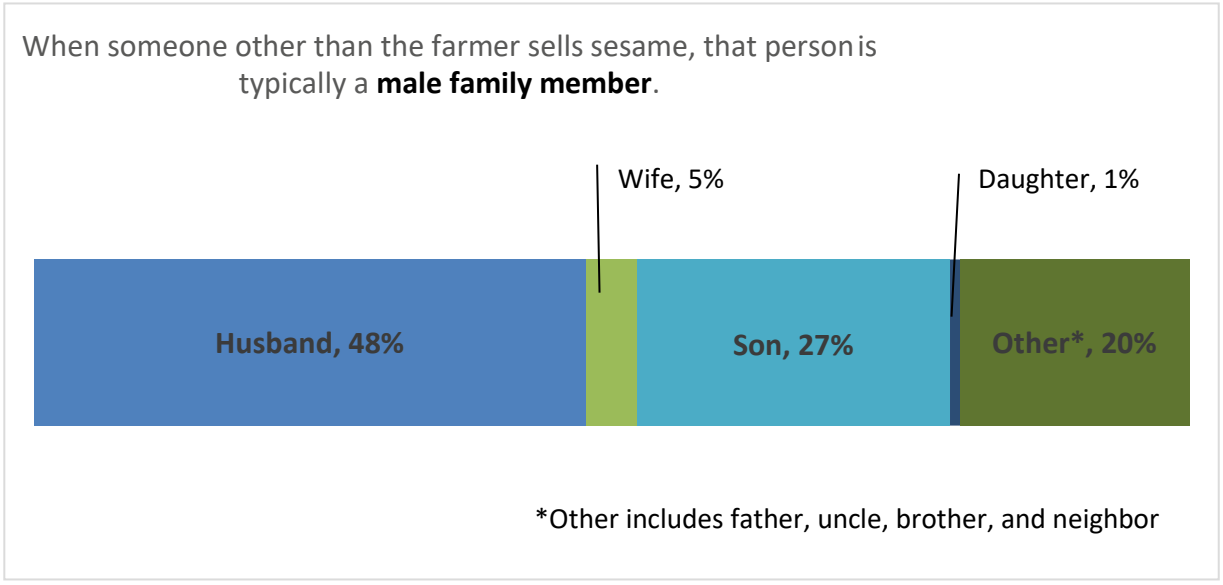
Women selling their husband's sesame account for only 4.5% of respondents who reported selling their sesame to someone else. A youth in Boucle du Mouhoun reported during his interview that his father sold some of the sesame he grew, and he did not receive any of the money. While this issue was only reported by one person, this may be important to explore further as an issue for young farmers who are working on the family farm. Culturally, youth are not in a position to ask for their share of the money from parents. However, not receiving proceeds (or at least being engaged in the decisions about how the family will use proceeds) can affect a young adult's engagement in sesame growing.

Figure 2: Responsibility of sesame sale within a household, disaggregated by farmer and another family member



Source: farmer survey

Figure 3: Frequency of selling of sesame carried out by someone other than the producer



Source: farmer survey

Challenges and opportunities for sesame producers

In its Evaluation Plan, LWR includes the following evaluation questions related to impact:

- What are the key impacts of the project for the targeted organizations and farmers?
- In what way did the project contribute to improvements in quality and quantity of sesame exports?

LWR discussed with farmers their perceptions on current challenges and future opportunities for sesame farmers to better understand specific areas where the SESAME project may create lasting change.

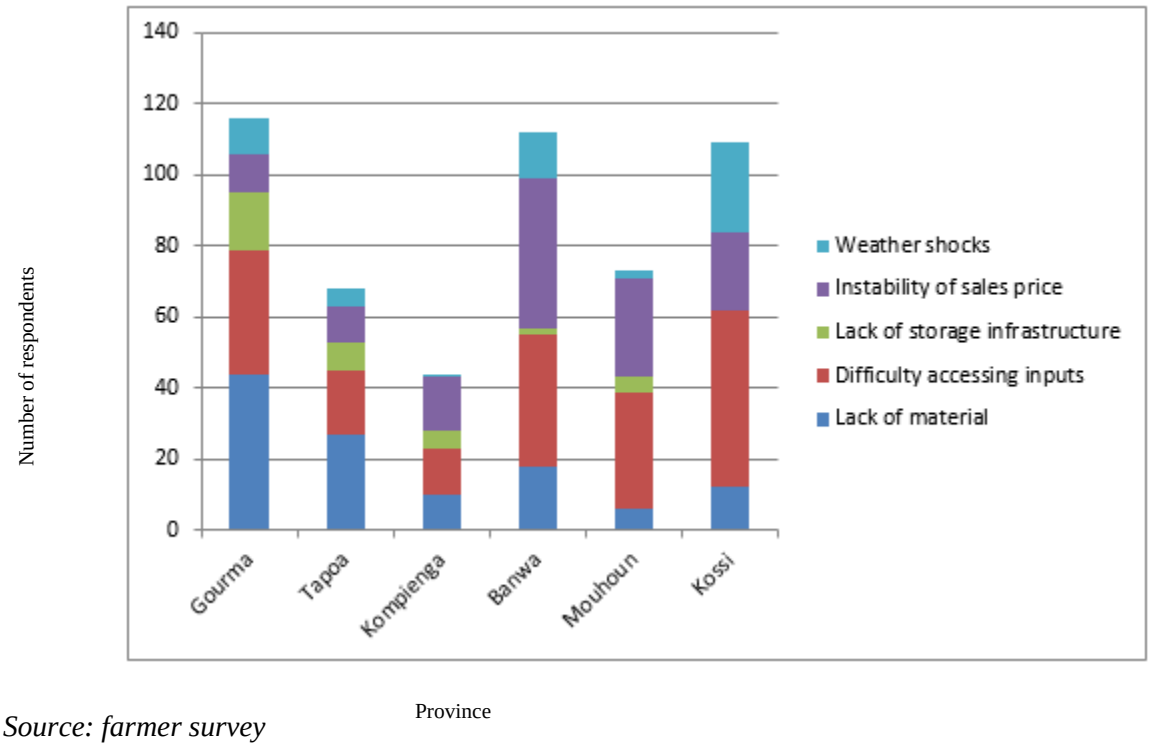
Difficulties faced by farmers and unions

When the producers (in the individual interviews) were asked to indicate the main difficulties encountered in the production of sesame, several were mentioned, which can be grouped into five main categories as shown in Figure 4 below. Across both regions, the top three concerns expressed by farmers were (in order of highest frequency):

1. Poor access to inputs
2. Instability of sesame sale prices
3. Lack of farm materials

These three problems were cited most frequently by farmers in Est with respondents in each province citing almost the same three though in different orders of frequence. In Boucle de Mouhoun, farmers were most concerned about weather hazards before lack of farm materials, driven primarily by farmers in Kossi citing weather hazards more frequently than price instability or lack of farm materials.

Figure 4: Perception of the main difficulties of the sector seen by the producers



Source: farmer survey

The 2016/2017 growing season was marked by both flooding and pockets of poor rain. This was a major difficulty cited by farmers and confirmed by various union leaders, which had a major impact on the low yields in 2016/2017.

Though total yields were lower than average, the 2016/2017 figures show that there was no significant difference in yields obtained by men and women farmers, except in the Gourma province in Est, women had notably lower average yields. Table 10 details the average yields. In addition, there were no notable differences between male and female responses related to issues raise by farmers through individual interviews and focus groups. Therefore LWR concluded that the challenges faced by farmers is equally felt by men and women.

Table 10: Average yield (in kg / ha) obtained by men and women and by province

Region/Province	Average yield (men)	Average yield (women)
Est		
Gourma	320	398
Tapoa	269	195
Kompienga	316	128
Total	308	269
Boucle du Mouhoun		
Banwa	208	153
Mouhoun	216	200
Kossi	173	174
Total	191	169
Total	**241**	**235**

Source: farmer survey

The constraints the farmers raised are the same as those brought up by the leaders of the unions through their interviews. Other difficulties, however, were specific to the unions:

- Little sesame buying/bulking of sesame from members at the union level
- Absence of guarantee funds as is the case for cotton
- No involvement of the state in the various links of the sesame sector

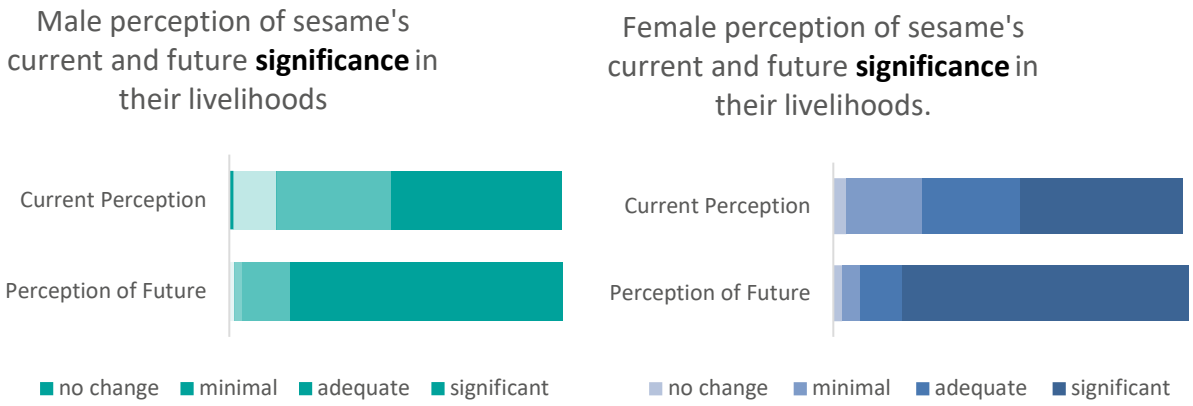
The needs expressed by the producers during the focus groups and which are likely to help them overcome the constraints mentioned above relate to:

- Access to inputs (seed, mineral and organic fertilizer, phytosanitary products)
- Access to agricultural equipment (plow, cart, sprayers, rakes, wheelbarrow, etc.)
- Access to post-harvest equipment (tarpaulin, cleaning equipment/blowers, sieves)
- Construction of storage / storage infrastructure
- Acquisition of draft animals
- Capacity building and follow-up support

See Table 29 in *Appendix E* for more details.

Producers were asked about how they perceive sesame contributing to their livelihoods presently and in the medium term (see Tables 30 and 31 in *Appendix E*) based on a scale of “minimally,” “adequately,” or “significantly.”

Figure 5: Farmers' current perception of sesame in their livelihood strategies and perspectives on the importance of sesame farming in their livelihood strategies in the medium term (by the end of the project)



Source: farmer survey

Farmers were asked to what extent sesame cultivation currently contributed to their overall livelihood- at Overall, both men and women recognized the importance of sesame. However, women who consider that sesame contributes little to the improvement of their living conditions number more (21%) than the men who share this perception (13%).

In their individual interviews, producers justified the place of sesame in their livelihoods by the fact that they could now:

- Acquire means of transportation (motorcycle tricycle)
- Build houses with metal roofs with electricity
- Pay their children's tuition fees
- Buy animals and farm equipment

At the level of the focus groups, it emerged from the exchanges that sesame occupies a predominant place in producers' livelihoods in the sense that thanks to sesame:

- Producers have means to do things they could not before (celebrate parties, purchase clothes for children, seek health care)
- Producers are no longer obliged to sell their cereals at the end of the season to meet urgent expenses
- Producers have developed small business in the village
- Producers can prevent starvation and improve the nutritional status of children

Women specifically justified this optimism by the fact that sesame is easy to cultivate and, with a little help, it is possible to have their own income and support their family. The basis of men's optimism by is the fact that cotton does not provide much income, whereas with sesame, it is possible to earn a lot of money. In the Est region, it was found that many producers abandon cotton because of the benefit of sesame, or they retain only a small portion of their fields to grow cotton. In Boucle of Mouhoun, the men also point out that the areas devoted to sesame are in marked progression.

In the medium term, both men and women think that sesame will play an even more important role in their livelihood. Compared to perceptions of its current place in livelihoods, there is a significant increase in the number of women and men who believe in the future of sesame: 51% male respondents perceive sesame cultivation to be a significant contribution at present whereas 82% feel it will have a significant contribution in the future. With women farmers, 46% feel sesame currently contributes significantly to

their livelihoods, and 81% feel it will be significant in the future (see Tables 31 and 32 in *Appendix E*). They foresee investing increased income to:

- Acquire means of transportation (motorcycle tricycle)
- Increase their livestock
- Improve their living environment (build new hard-working homes)
- Acquire agricultural equipment such as tractors, etc.

As one way to increase sesame production, and thus income from sesame, is to increase the cultivation areas. Farmers were asked whether they felt they could increase the amount of land on which they could plant sesame (based on responses of not likely, possible, very likely). The majority of producers (51%) reported that they still have opportunities to increase their area with farmers in Tapoa (Est) responding at the highest level (66% saying likely) and Kompienga (Est) responding at the lowest level (33% saying likely). Considering that the current average area is 2 ha, the sesame sector still has significant margins of progression.

3. Sesame aggregation and sales

Storage

The project has planned to increase storage capacity at the provincial union level, with Standard Indicator 11 (Total increase in installed storage capacity (dry or cold storage) as a result of USDA assistance) as the associated indicator. The baseline study examined the current state of sesame storage capacity through interviews with government, private, and NGO/bilateral key informants. Between the two regions, there are five warehouses in good condition. In the Est Region, there is one warehouse of 300 MT in Gourma province built by the US African Development Foundation in 2016. Boucle de Mouhoun has more warehouses. There are two in Banwa province of 44 MT combined. One 24 MT warehouse was built by Projet d'appui aux communes de l'Ouest du Burkina Faso in 2014, and the other 20 MT warehouse was built by Union Président Intiative in 2016. A 100 MT warehouse was built in Mouhoun by Cadre Integré Renforcé in 2015, and another 75 MT warehouse was built in Kossi by DGPER (Direction Générale de la Promotion de l'Economie rurale) in 2016. All storage warehouses were found to be in good condition.

In addition to this infrastructure, the export companies located in Ouagadougou and Bobo also have a storage warehouse. These warehouses are not only for sesame but also for other commodities. ~~The~~ one private actor group alone has nine warehouses in Ouaga with a cumulative storage capacity of about 30,000 MT. In regards to storage construction projections, one private actor is the only company that has planned to build a warehouse in Boucle du Mouhoun in 2018 with a capacity to hold up to 3,000 MT, again for sesame and other commodities.

Sesame sales volume and value

In order to measure the value of sales by project beneficiaries (Standard Indicator 13), farmers were asked to whom they sold their sesame in the 2016/2017 season. The summary of responses is listed below.

Table 11: Monetary value of sesame in F CFA sold by sesame producers (2016/2017 season)

Region/Province	Union*	Collector*	Local/village market	Other**	Total
Est					
Gourma	229 425 075	180 068 662	87 061 090	71 293 516	**567 848 344**
Tapoa	21 974 941	101 388 248	111 359 685	42 625 664	**277 348 539**
Kompienga	7 732 889	41 718 089	80 976 975		**130 427 953**
Total	261 735 789	312 855 222	285 960 853	113 542 389	**974 094 254**
Boucle du Mouhoun					
Banwa	1 342 286	180 349 040	2 556 735		**184 248 060**
Mouhoun	21 475 821	101 227 520	7 297 237	40 516 184	**170 516 761**
Kossi	5 125 947	268 474 255	98 054 628		**371 654 830**
Total	27 954 008	550 022 850	107 882 432	40 516 184	**726 375 474**
Total	**289 689 797 ($428,816)**	**862 878 072 ($1,438,130)**	**393 843 286 ($656,405)**	**154 058 573 ($256,764)**	**1 700 469 728 ($2,834,116)**

Source: farmer survey
**Sales to unions is inclusive of collective sales at lower levels of farmer groups.*
***Collectors are buyers who come to each farm offering to buy sesame. "Other" includes individual farmer sales at urban markets or other types of merchants.*

Non-union/farm-gate sales totaled 1,410,779,931 F CFA ($2,351,300). For the 2016/2017 season, the value of sesame sold through farmer groups/unions compared to the total sold was only 17% (289,689,797 F CFA divided by 1,700,469,728 F CFA x 100%).

The baseline values for Standard Indicator 13 is taken from Table 11.

In the same way as sales totals, farmers were asked the volume of sesame sold to the different buyers (Standard Indicator 14). The volume was usually reported in local measurements. Enumerators weighed the sesame in the containers that farmers used and calculated the average weight represented by those measures (see sidebar). The farmer responses were converted to kilograms, then MT.

In Table 12, data shows that most of the production is sold to collectors. Indeed, 54% of producers reported selling their sesame to the collectors. The number of producers selling their sesame to collectors is higher in the Boucle du Mouhou region (77% against 37% for the Est). In the Est region, there is no significant difference between sales made with the union and sales made with other players even if the total volume of trade is 200 MT higher with the union than the collectors.

Conversion of local measures to kilograms

Measure	Average kg equivalent
Tomato can	1.33 kg
Basin (*tine*)	13.33 kg
50 kg bag	40 kg
100 kg bag	80 kg
100 kg bag	6 basins
1 basin	10 cans

Table 12: Quantity of sesame sold in MT to the various actors by sesame producers in MT (2016/2017 season)

Region/Province	Union*	Collector**	Local/village market	Other**	Total
Est					
Gourma	447(36%)	453 (37%)	186 (15%)	149 (12%)	**1236 (100%)**
Tapoa	54 (10%)	148 (41%)	260 (25%)	85 (24%)	**548 (100%)**
Kompienga	18 (7%)	100 (37%)	173 (57%)		**291 (100%)**
Total	519 (28%)	701 (37%)	619 (23%)	235 (12%)	**2075 (100%)**
Boucle du Mouhoun					
Banwa	3 (1%)	406 (98%)	5 (1%)		**413 (100%)**
Mouhoun	42 (11%)	242 (62%)	17 (4%)	92 (24%)	**392 (100%)**
Kossi	11 (2%)	527 (73%)	184 (25%)		**722 (72%)**
Total	55 (4%)	1175 (77%)	205 (13%)	92 (6%)	**1528 (100%)**
Grand Total	**575 (17%)**	**1876 (54%)**	**824 (19%)**	**327 (9%)**	**3603 (100%)**

Source: farmer survey and union records
**Sales to unions is inclusive of collective sales at lower levels of farmer groups.*
***Collectors are buyers who come to each farm, offering to buy sesame. "Other" includes individual farmer sales at urban markets or other types of merchants.*

The baseline values for Standard Indicator 14 is taken from Table 12.

Sales contracts

Two contracts were signed in 2015/2016 by the Est and Boucle du Mouhoun regional unions. The two contracts were for the sale of 45 MT in Est and 71 MT in Boucle du Mouhoun. While the sales were completed, the final sales price was not what was originally negotiated. For the current marketing year, no contracts have been signed with the regional unions. However, one local CBO sold 300 MT in Est, and unions sold 32 MT in Boucle du Mouhoun to traders, OCADES and the government. At the time of the baseline study, over 7 MT were unsold and in storage in Kossi.

Overall, provincial unions sell through pre-negotiated contracts. Exporter companies are not inclined to negotiate quantities to be purchased through formal contracts. However, some companies do prefer to sign agreements or sales contracts with aggregators/traders, often with the possibility of renegotiating prices according to the world price. For the 2016/2017 season, one buyer has signed 20 sesame delivery agreements with collectors and small traders. By 2015, 15 agreements had been signed. The condition to deliver to the company was to ensure that the impurity rate did not exceed 3%.

Recent experiences related to sales contracts between unions and buyers related to the results for Custom Indicator 7: Number of contracts between unions and buyers that are fully honored.

Sesame quality

The intent of Custom Indicator 3 (Volume of sesame sold to exporters that is 95% clean as a result of USDA assistance (MT)) and Custom Indicator 4 (Percent of sesame sold to exporters that is 95% clean as a result of USDA assistance) is to measure whether project efforts at all levels, before exporters purchase sesame to improve the purity (level of non-sesame matter), have resulted in higher quality sesame. If they are able to purchase sesame that comes close to the level of purity required by their overseas buyers, the less time and expense they would need to invest in bringing the sesame up to export standards, giving

them a possibly larger profit margin, with all other conditions (such as global sesame prices) remaining constant. Spending less on cleaning is one factor that may allow buyers to pass along savings to sellers (be they farmers or collectors) and offer a higher price.

In consulting some exporters, LWR learned it is difficult for these companies to know the exact source of the sesame. They often purchase with collectors or small traders, who buy and bulk sesame from many places, even often as far as Mali. The representatives of the export companies with whom LWR talked noted a trend that sesame purchased in Boucle du Mouhoun is lower (higher levels of sand) than that purchased in the Est region. According to the exporters, collectors do not necessarily control for purity and some collectors add sand to increase the weight of each sack. In addition to the sand, some collectors mix pure white sesame with variegated sesame, hiding the variegated between a bottom and top layer of white so any inspection on either end of the bag gives the impression it is a bag of white sesame. Most often these cases are only discovered by chance or during cleaning. When sesame is exported under these conditions, it damages the credibility of exporters.

To counteract this practice, some companies do not buy sesame when impurity levels exceed 3%. These companies have a probe to assess the impurity rate before any purchase. All companies consulted clean sesame to some extent before exporting, either in Burkina Faso, or as a result of selling to the international market through an intermediary in a second country, and do not necessarily assess the level of purity of what they buy since they clean it all. In addition to these factors, LWR cannot be certain that exporters keep the kind of records needed to measure these indicators. For instance, one buyer pays the same price, regardless of quality; therefore, it is unlikely they keep records of the purity of the sesame they buy.

For Custom Indicator 3 and Custom Indicator 4 exporters' standards and or record keeping are not conducive to measuring the results of project interventions to improve sesame quality.

Sesame price in relation to quality

A large number of SESAME project interventions seek to increase the revenue that farmers, unions, collectors, and exporters earn from sesame, addressing the issue from many angles. Farmers may earn more from better business planning and increased yields; farmers may earn more from better negotiated prices as they work through unions; unions negotiate higher prices by delivering clean sesame to buyers; exporters expand their global market share by offering what importers want. Thus, the increase in the price traders and exporters pays to producers cannot depend solely on the quality of the sesame. According to the exporters, it depends on the demand and supply of the international market and especially on the regional supply in so far as Burkina is not the only country producing sesame.

At the present global prices, all exporters are prepared to pay a premium for sesame with as little impurity as possible in order to reduce the costs of cleaning that is obliged in order to be able to export. For instance, a buyer is currently ready to add 10 to 20 F CFA per kg if the level of impurity is less than 1%. This company does not buy when the impurity rate is above 3%, and the average current purchase price for this quality of sesame is 500 F CFA. For an impurity level of less than 2%, another estimates its price at 535 F CFA/ Kg, and EBT Trading is ready to buy it at 600 F CFA/ Kg. A third one is even more demanding and does not buy when the impurity rate is above 2%, and the average price they pay for this quality is negotiated at 500 F CFA. These companies recognize, however, that they do not control world prices and this lack of control of the international market may be the main constraint in increasing the price of sesame in Burkina Faso.

These companies most often buy from collectors and small traders, not directly from producers. If prices are to increase, it is at the level of these collectors and traders that the increase will be felt since the

quantities collected by the unions from their members represents only 17% of the total volume of trade. However, by increasing the regional unions' collection capacity and ability to negotiate favorable prices directly with exporters, producers will be drawn to sell with unions if prices are more profitable and thus benefit from increases in prices.

Considering the above factors that affect the price exporters can offer for sesame, decreased levels of impurities is *one* component that can facilitate increasing the price exporters offer. Exporting companies prefer to buy sesame that does not contain too much impurity. Some companies do not buy when the impurity rate is over 3%. On the other hand, companies, according to the exporters themselves, do not take into consideration impurity rates to fix prices. These exporters take more account of price developments in international markets and market demand.
Moreover, all officially non-registered exporters do not look at quality before buying.

In view of the current average price of 455 F CFA (see side bar) and taking into account the projected purchase prices of exporters according to the quality of the sesame (see Table 13 below). To reach below 1% will hardly be possible unless the unions are equipped with high quality blowing machines.

Calculation of average price per kg of sesame (all types) for the 2016/2017 sale period

Month	Average monthly price (FCFA/Kg)
Oct '16	351
Nov '16	397
Dec '16	426
Jan '17	458
Feb '17	537
Mar '17	563
Period average	**455**

Table 13: Proposed purchase price of kg of sesame indicated by some exporters according to sesame quality (F CFA / Kg)

Company Name	Purchase price of kg of sesame according to the impurity rates in CFA francs					
	Inferior to 1%	1 to 2 %	2% to 3%	3% to 4%	4 to 5%	Superior to 5%
Private buyer 1	535	535	525	525	525	495
private buyer 2	520	500	500	NA	NA	NA
Private buyer 3	500	495				
Private buyer 4	600	600	500	450	450	250
Private buyer 5	NA	NA	NA	NA	NA	NA
Average	**545**	**535**	**510**	**490**	**490**	**375**

Source: company records

In calculating targets for Custom Indicator 2 (% increase of price from the previous year per MT sold to trader/exporter as a result of USDA assistance), an increase of 50 to 55 F CFA / Kg is possible if significant work is done to reduce impurity levels to between 1% and 2%.

4. Employment

The proposed indicator definition for Standard Indicator 15 (Number of jobs attributed to USDA assistance) states, "Jobs are those positions paid for through USDA assistance relevant to the sesame value chain that last over one month during the life of the project. Specifically, those are: sesame seed multipliers, input providers, short term farm labor, staff of traders/exporters, and PEAs."

In the project design, LWR had projected being able to affect and count the following types of new jobs. The baseline study included consultation with value chain actors to validate the types of jobs where job growth can be expected during the life of the SESAME project and how the full time equivalent for those jobs can be estimated. The summary of findings from interviews and surveys is as follows:

1. **PEAs** (producer enterprise agents under stipend for the project): this type of job will be counted as planned.
2. **Input vendors** (full or part time jobs to meet increased demand): Input venders, as well input suppliers, did not anticipate the creation of new jobs as a result of project actions. Even with the opening of other input shops to bring their structure closer to the customer base, job creation at this level will be marginal.
3. **Union or exporter employees** (to run sesame cleaning machines): This type of job is measurable, but the number of full time equivalent employees is hard to anticipate.
4. **Trader or exporter employees** (as a result of increased business): Job creation is uncertain as most of these exporters have permanent employees who are involved in marketing and collection. Increasing the quantity of sesame bought will not necessarily result in new job creation. Temporary employment will be created but at a very marginal level (day labor).
5. **Seed producers** (labor to increase seed as a result of increased demand): To some extent, job creation can be expected in this area (and measurable) based on the baseline sampling of sesame farmers who produce seed.
6. **Farm labor** (full or part time labor to increase sesame production): The baseline study examined this most closely, but a good portion does not meet the Food for Progress indicator definition of counting jobs that last over one month.

In order to understand the demand for **farm labor**, and therefore, the potential for growth in hired labor during the life of the project, the baseline study examined a number of questions through the farmer surveys.

Farmer survey respondents who confirmed hiring labor were as follows in Table 14. Most hired additional labor for a few days, followed by employment for a week and then one month. Taking the totals for both regions, 6.6% of the total of 2,715 non-family members employed by the sampled farmers fit the definition of having a job of four or more weeks.

Table 14: Total number of workers employed by producers in the two regions and average length of employment.

Region/Province	Week or less	Month	Year	Total
Est				
Gourma	48	0	1	**49**
Tapoa	170	51	21	**242**
Kompienga	158	23	0	**181**
Total	376	74	22	**472**
Boucle du Mouhoun				
Banwa	625	28	0	**653**
Mouhoun	671	0	0	**671**
Kossi	863	56	0	**919**
Total	2159	84	0	**2243**
Total	**809**	**158**	**22**	**2715**

Respondents did indicate a need for non-family labor, citing tilling, planting, and harvesting as the greatest need (see Table 28 in *Appendix E*). In measuring farm labor, LWR will have to understand which of those jobs, if new during the measurement period, are for a period of a month or more.

The indicator definition related to the types of jobs that will be measured for Standard Indicator 15: Number of jobs attributed to USDA assistance needs to be reviewed to match the definition and be realistic to measure.

VI. Recommendations

Based on the quantitative and qualitative findings of the baseline study, SESAME project managers should consider a number of adjustments to indicator baseline and target figures, numbers used for calculating indicator targets, components of indicator definitions, evaluation questions and program strategies.

Recommendation 1: Lower Year 1 targets for Indicator 16 and Indicator 17 and adjust Year 2-5 targets to achieve the initial Life of Project target.

Recommendation 2: Decide if Life of Project and Year 2-5 targets for Indicator 16 and Indicator 17 need to be adjusted.

During project design, unions reported membership numbers to LWR. However, when the M&E Specialist asked for membership lists, not all unions were able to provide them. LWR assisted these unions in creating member lists by consulting leaders of local farmer groups that are members of higher-level unions. Based on this revised list, the **total number of members in Est and Boucle de Mouhoun is 7,698**, which is much lower than the number of farmers LWR expected to target in Year 1 (13,500 farmers). While LWR expects union membership to grow as the project helps farmers achieve improved production and unions demonstrate the benefits of membership to farmers, **the Year 1 target should be revised for Standard Indicator 16** (Number of individuals who have received short- term agricultural sector productivity or food security training as a result of USDA assistance) and **Standard Indicator 17** (Total number of individuals benefiting directly as a result of USDA assistance).

At the current stage of the project, there is no indication that the Life of Project target is unreasonable. The *registered* membership of the unions in Est and Boucle de Mouhoun was lower than verbally communicated to LWR during the project design phase. LWR noted that there are farmer groups present in communes that do not belong to the existing unions because their low level of organization does not qualify them for union membership. Current Ministry of Agriculture data shows that there are over 84,000 sesame farmers in the targeted provinces in Est and Boucle de Mouhoun[2]. Also, there are likely farmers involved in some sesame production in these regions who are not members of groups or unions but whose interest in the project will be piqued and will join the unions to participate in the project.

Project management needs to **determine how to still achieve the Life of Project target, and how the annual targets for Years 2-5 will change to achieve the Life of Project targe**t, whether it is adjusted or remains the same.

[2] Verbal communication from agricultural statistics team of the Agriculture Ministry staff, citing data from the 2016 growing season, collected through the *Enquête Permanente Agricole*.

Recommendation 3: Correct targets for Years 1-5 for Indicator 13.

For Standard Indicator 13 (Value of sales by project beneficiaries), a correction needs to be made to the targets. In addition to updating the baseline according to the results of this study, the calculation for the targets used the volume of commodities (MT) sold by project beneficiaries (Standard Indicator 14) multiplied by the price of sesame in F CFA/ Kg instead of price in US dollars per metric ton. Therefore the **targets for Years 1-5 will have to be adjusted, possibly changed due to the baseline value and calculated with the price per ton (using an exchange rate of $1 = F CFA 600).**

Recommendation 4: Adjust definition of jobs and targets for Indicator 15.

Current targets for Standard Indicator 15 (Number of jobs attributed to USDA assistance) need to be re-evaluated and likely lowered. The USDA indicator definition emphasizes measuring jobs that are "attributed to USDA assistance…where USDA investments were intentional in assisting in any way to expand (or contract) jobs and where a program objective of the USDA investment was job creation." The only intentional job creation strategy is the hiring and use of PEAs as a means to improve the agricultural extension services sesame farmers receive. By increasing the production, sales, and export of sesame, there may be new job creation with other sesame actors, but LWR is not seeking deliberately to do so. In addition, stakeholders stated that they do not necessarily anticipate creating new jobs as a result of improved sesame production, processing, and trade. **LWR should seek to measure job creation but reduce targets significantly to capture PEA employment, some farm-level employment, and new jobs among other value chain actors.**

Recommendation 5: Adjust PMP indicator definition for Standard Indicator 2.

Due to the high level of farmers already practicing some improved sesame cultivation techniques, the individuals who should be counted toward the measurement of this indicator should be changed from one to three and the initial part of the **indicator definition should read as follows: "Individuals are sesame farmers targeted by PEAs who apply *three* or more improved sesame cultivation techniques."**

Recommendation 6: Change Custom Indicator 3 and Custom Indicator 4.

After consulting with exporters during the baseline study, it became clear that the current indicators will not adequately measure the results of multiple project interventions to improve the quality of sesame before it is purchased by exporters. Some exporters do not accept sesame that has a certain amount of impurity while others may not measure levels of impurity at all. Exporters may not keep documentation of the quality of sesame they are buying, and it is not within the scope of the SESAME project to ensure such documentation exists. Therefore, the recommendation is to **change the indicators to measure cleanliness at the provincial union level** since the project has activities directed at the union and producer levels that include promoting improved sesame quality. The proposed changes to the two indicators are:

Custom indicator 3: Volume of sesame sold ~~to exporters~~ **by targeted unions** that is 95% clean as a result of USDA assistance (MT)

Custom indicator 4: Percent of sesame sold ~~to exporters~~ **by targeted unions** that is 95% clean as a result of USDA assistance

Recommendation 7: Add evaluation questions to those included in the Evaluation Plan.

Additional evaluation questions beyond what has been outlined in the Evaluation Plan should include:

- The place of sesame in farmers' livelihoods - to what extent have the perceptions of producers changed by the end of the project (with an expectation that sesame is more important than the baseline).
- The role of women and men in the marketing of sesame – in what way have producers' perceptions of each member's position in the management of household resources evolved?
- To what extent the project helped to meet producers' specific needs and what impact this response has had on improving the quality and quantity of sesame produced?

Recommendation 8: During coordination efforts with other stakeholders, pay close attention to efforts of partners and government departments working on SESAME.

Close coordination with other initiatives is critical for the SESAME project's success and to avoid duplication of effort. ~~For instance, a project has similar activities to the SESAME project in Boucle du Mouhoun, including activities related to capacity building.~~ Various government departments are drawing up more specific plans related to the sesame sector. The SESAME project should accompany the operationalization of this specification because its application will undoubtedly contribute to the achievement of the objectives of the project.

Recommendation 9: Consider having activities that support local sesame processing by women's groups.

The local processing of sesame is not sufficiently developed and could be a niche for job creation, especially for women. **The project could include in its activities support to women's groups for the local processing of sesame.** The development of this link will be another added value of the project. In order to add this set of activities, LWR should conduct a special study to better understand domestic sesame processing (number of actors in the targeted geographies, quantity of sesame processed, challenges faced related to sesame processing, market demand, etc.)

Recommendation 10: Develop interventions that facilitate access to equipment and other inputs.

Recommendation 11: Refine interventions with women to increase access to agricultural inputs and equipment to lower the discrepancy between income from sesame for men and women.

The main constraints raised by producers to increase the quantity of sesame produced are related to access to inputs, agricultural equipment, the volatility of the price of sesame and the lack of capital of union members which prevents them from purchasing the sesame seeds. **The project should include flexible mechanisms to facilitate access to agricultural equipment as well as credit and agricultural inputs.**

The income earned by women is significantly lower than the income earned by men. One reason is that men farm sesame on larger areas than women, yet the project should work not to accentuate gender inequalities as a result of its activities. Because it is not likely that women can significantly expand the areas under sesame cultivation, **the SESAME project can have more of an impact on increasing women's income from sesame by supporting access to agricultural inputs and equipment**.

Recommendation 12: Continue to emphasize investment in clean/high quality sesame, though recognizing it is not the sole driver for higher sesame prices.

The project should maintain the strategy to help increase producers' incomes by improving the quality of sesame, reflected in how clean it is when delivered to buyers. Exporters currently incur cost to clean sesame before exporting it and may be able to pay an additional 50 to 55 F CFA/ Kg to buy sesame with less than 1% impurity (if market prices remain favorable). Therefore, the **project activity aimed at supporting provincial unions to access financing to buy blowers to clean their members' sesame** is definitely needed. Exporting high quality sesame will also enable the Burkinabe sesame sector to maintain and gain shares in the global market as Burkina Faso's sesame better meets buyers' demand.

LWR's project design takes into consideration, however, that the **unit price of sesame or farmers' income from sesame is not solely dependent on quality.** Helping farmers acquire farm business skills and improving collective marketing will help improve farmers' incomes. Supporting better coordination between sesame actors and improving quality can lead to efficiencies and higher returns that then drive higher sesame prices. However, global market demand and prices are the ultimate driver of what exporters offer, and the SESAME project targets for price increase may be affected by external factors beyond the control of any of the project stakeholders.

Recommendation 13: Develop mitigation measures to help producers manage weather hazards.

The 2016/2017 growing season and harvest was affected by both periods of dryness and flooding. Producers identified weather hazards as a major constraint to their sesame production. **LWR can consider interventions that assist producers in dealing with these stressors.**

VII. Next Steps

In order to make use of the baseline study to adjust project targets, beneficiary targeting, indicator definitions, and/or strategies to mitigate threats, LWR will engage in three exercises:

Management response: LWR SESAME senior managers will process the findings of the report in order to:

1. Accept or reject the recommendations (with justifications for any rejections).
2. Make decisions about the need to alter any indicator targets (annual and/or life of project) in light of the findings.
3. Consider any other programmatic changes.

Date: Completed by June 30, 2017

Monitoring and Evaluation Systems Development Workshop: LWR's M&E staff and program staff responsible for the implementation and monitoring of activities will review indicator definitions, measurement frequency, targets and other elements of the PMP to ensure all indicators are measurable and targets are realistic. The participants will also develop data collection tools. The purpose of this workshop is described in more detail in the Evaluation Plan.
Date: June 8-12, 2017

Update the Evaluation Plan: LWR's M&S Specialist will update the project Evaluation Plan to incorporate adjustments made as a result of the management response and M&E workshop.
Date: By June 30, 2017

VIII. Annexes

1. Annex A: Terms of Reference: Baseline Study

USDA Food for Progress: SESAME Project
December 23, 2016

1. BACKGROUND

The Sesame Marketing and Exports (SESAME) project, a 5 year, 24 million dollar project funded by USDA's Food for Progress program, will assist more than 500,000 people directly and indirectly by working with farmers, agricultural cooperatives, buyers, exporters, financial institutions and government bodies to increase their capacity to meet sesame export quality standards, access lucrative markets and improve buyer-seller relationships. The project will focus on sesame production in the regions of Est, Boucle du Mouhoun, Hauts Bassins, and Cascades in Burkina Faso.

The SESAME project in Burkina Faso will:

- Support local sesame processors at an industrial or semi-industrial scale;
- Improve the quality and traceability of local sesame to meet standards of export markets.

To achieve these results, LWR will conduct seven agricultural development activities, in coordination with the private sector, the Ministry of Agriculture and the Ministry of Industry and Commerce. These activities include:

Activity 1: Market Access: Facilitate buyer-seller relationships
Activity 2: Capacity Building: Producer groups/cooperatives
Activity 3: Market Access: Facilitate access to market information
Activity 4: Financial Services: Facilitate agricultural lending
Activity 5: Capacity Building: Promote improved policy and regulatory framework
Activity 6: Infrastructure: Post-harvest handling and storage
Activity 7: Capacity Building: Agriculture extension agents/services

LWR conducted a baseline study to establish a point of reference at the beginning of the project that will allow LWR to objectively measure the impact of the interventions. This Terms of Reference defines the scope of the study as well as the methodology to collect and analyze baseline information.

2. BASELINE STUDY OBJECTIVES

2.2. Purpose

The purpose of the SESAME baseline study was to document starting conditions relevant to the changes LWR expects to bring about through the project in order to be able to objectively measure impact.

2.3. Objectives

The objectives of the baseline study are to:

1. Establish the baseline measures for selected project indicators.
2. Confirm/adjust calculations and assumptions used to calculate annual targets for project indicators.
3. Understand the basic situation to refine the implementation strategy of certain activities as well as identify potential threats to achieving project outcomes.
4. Understand additional conditions at the beginning of the project that will allow LWR to assess the impact of the project after five years.
5. Provide recommendations on how to adjust project targets, beneficiary targeting, indicator definitions, and/or strategies to mitigate threats.

2.4. Expected Results

The expected results in terms of each of the objectives are as follows:

Measure the baseline for the following indicators:

- Standard indicator 13: Value of sales [of sesame] by project beneficiaries
  The baseline measure for this indicator will be calculated by combining the value of the sales of the 2015/2016 sesame season sold collectively by unions (to be targeted in Year 1) and the sales made directly by farmers to buyers at their farms (a representative sample of Year 1 targeted farmers).

- Custom indicator 9: % of farmer sales through unions as a result of USDA assistance
  The baseline measure for this indicator will be calculated from the measure for Standard Indicator 13 by dividing the value of collective sales through unions by the sum of farm-gate and union sales.

- Standard indicator 14: Volume of commodities [sesame] (MT) sold by project beneficiaries
  The baseline measure for this indicator will be calculated by combining the volume of the sales of the 2015/2016 sesame season sold collectively by unions (to be targeted in Year 1) and the sales made directly by farmers to buyers at their farms (a representative sample of Year 1 targeted farmers).

Confirm calculations and assumptions used to set annual targets for the following indicators:

- Indicator 1: Number of hectares of land under improved techniques or technologies as a result of USDA assistance
  An average of 2 hectares of sesame per farm was used to calculate annual targets for this indicator. The baseline will determine to what extent this average is accurate with targeted farmers. In addition, the baseline will measure to what extent farmers already practice improved sesame production techniques that will be promoted in the project[3].

- Standard indicator 15: Number of jobs attributed to USDA assistance
  The baseline will validate the types of jobs identified in the indicator definition that are likely to be created as well as the calculations used to set the targets (see project PMP). It will also determine measurability of the job growth for each type of job.

- Custom indicator 2: % increase of price from the previous year per MT sold to trader/exporter as a result of USDA assistance
  The baseline will confirm or adjust the annual targets. Buyers/exporters will be consulted to estimate the increases in sesame prices due to improved quality.

Understand general baseline conditions:

- Custom indicator 3: Volume of sesame sold to exporters that is 95% clean as a result of USDA assistance (MT) and Custom indicator 4: Percent of sesame sold to exporters that is 95% clean as a result of USDA assistance
  Through the baseline survey, LWR will come to understand issues related to ensuring quality of sesame that is delivered to exporters (how clean it is) and major sources of foreign material (e.g. sand deliberately added to increase weight, lack of proper processing, etc.). LWR will also be

[3] LWR defined "improved techniques" as use of improved seeds, application of fertilizer, practice of crop rotation, development of wind-breaks, adequate date of seeding, soil tillage, soil water conservation, thinning of seedlings, and weeding.

able to estimate the volume of quality sesame (measured by 5% or less of sand and other impurities in the volume) delivered to exporters from the 2015/2016 marketing season (if exporters do not have accurate records, the baseline measure may be their estimate. The report will note the nature of the baseline data (actuals or estimates).

- Standard indicator 11: Total increase in installed storage capacity (dry or cold storage) as a result of USDA assistance
  The baseline will assess the size, condition, ownership, and management of existing sesame dry storage to inform the intention to build or renovate one warehouse per targeted province. It will also assess any plans to build or renovate sesame storage by other initiatives to avoid duplication and ensure coordination.

- Custom indicator 7: Number of contracts between unions and buyers that are fully honored
  The baseline will determine how many, if any, contracts between unions and buyers have been put in place in the past, and if there have, the results of those agreements (conditions honored or not). The survey will also collect any information on reasons for non-compliance.

Establish initial conditions to help measure the likely impact of the project[4]:

- The main needs of sesame farmers that affect the quantity and quality of sesame grown.
- The constraints traders and exporters face in increasing the price offered to farmers as a function of the quantity or quality of sesame delivered.
- Average income from sesame production for farmers.
- An understanding of the roles of men and women (adults and youth) in the production and marketing of sesame at the household level.
- A qualitative understanding of the perspectives farmers have on how sesame production affects their livelihoods.
- Farmers' perspectives on the importance of sesame farming in their livelihood strategies in the medium term (by the end of the project).

Note: There are additional components that LWR uses to understand the baseline conditions but that are not part of the baseline study. The following will be documented elsewhere:

- Sub-recipient Cultivating New Frontiers in Agriculture will conduct a study during Year 1 to understand the starting situation of the regulatory environment related to sesame production under Activity 5[5]. The findings of the study and the subsequent changes in the regulatory environment will allow LWR to assess the relevance[6] of the interventions under this activity.

[4] The evaluation questions related to impact will include :
- What are the key impacts of the project for the targeted organizations and farmers?
- In what way did the project contribute to improvements in quality and quantity of sesame exports?

[5] Activity 5: Capacity Building: Promote improved policy and regulatory framework. LWR will provide technical assistance to the Government of Burkina Faso to strengthen their understanding of international import requirements. LWR will identify best practices of the various market actors in the value chain, the marketing channels that link them together, and the distribution of product flows. LWR ensure that advocacy on improved regulatory policy is continuously discussed through the *interprofession*.

[6] The evaluation questions related to relevance will include :
- To what extent do SESAME activities meet the needs of SESAME beneficiaries?
- How is SESAME aligned with the country's agriculture and/or development investment strategy and with the Foreign Agriculture Service and US Government's development goals, objectives and strategies?
- How is SESAME aligned with other relevant initiatives?

- The study on the regulatory environment and subsequent stakeholder consultations will inform any adjustments needed to the indicator definition and targets related to Standard indicator 12: *Number of policies, regulations and/or administrative procedures in each of the following stages of development as a result of USDA assistance*. Any needed changes will be noted in the PMP and communicated with USDA.
- To understand the baseline conditions related to the capacities of the targeted unions and any need for capacity strengthening, LWR will conduct an assessment as part of Activity 2[7]. The findings will both inform how the capacity strengthening activities will be refined and provide a baseline against which changes can be measured at the end of the project.

3. USE OF BASELINE STUDY

The primary audience of the baseline study is the SESAME project managers (LWR and sub-recipients) who will use the findings to make decisions related to any adjustments to indicator targets and incorporate any other contextual issues that may affect activity design or risk management. As the baseline study results will be available at the beginning of project activities, LWR will communicate to Burkinabe institutions, primarily those that will be directly involved in the project implementation (government, private sector, sesame farmers' unions, etc.), the objectives and anticipated results of the project inclusive of the findings of the baseline study. USDA will provide comments and inputs on the study and react to LWR's recommended changes resulting from the study.

4. METHODOLOGY

The methodology will include the collection of quantitative and qualitative data from primary sources, including farmers, union leaders and staff, managers of private sector (input providers, buyers, exporters), and government staff. For farmer-level data, LWR will gather data using surveys and focus groups. For the remaining data sources, LWR will use key informant interviews. When available, documents such as recent government-level statistics or business records will be reviewed to triangulate other information collected.

4.1. Characteristics of the data sources for the study

The baseline study will be built off of three sources of information:

- **Sesame farmers** who are members of unions in the Est and Boucle de Mouhoun regions;
- S**esame buyers** that have a presence in the target regions and **exporters** in Ouaga;
- **Key informants**, including leaders from the two regional unions (Est and Boucle de Mouhoun) and the six targeted provincial unions, regional and provincial level technical staff from government ministries, NGOs, and other project leads that work on the sesame value chain in Burkina Faso.

4.2. Sampling methodology for individual farmers

For farm and farmer-level measures, LWR will sample villages covered by the provincial unions in Est and Boucle de Mouhoun[8], the region where LWR will initiate extension services in Year 1, and use union member lists from those provinces. Respondents will be selected using a **two-stage cluster design**. In the first stage, clusters (villages) are randomly selected using probability proportional to size based on the total number of targeted farmers (current cooperative members) within each cluster. In each selected

[7] Activity 2: Capacity Building. Producer Groups/Cooperatives. LWR will form new cooperatives and unions in areas where they do not exist and strengthen existing ones in the target areas through strategic partnerships, member-focused interventions, and participatory planning. LWR will conduct needs assessments of producer groups and cooperatives to develop market-focused trainings.

[8] The baseline measures for farm/farmer level indicators will be done in the Year 1 intervention areas, which are the provinces of Gourma, Kompienga, and Tapoa in Est region and Banwa, Kossi, and Mouhoun in the Boucle de Mouhoun region.

cluster, a predetermined number of PSUs will be selected using simple random sampling. The number of clusters and PSUs selected will be determined by the geographical spread of clusters. LWR will minimize a large design effect by balancing the number of clusters (villages) and PSUs sampled, and if needed, by increasing the number of clusters and decreasing the number of PSUs to meet the calculated sample size. For union-level measures, LWR will use a census sample of all active/existing provincial unions (none exist at the time of the beginning of the project in the region of Hauts-Bassins).

4.3 Composition of the focus groups

LWR will organize focus groups to understand perceptions of sesame farmers on challenges and opportunities related to sesame production. LWR will convene four focus groups: adult men and women aged 31 and over, and young men and women aged 30 and under. Four villages will be chosen randomly from all the villages in the study sample, and one focus group will be convened in each of those villages. Eight to twelve participants for each group will be chosen randomly from the sample of producers that are interviewed individually for the project.

4.4 Initial list of sesame buyers and exporters to be interviewed.

List hidden due to Personally Identifiable Information

4.5 Initial list of institutional key informants

Government structures

List hidden due to Personally Identifiable Information

Unions

List hidden due to Personally Identifiable Information

Donors of sesame projects

List hidden due to Personally Identifiable Information

4.6 Data collection tools

Data collection tools will be developed, translated, and finalized after field testing per the information needed and data sources, as summarized below:

Data source	Tool	Data/information needed	Type of data
Sesame farmers (men, women, adults and youth)	Questionnaire	-Area of sesame farming -Sesame production practices -Yields and sales (quantity and price) -Seasonal labor used -Income gained from sesame production -Roles of men/women, adults/youth at the farm level for the production and marketing of sesame	Quantitative
Groups of farmers: adult men, male youth, adult women, female youth (max. 12 people per group)	Focus group	-Specific needs that affect the quantity and quality of sesame produced -Role of sesame in farmers' livelihood strategies (current and potential)	Qualitative
Key informants from provincial unions (e.g. board chairpersons, union managers, marketing committee chairpersons)	Questionnaire	-Sesame from members (quantity and price paid) -Quantity of sesame sold -Main buyers and prices offered -Sales contracts (existence, problems faced in managing them) -Existence, condition, management of warehousing -Type of employment available at the union level	Quantitative
Key informants from provincial and regional level government agencies involved in agriculture and economic development	Semi-structured interview	-State of sesame warehousing (current or planned) -Other planned projects related to sesame (storage or cleaning infrastructure, technical assistance, financing, etc.)	Qualitative and quantitative
~~PDA/GTZ~~ ~~JICA~~	Semi-structured interview	-State of sesame warehousing (current or planned) -Other planned projects related to sesame (storage or cleaning infrastructure, technical assistance, financing, etc.)	Qualitative and quantitative

Key informants from buyers/exporters	Semi-structured interview [possibly a group interview if accessing information through any trade association.]	-Warehousing infrastructure (existing or planned) -Cleaning equipment (existing or planned) -Main constraints related to ability to offer higher prices for quality sesame and needed conditions in order to raise prices -Estimate of future price increases for quality sesame -Quantity of clean sesame (>95% clean) bought and quantity of less clean sesame (<95%) -Types of employment available with buyers/exporters -Sales contracts (existence, problems faced in managing them)	Qualitative and quantitative

4.7 Data analysis

LWR will create a data collection form in Excel for the farmer questionnaire. Each enumerator will enter the responses in Excel every evening. The supervisors will verify that the data are collected accurately – s/he will check most of the data collected in the first few days, then a sample of data every day thereafter. The M&E Specialist will also spot check the accuracy of data collected. S/he will then tabulate and analyze the data. If needed, data can be imported into SPSS should more robust analyses (beyond totals and averages) be needed.

For qualitative data collected through focus groups and the interviews with union officials, supervisors will collect and document responses directly on paper forms. The M&E Specialist will compile and analyses those responses. The M&E Specialist and the LWR Country Director will conduct the interviews with other key informants and record responses on paper forms. The M&E Specialist will also compile those responses.

As needed, secondary sources from national statistics or government strategies will serve as sources to triangulate findings such as export volumes, or the proportion of farmers that are male and female and their age groups.

4.8 Deliverables

The baseline study will produce:

a. An inception report, in French that includes the following sections:
    - Sampling frame for achieving a representative sample (location, size of sample with supporting calculations, m/f breakdown, etc.)
    - Data analysis plan for qualitative and quantitative data, specifying analyses such as type of calculations necessary, cross tabulations, data disaggregation, etc.
    - Detailed work plan including enumerator training, data collection days per team, analysis, and report writing

- Logistics support required (to be discussed with project team)
- Revised budget (as agreed with the project team)

b. First draft of data collection tools (household surveys, key informant semi-structured interview questionnaire, and focus group guide), which are then refined after field testing
c. Database of raw, cleaned quantitative data (Excel) and raw typed qualitative data (Word)
d. Draft, then final baseline study report (25 pages maximum, excluding annexes), written in English, with the following sections:
    - Executive summary
    - Purpose of the baseline study
    - Sampling methodology
    - Findings and analysis
        - Baseline figures for relevant indicators (disaggregated by sex, where applicable)
        - Confirmation or adjustments to assumptions and calculations for setting targets
        - Other details that may affect project implementation (e.g. differences by sex or geography)
    - Questions and recommendations to be considered for the ongoing measurement of the indicators on which the baseline study focused.
    - Recommendations, including (as relevant):
        - Adjustments to implementation strategy/activities
        - Adjustments of evaluation questions
    - Annexes:
        - Baseline terms of reference
        - Final version of data collection tools, including household surveys, key informant semi-structured interview questionnaire, and focus group guide.
        - Tabulated raw data: table of variables, baseline figures by sex, confidence levels/margins of error as appropriate, and details of note that may inform project implementation (such as geographic or gender differences in findings)
        - Bibliography
        - List of persons consulted.
e. Updated Evaluation Plan, indicating the baseline sampling methodology with sample size calculations.
f. Verbal presentation of the findings with accompanying visual aids (e.g. PowerPoint slide deck)

5 BASELINE STUDY LOGISTICS

1.1 Timeline of baseline study activities

Activity	2016			2017		
	O	N	D	J	F	M
Stage I: Prepare Terms of Reference (LWR will conduct study)						
Draft TOR		■				
Submit to USDA for review		■				
Finalize TOR			■			
Stage II: Desk Research						
Review existing documentation (past evaluation reports, government demographic and agricultural data, etc.)		■	■			
Stage III: Preparation of Field Research Tools						
Sampling method established		■	■			
Field visit itinerary developed			■			
Field visit logistics finalized			■			
Meetings/interviews scheduled			■			
Quantitative and qualitative tools completed			■			
Inception plan completed			■			
Translate data collection tools (English to French and/or to local language)			■			
Local consultants/enumerators identified and contracted			■			
Stage IV: Field Research Data Collection						
Local consultants/enumerators trained			■			
Quantitative and qualitative tools tested and updated				■		
Respondents selected per sampling method				■		
Data sets gathered				■		
Stage V: Data Analysis and Report Preparation						
Draft report to USDA				■		
Incorporate comments and submit final report to USDA, with copy to Burkina Faso USAID mission					■	
Update Evaluation Plan and PMP based on report findings					■	

1.2 Roles and responsibilities

Management team

M&E Specialist (SESAME project staff)

Mr. Karfo will lead the baseline study and oversee the management team. He is responsible for recruiting and training qualified enumerators and field supervisors; creating, testing, and finalizing data collection tools; coordinating the logistics for field work; ensuring data quality; data analysis; report compilation (in French).

LWR Burkina Faso Country Director

will assist in interviewing key informants and review the terms of reference, data collection tools, and versions of the baseline study report.

Deputy Regional Director for Operations

will contribute to the development of the terms of reference and data collection tools, coordinate input from the Short-Term Technical Advisor on sampling methodology, assist with French to English translation, and liaise between the project team and USDA.

SESAME Project Chief of Party

will provide overall support to project M&E-and the study process and will review the draft and final reports.

Regional Technical Advisor for M&E in West Africa

will participate in the review of the draft and final reports.

Technical Assistance

Through a prior bidding process, LWR engaged Ipsos Public Affairs to provide short-term consulting on the sampling methodology (including calculation of sample size) for the farmers. The two-person technical team will work in collaboration with project team to provide guidance and critique of the sampling methodology. Their technical support will be provided remotely through written correspondence and teleconference work sessions.

Data collection team

Most data will be collected by a team of enumerators, overseen by supervisors. The enumerators will collect data from individual farmers, and in addition to supervising that process, the supervisors will facilitate focus groups and interview union key informants.

Enumerators will have a minimum of a *Diplôme d'études universitaires générales* degree in social sciences (similar to a US associate's degree) or equivalent. In addition, s/he will have:

- Minimum of 3 years' experience in quantitative and qualitative data collection (5 years for those who do not have the degree)
- Fluency in written and spoken French, and fluency in at least one of the main languages spoken in Est and Boucle de Mouhoun
- Availability of a laptop computer with Excel for data entry

Supervisors must have the following qualifications:

- University degree in social sciences
- At least 5 years' experience supervising data collection of a similar scope to the LWR baseline study
- Demonstrated knowledge of primary data collection (qualitative and quantitative), especially interviews
- Fluency in written and spoken French, and fluency in at least one of the main languages spoken in Est and Boucle de Mouhoun
- Availability of a laptop computer with Excel and Word for data entry

~~2.~~ Annex B: List of persons consulted.

Est Region

Family Name	First Name	Role/Organization	Telephone

Boucle du Mouhoun Region

Family Name	First Name	Role/Organization	Telephone

Exporters

Family Name	First Name	Role/ Company	Telephone

National Government Agencies

Last Name	First Name	Role/Agency	Telephone

~~3.~~ Annex C: Bibliography

The following secondary sources helped shape the research approach for the baseline study.

Gildemacher, Peter, et al. 2015. *Sesame Sector Development: Lessons Learned in Burkina Faso and Mali*. Common Fund for Commodities, Royal Tropical Institute, Helvetas, International Fertilizer Development Center.

Traoré, Félicité. 2012. *Rapport de Pré Diagnostic des Filières Bétail-Viande et Sésame*. ONUDI, IFAD, FAO.

Ministère de l'agriculture. 2013. *Situation de Reference des Principales Filières Agricoles au Burkina Faso*.

RONGEAD. 2013. Le Sésame au Burkina Faso - Etat des Lieux : Production et Semence.

4. Annex D: Data collection tools

Questionnaire adressé aux producteurs

Numéro du questionnaire /_____/_____/

CONSENTEMENT APRÈS INFORMATION

Bonjour. Mon nom est_____, et je travaille pour l'ONG LWR. Nous conduisons une étude et apprécierons ta participation. Les échanges que nous allons avoir porteront sur sésame. Cette information va aider LWR à planifier les services adaptés à la filière sésame. Cet échange dure environ 30 à 45 minutes. L'information que tu vas partager avec nous sera gardée strictement confidentielle.

La participation à cette étude est volontaire et tu peux choisir de ne pas répondre à certaines questions ou toutes les questions. Cependant, nous espérons que tu participeras dans cette étude puisque ton point de vue est important.

Est-ce que vous souhaiterez avoir d'autres clarifications sur l'étude ?

RÉPONDANT EST D'ACCORD POUR ÊTRE INTERVIEWÉ.....1

RÉPONDANT N''EST PAS D'ACCORD POUR ÊTRE INTERVIEWÉ 2

IDENTIFICATION	
REGION	Est ..... 1 Boucle du Mouhoum…….2 Code |_____|
Province	Banwa……..……1 Gourma.....4 Mouhoun…..…….2 Tapoa ..... 5 Kossi…..……3 Konmpienga .....6 Code |_____|
COMMUNE	
VILLAGE	
Nom et prénoms du producteur	
Reference CNIB/Tel	

Date de l'enquête	Ecrire en format : JJ-MM-AAAA	|__|__| |__|__| |__|__|__|__|
Heure du début de l'enquête :	Format 24h	|__|__|H |__|__|
Heure de fin de l'enquête :	Format 24h	|__|__|H |__|__|
Nom et prénom de l'enquêteur/enquêtrice	Ecrire nom complet	

Signature de l'enquêteur/enquêtrice	
Nom et prénoms du superviseur	Visa du superviseur

A. INFORMATIONS SUR LE PRODUCTEUR				
N°	Question	Code		Réponse
A1	Statut du producteur	1. Producteur de sésame 2. Producteur semencier de sesame	3. Producteur semencier et producteur de sésame	|____|
A2	Sexe	1. Masculin 2. Féminin		|____|
A3	Age	Inscrire l'âge dans les cases. Un chiffre par case		|____|___|
A.4	Niveau d'instruction	1. Primaire 2. Secondaire 3. Supérieure 4. Alphabétisé 5. Coranique 6. Aucun 7. Autre A preciser		|____|
A.5	Etes-vous chef de ménage.	1. Oui 2. Non		|____|
A.6	Avez-vous d'autres personnes de votre ménage qui sont membres de groupement de producteurs de sésame dans le village	1. Oui 2. Non		
A.6.1	Quelles autre personnes	1. père/ mère 2. enfant 3. époux 4. épouse 5. cousin 6. oncle/tante 7. autre a preciser		|____| |____| |____| |____| |____|
A.6.2	Est-ce que les groupements auxquels appartiennent les autres personnes du ménage sont aussi membres de l'Union des producteurs de sésame	1. oui 2. non		|____|
A.6.3	S'ils ne sont pas membres de l'inion quelles sont les raisons			
A7	Equipement de labour/sarclage	1. Charrue 2. Houe manga 3. Tracteur	4. autres a spécifier_____	|____| |____| |____|
A8	Equipement de transport	1. charrette 2. Tricycle	3. autres a préciser	|____|

				|_____| |_____|
A.9	Equipement de post récolte	1. souffleuse 2. tamis 3. Autre	A preciser_____	|_____| |_____|
A10	Infrastructure de conservation/stockage	1. oui 2. non	Si non passer a B	|_____|
A.11	L'infrastructure/equipement/materiel est – elle utilisée uniquement pour le stockage du sésame ?	1. oui 2. non		|_____|
A12	Nature et nombre des infrastructures/equipement/materiel de conservation/stockage	Indiquer l'infrastructure/équipement/matériel ici		|_____| |_____|
A13	Quelle est la capacité de stockage de chaque type	Indiquer l'infrastructure ici et sa capacité dans la case correspondante(en tonne)		|__|__|__|__|__|

N°	B. SUPERFICIE ET PRODUCTION			
	Question	Code		Reponse
B.1	Type de culture	1. en pure 2. en association 3. en pure et en association	Si 2 passer a B3 Si 1 passer a B2	|____|
B2	Superficie (Ha)	La superficie sera levée a l'aide d'un GPS et indiquer en ha		|__|__|__|__|
B.3	Comment appréciez-vous la disponibilité de la terre si vous voulez accroitre votre superficie pour le sésame	1. faible 2. moyen 3. élevé		|___|
B.4	Production	La production concerne la production en pure et en association. Cette production est pesée et convertie en tonne		|_____|
B.5	Avez-vous des besoins spécifiques pour augmenter la quantité et la qualité du sésame que vous produisez	1. oui 2. non	Si oui repondez à B.6	
B.6	Quels sont vos besoins spécifiques pour augmenter la quantité et la qualité du sésame produit	Lister ici les besoins		

N°	C. COMMERCIALISATION DE LA PRODUCTION			
	Question	Code		réponse
C.1	Auprès de qui vendez-vous votre sésame	1. Union 2. Collecteur 3. Marche du village	4. Autres A préciser_____	|_____| |_____| |_____| |_____|

c.1.1	Vendez-vous vous-même votre sésame ou quelqu'un d'autre de votre ménage est-il chargé de cette activité	1. Moi-même 2. Quelqu'un d'autre	Si réponse 2 Repondez à C.1.2	|_____|
C.1.2	Si ce n'est pas vous-même, qui est chargé de la vente de votre sésame dans le ménage	I1. Epoux 2.épouse 3. fils 4. fille	Autre A préciser_____	|_____|
C.1.3	Pendant quelles périodes avez-vous vendu votre sésame	indiquer la période de vente ici		
C.1.4	Quelle quantité avez-vous vendu à chaque période et au près de qui	Période / Quantité / prix / acheteur		
C.2	Quantité totale vendu(tonne) (calcul fait par l'enquêteur)	La quantité est indiquée en tonne. Le producteur donne son unite de mesure. Cette unité est pesée et multipliée par le nombre d'unités vendues		|_____|
C.3	Prix moyen de vente du sesame(F CFA/kg) (calcul fait par l'enquêteur)	Le prix moyen est indiqué pour l'unité de mesure du producteur. Cette unité est convertie en Kg pour estimer le prix correspondant		|_____|

N°	D. PRATIQUES AGRICOLES			
	Question	Code		Réponse
D.1	Labour	1. Oui 2. non		|_____|
D.2	Semis	1. ligne 2. vole		|_____|
D.3	Utilisation de la semence améliorée	1. oui 2. non	si non passer à D.3.2	|____|
D.3.1	Nom de la variété utilisée	1. S42 2. Cross n°3 3. La 32-14 4. La Genaev 5. La S38-1-7 6. Autre A preciser		|____|
D.3.2	Date de semis	Sans précision, indiquer seulement le mois ou les mois		|_|_|/|_|_|/|_|_| |_|_|/|_|_|/|_|_|
D.4	Utilisation de l'engrais minéral	1. Oui 2. Non	Si non passer a D.6	|_____|
D.5	Quantité d'engrais utilise	La quantité est indiquée dans l'unité de mesure du producteur et estimée en kg par l'enquêteur		

D.6	Utilisation de la fumure organique	1. Oui 2. Non	Si non passer a D8	|____|
D.7	Quantité de fumure organique	La quantité est indiquée dans l'unité de mesure du producteur et estimée en kg par l'enquêteur		
D.8	Traitement phytosanitaire	1. Oui 2. Non		|_____|
D.9	Sarclage	1. Oui 2. Non		|_____|
D.10	Utilisation des techniques de CES/DRS	1. cordons pierreux 2. demi-lune 3. agroforesterie 4. brise vent	5. zai 6. paillage 7. autres a preciser_____	|_____|
D.11	Pratique de la rotation	1. Oui 2. Non		|_____|_____|

N°	E. EMPLOIS CREES			
	Question	Code		reponse
E.1	Avez-vous employé des ouvriers	1. Oui 2. Non	Si non passez a E.6	
E.2	Pour quel travail avez-vous employé des ouvriers ?	1. Labour 2. semis 3. sarclage 4. traitement phyto	5. récolte 6. transport 7. battage 8. triage 9. autre a préciser_____	|_____| |_____| |____|
E.3	Quelle est la durée moyenne d'emploi des	1. semaine 2. mois	3. 1 an 4. Autres A préciser	|_____|
E.4	Combien d'ouvriers avez-vous employés			|_____|
E.5	A combien en moyenne payez vous vos ouvriers	Jour |_|_|_|_|_|_|_|_|_|_| Semaine|_|_|_|_|_|_|_|_|_|_| Mois |_|_|_|_|_|_|_|_|_|_| Autre | _|_|_|_|_|_|_|_|_|_|		
E.6	Si vous n'avez pas employé des ouvriers, avez-vous quand même besoin d'ouvrier pour votre travail	1. Oui 2. Non		|_____|
E.7	Pour quel poste de travail avez besoin d'ouvrier ?	1. Labour 2. semis 3. sarclage 4. traitement phyto	5. récolte 6. transport 7. battage 8. triage 9. autre a préciser	|___|

	F. REVENU ISSU DU SESAME			
F.1		Quantité	Cout	
	Semence(kg)	| | | | | |_|_	| | | | | | | |	
	Engrais(kg)	| | | | | | |	| | | | | | | |	
	Fumure organique(kg)	| | | | | | |	| | | | | | | |	

	Pesticide	|_____|	|_____|	
	Petits équipements	|_____|	|_____|	
	TOTAL A		|_____|	
	Main d'œuvre salarié			
	Préparation de la terre		|_____|	
	Semis		|_____|	
	Entretien des plans au champ (buttage, démariage, épandage de produit si nécessaire)		|_____|	
	Sarclage		|_____|	
	Récolte et mise en bottes		|_____|	
	Séchage et nettoyage		|_____|	
	Transport		|_____|	
	AUTRES DEPENSES			
	TOTAL B			
F.2	**Revenus totaux des ventes**			
	Quantite recoltee		|_____|	
	Prix de vente		|_____|	
F.2.1	Revenus des ventes	= Quantitex prix de vente	|_____|	
F.3	**Revenu net**	= F.2.1-(Total A+Total B)	|_____|	

N° ordre	G. APPRECIATION DE LA SITUATION ACTUELLE			
	Question	Code		reponses
G.1	Comment appréciez-vous actuellement l'apport du sésame que vous produisez dans l'amélioration de votre condition de vie	1. Faible 2. Moyen 3. Eleve 4. Sans changement		|____|
G.2	Pourquoi			
G.3	Comment percevez vous la place qu'occupera le sésame dans l'amélioration de vos conditions de vie d'ici cinq ans	1. Faible 2. Moyen 3. Eleve 4. Sans changement		|_____|
G.4	Pourquoi			
G.5	Avez-vous des difficultés en lien avec votre participation à la vie de l'union ou du groupement	1. Oui 2. Non	Si oui repondez a G.6	|_____|
G.6	Quelles sont ces difficultés			

G.7	Selon vous quelles sont les principales difficultés de la filière sésame ? (citez au plus cinq difficultés)	
G8	Quelles solutions envisagez-vous ?	

Questionnaire adressé aux responsables des unions

CONSENTEMENT APRÈS INFORMATION

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Est-ce que vous souhaiterez avoir d'autres clarifications sur l'étude ?

RÉPONDANT EST D'ACCORD POUR ÊTRE INTERVIEWÉ.....1

RÉPONDANT N''EST PAS D'ACCORD POUR ÊTRE INTERVIEWÉ.....2

IDENTIFICATION				
REGION		Est .....1 Boucle du Mouhoum…….2 Code |_____|		
Province		Banwa .....1 Gourma .....4 Mouhoun..... 2 Tapoa .....5 Kossi .....3 Konmpienga..... 6 Code |_____|		
Nom et prénoms du responsable ou des responsables				
Poste(s) occupé(s) dans l'union				
Contacts par responsible				
	A. Vente des productions par l'Union			
	Question	Code		Réponse
A. 1	L'Union vent-elle la production de ses membres	1. Oui 2. Non	Si non passe a A.12	|___|

A.1.1	Quelle est la quantité de sésame qui a été collectée par l'union auprès de ses membres			| |___|___|_ _| | |
A.1.2	Est-ce que la quantité collectée auprès des membres est toujours vendue en totalité	1. Oui 2. Non	Si non répondez a A.2.1	|___|
A.2	Quelle est la quantité de sésame qui a été vendue par l'Union en 2015/2016			|__|__|__|__|_ _| |
A.2.1	Quelle est la quantité de sésame qui est reste en stock			|__|__|__|__|_ _| |
A.3	La quantité de sésame qui pourrait être vendue par l'union pour la campagne 2016/2017 etait-elle connue à l'avance?(productio n des membres)	1. Oui 2. Non		|___|
A.4	Quel était l'objectif de vente de sésame de la campagne 2016/2017(tonne)(membres et non membres)			|_|_|_|_|_|_|__| __|_|
A.5	Auprès de qui l'union vent-elle la production de ses membres	Liste des acheteurs 1. OLAM 2. SAGROCOM 3. ELIM 4. ETG 5. ONE PRIVATE ACTOR 6. OLVEA 7. Autres à preciser		|_____| |_____| |_____| |_____| |_____| |_____| |_____|
A.6	L'union contractualise-t-elle la vente avec ces acheteurs	1. oui 2. non	Si non passer a A.9	|___|
A.7	Est-ce des contrats formels ou informels	1. formel 2. informel		|_____|
A.7.1	Combien de contrats formels ont été signés pour la campagne 2015/2016 Et en 2016/2017			|__|__|__|__| |__|__|__|__|
A.7.2	Combien de contrats informels ont été passés avec des acheteurs en 2015/2016 En 2016/2017			| |___|___|_ __| |___|___|___|
A.7.3	Combien de contrats formels ont pu être honorés en 2015/2016 En 2016/2017			|__|__|__|__|_ __|___| |___|___|___|
A.7.4	Combien de contrats informels ont pu être honorés en 2015/2016			|___|___|___| ___|____|

	En 2016/2017				|___|___|___| |___|
A.8	Comment l'union procède-t-elle pour vendre le sésame sur le marché				
A. 9	Quelles sont les difficultés rencontrées par l'union pour honorer les contrats	Citer au plus 5 difficultés			
A.10	Quelles sont vos suggestions pour lever ces difficultés	Reprendre les difficultés ici			Formuler les suggestions ici
	B. Emplois créés par l'Union				
B.1	Avez-vous recrute du personnel dans le cadre des activites de l'union	1. oui 2. Non si non passer a C			|____|
B.2	Combien de personnes avez-vous recrute, pour quel poste et pendant combien de temps	Poste	Nombre	duree	
	C. Inventaire des Infrastructures de stockage				
C.1	Y a-t-il des infrastructures de stockage dans la province	1. Oui 2. Non			|__|
C.2	Nombre des infrastructures de stockage et capacité de stockage	Nombre|__|__|__|__|			Capacité de stockage | |__|__|__|___|___|__|
C.3	Qui a réalisé ces infrastructures	Lister les partenaires ici			Année de réalisation
C.4	Comment sont gérées ces infrastructures	Décrire le mode de gestion ici			
C.5	De façon générale comment appréciez-vous l'état actuel de ces infrastructures	1. mauvais 2. Passable 3. Bon			|____|
	D. Forces et Faiblesses de l'union				
D.1	Quelles sont les principales faiblesses de votre union	Citer les 3 principales faiblesses			
D.2	Quelles sont les principales forces de votre union	Citer les 3 principales forces			
	E. Goulots d'étranglement de la filière				
E1	Quelles sont les principales difficultés rencontrées par la filière sésame (citez au plus cinq)				

E2	Quelles sont vos suggestions pour lever ces difficultés	

ETUDE DE BASE DU PROJET SESAME
GUIDE D'ENTRETIEN ADRESSE AUX HOMMES, FEMMES ET JEUNES

Localité …… Structure……..

PROFIL DES PARTICIPANTS

N°	**Nom et prénoms**	**Sexe** 0=M 1=F	Age	**Niveau d'instruction** *0= aucun* *1=primaire* *2=secondaire* *3=alphabétisé* *4=autres*
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

PLACE DU SESAME DANS LE SYSTEME DE PRODUCTION

1. Motivations pour le choix de la production du sésame
2. Appuis reçus dans le passé ou en cours
3. Appréciation faites sur les appuis reçus dans le cadre de la production du sésame(en terme de qualité, durée, utilité, coût, .,…)
4. Principaux résultats obtenus grâce à ces appuis ?
5. Quelles leçons que vous retenez de plus pertinent grâce a ces appuis ?
6. Quels sont/étaient les difficultés rencontrées avec cesappuis ?
7. Besoins spécifiques pour augmenter la qualité et la quantité dusésame
8. Que faudra-t-il faire pour augmenter la production du sésame dans votre zone ?
9. Que faudra-t-il faire pour améliorer la qualité du sésame que vous produisez ?

ROLE DU SESAME DANS LES MOYENS DE SUBSISTANCE

1. Comment appréciez-vous la place du sésame parmi vos différents moyens de subsistance actuelle et expliquez-nous pourquoi ?
2. Comment voyez-vous la place du sésame dans les années à venir parmi vos différents vos moyens de subsistance et quelles explications donnez-vous a cette appréciation?
3. Qu'est-ce que la production du sésame vous a apporté comme changement majeur dans vos vies ?
4. Qu'est ce que la production du sésame a apporté comme changement majeur/perceptible dans votre village ?

PERSPECTIVES ET SUGGESTIONS

1. Pour des appuis à venir que faudra t-il prendre en compte pour s'assurer que la production du sesame contribue a ameliorer vos conditions de vie et vos moyens de subsistace ?

2. Parmi tous ces appuis citez lesquels vous estimez etre les plus utiles pour vous dans le court et moyen terme ?

ETUDE DE BASE DU PROJECT SESAME
Guide d'entretien approfondi adressé aux commercants/exportateurs du sesame

IDENTIFICATION

REGION……...…….
PROVINCE……...….
NOM DE LA STRUCTURE……..……
NOM DU REPONDANT……..……
FONCTION DU REPONDANT……..……..
DATE DE L'ENTRETIEN / /_____// /_____// /_____/

I. ACTIVITES DE COMMERCIALISATION

1. Depuis quelle année est vous engagé dans l'achat et l'exportation du sésame ?
2. Auprès de qui achetez-vous le sésame ?
3. En moyenne quelle quantité achetez-vous chaque an au Burkina ?
4. Connaissiez-vous la quantité que vous achetez chaque année par région ? Si oui, quelles sont les quantités que vous achetez en moyenne dans la région de la Boucle du Mouhoun et de l'Est ?
5. Quelle est la quantité que vous avez achetée au cours de la campagne 2015/2016 et 2016/2017 dans ces deux régions ?
6. A quel prix moyen avez-vous acheté le sésame au cours de cette période ?
7. Avez-vous établi des contrats pour l'achat du sésame au Burkina ?
8. Si oui combien de contrats avez-vous signés pour la campagne 2015/2016 et pour la campagne 2016/2017 ? quel est le nombre de contrats signés pour les deux régions citées ?
9. A combien estimez-vous le taux d'impureté du sésame que vous achetez ?
10. Pour les deux régions citées quel est le taux d'impureté du sésame acheté au cours de la même période 2015/2016 et 2016/2017 ?
11. Selon vous quelles sont les principales sources des matières étrangères dans le sésame que vous achetez ?
12. Selon vous à combien estimez-vous la quantité de sésame acheté selon les taux d'impureté suivant en 2015/2016 et en 2016/2017 ?
    - Inférieure à 5%
    - Supérieure à 5%
13. Y a-t-il des opérations de nettoyage que vous faites avant d'exporter le sésame ?
14. A combien estimer vous le taux d'impureté du sésame exporté après nettoyage ?
15. Ou rendez-vous le sésame acheté ?
16. Avez-vous établi des contrats pour la vente du sésame ?
17. Si oui combien de contrat avez-vous signe dans ce sens pour la campagne 2015/2016 et 2016/2017
18. Avez-vous rencontre des difficultés avec les contrats établis pour l'achat et la vente du sésame ?
19. Quels sont les principales difficultés avec ces contrats ?

- Pour l'achat
- Pour la vente

II. EQUIPEMENT DE NETTOYAGE ET INFRASTRUCTURE DE CONSERVATION

1. Disposez-vous d'équipement de nettoyage du sésame ou des infrastructures de conservation ? si oui combien et où sont-ils installés ?
2. Avez-vous planifié la réalisation d'infrastructure de conservation/stockage et l'acquisition d'unités de nettoyage ? Si oui combien et où prévoyez-vous les installer ?

III. RAPPORT QUALITE PRIX

1. Pensez-vous que la qualité du sésame que vous achetez influe beaucoup, peu ou pas sur son prix ?

2. Etes-vous prêt à mettre le prix qu'il faut pour acquérir du sésame de qualité c'est-à-dire avec moins d'impureté et à quelles conditions?
3. Sur une échelle de 0 à 10% d'impureté, quel prix êtes-vous prêt à consentir pour acquérir les qualités de sésame ci-après
    - 0% d'impureté
    - 0 à 2% d'impureté
    - 2à 3% d'impureté
    - 3 à 5% d'impureté
    - à 7% d'impureté
    - à 10% d'impureté
4. Quelles peuvent être les principales contraintes pour vous à augmenter les prix d'achat au producteur pour un sésame de qualité ?
5. Dans quelles conditions êtes-vous prêts à augmenter le prix d'achat pour un sésame de qualité ?

IV. EMPLOIS CREES

1. Avez-vous recruté du personnel dans le cadre de vos activités de commercialisation du sésame ? si oui, combien d'employés avez recrutes ?
2. A quel(s) poste(s) ont-ils été recrutés et pour quelle durée ?

V. De façon générale quelles sont les principales difficultés rencontrées dans la commercialisation du sésame Burkina ?

ETUDE DE BASE DU PROJET SESAME
Guide d'entretien approfondi adressé aux directions centrales et déconcentrées

IDENTIFICATION

REGION……...…….
PROVINCE……...…
.
COMMUNE…….…..
NOM DE LA STRUCTURE…….……
NOM DU REPONDANT……..……
FONCTION DU REPONDANT…….……..
DATE DE L'ENQUETE / /_____// /_____// /_____/

I. ACTIONS PREVUES OU EN COURS EN APPUI AU SESAME

1. Existe-t-il des appuis en cours ou à venir que votre structure met ou mettra au profit de la filière sésame
2. Avez-vous connaissances d'autres appuis prévus par des structures et quelle est la nature de ces appuis
3. Quelles sont les zones ou régions qui bénéficient ou bénéficieront de vos actions actuelles ou futures
4. Comment se fait l'identification des bénéficiaires

II. INFRASTRUCTURE DE CONSERVATION/STOCKAGE

1. Avez-vous prévu de réaliser ou avez-vous réalisé des infrastructures de conservation/stockage ?
2. Quelle est le nombre et la capacité de stockage de ces infrastructures ?
3. Avez-vous reçu des appuis et de qui pour réaliser ces infrastructures ?
4. Dans quelles zones avez-vous ou allez-vous réaliser cette infrastructure et dans quel délai?
5. Comment sont gérés ou seront gérés ces infrastructures ?
6. Qu'est ce qui justifie la démarche préconisée pour la gestion de ces infrastructures ?
7. Comment s'est fait le choix du site de construction des infrastructures ?
8. Avez-vous des informations sur le nombre et la capacité des infrastructures qui sont réalisées ou prévues pour être réalisés par d'autres partenaires ?
9. Qui sont ces partenaires?

III- PARTENARIAT AVEC LE PROJET SESAME DE LWR

1. Le projet SESAME de LWR prévoit accompagner les producteurs de sésame à améliorer la productivité et la qualité marchande du sésame- quels sont les axes de collaboration que vous percevez
2. S'il y a des divergences d'approches dans la mise en œuvre des actions qui sont destinées aux mêmes bénéficiaires, pensez-vous qu'il est possible d'avoir des cadres pour harmoniser les approches et éviter une superposition des actions sur le terrain
3. Selon vous comment ces cadres pourront fonctionner
4. Quelles sont les suggestions a prendre au regard de votre expérience pour que les actions prévues par le projet sésame de LWR produisent les impacts attendus

ETUDE DE BASE DU PROJET SESAME
Guide d'entretien adressé aux ONG, ASSOCIATIONS ET PROJETS

QUESTIONNAIRE APPRENANTS CEBNF

IDENTIFICATION

REGION……...…….
PROVINCE……...…
.
COMMUNE…….…..
NOM DE LA STRUCTURE…….……
ZONE D'INTERVENTION……...…
NOM DU REPONDANT……...……
FONCTION DU REPONDANT…….……..
DATE DE L'ENQUETE/ /_____// /_____// /_____/

I. ACTIONS D'APPUI A LA FILIERE SESAME

1. En quoi consiste vos appuis a la filière sésame
2. Quelles sont vos zones d'interventions
3. Quels sont les bénéficiaires directes de vos appuis
4. Comment se fait le choix de ces bénéficiaires
5. Selon vous quel est l'appui qui est le plus significatif pour la filière sésame dans votre zone d'intervention et pourquoi

II. INFRASTRUCTURES DE CONSERVATIONS /STOCKAGE

1. Combien d'infrastructures de conservations avez-vous prévu ou avez-vous réalisé dans votre zone d'intervention ;
2. Quelle est la capacité de ces infrastructures et leur cout
3. Quel partenaire vous a accompagné dans la réalisation de ces infrastructures
4. Dans quelles zones avez-vous réalisé ces infrastructures
5. Comment se fait la gestion de ces infrastructures
6. Quelle est l'état actuel des infrastructures qui ont déjà réalisés
7. Comment s'est fait le choix du site de réalisation de ces infrastructures
8. Si vous avez prévu de réaliser d'autres infrastructures de conservation/stockage, combien et ou allez-vous les réalisés

III. PERSPECTIVES DE COLLABORATION

1. Le projet SESAME de LWR va accompagner les producteurs à améliorer la productivité et la qualité marchande du sésame- au regard de ce que vous faites, pensez-vous qu'il y a des possibilités de collaboration avec votre structure et si oui dans quel domaine
2. Le projet sésame de LWR pourrait avoir les mêmes bénéficiaires que votre structure, pense vous qu'il est possible d'avoir des cadres pour harmoniser les approches sur le terrain?
3. Comment pensez-vous que ces cadres devront fonctionner
4. Quelles sont vos suggestions au regard de votre expérience, que vous pourrez faire au projet sésame de LWR afin que ces actions puissent atteindre les résultats escomptes

5. Annex E: Tabulated raw data

Table of variables, baseline figures by sex, confidence levels/margins of error as appropriate, and details of note that may inform project implementation (such as geographic or gender differences in findings).

Table 18.1: Plowing practice by gender and location (percent)

Region/Province	Male		Female	
	Tilling	No-till	Tilling	No-till
Est				
Gourma	100% (90/90)		97% (59/62)	3% (2/62)
Tapoa	61% (31/51)	39% (20/51)	36% (8/22)	64% (14/22)
Kompienga	100% (27/27)		89% (16/18)	11% (2/18)
Total	88% (148/168)	12% (20/168)	82% (83/101)	18% (18/101)
Boucle du Mouhoun				
Banwa	97% (68/70)	3% (2/70)	100% (26/26)	
Mouhoun	97% (70/72)	3% (2/72)	100% (13/13)	
Kossi	99% (93/94)	1% (1/94	100% (19/19)	
Total	98% (231/236)	2% (5/236)	100% (58/68)	
Total	94% (379/404)	6% (25/404)	89% (141/159)	11% (18/159)

Table 18.2 Plowing practice by location

Region/Province	Both Men and Women	Both Men and Women
	% plowed	% without plowing
Est		
Gourma	99% (149/151)	1% (2/151)
Tapoa	53% (39/73)	47% (34/73)
Kompienga	96% (43/45)	4% (2/45)
Total	86% (231/269)	14% (38/269)
Boucle du Mouhoun		
Banwa	98% (94/96)	2% (2/96)
Mouhoun	98% (83/85)	2% (2/85)
Kossi	99% (111/112)	1% (1/112)
Total	98% (288/293)	2% (5/293)
Total	**92% (519/562)**	**8% (43/562)**

Table 18.3: Percentage of producers who plant in line and broadcast sowing

Region/Province	Men		Women	
	Plant in line	Broadcast sowing	Plant in line	Broadcast sowing
Est				
Gourma	100% (90/90)		100% (61/61)	
Tapoa	94% (48/51)	6% (3/51)	45% (10/22)	55% (12/22)
Kompienga	100% (27/27)		100% (18/18)	
Total	98% (165/168)	2% (3/168)	88% (89/101)	12% (12)
Boucle du Mouhoun				
Banwa	35% (25/71)	65% (46/71)	19% (5/26)	81% (21/26)
Mouhoun	76% (55/72)	24% (17/72)	100% (13/13)	
Kossi	26% (24/44)	74% (20/44)	21% (4/19)	79% (15/19)
Total	44% (104/237)	100% (133/237)	38% (22/58)	62% (36/58
Total	**66% (269/405)**	**34% (136/405)**	**70% (111/159)**	**30% (48/149)**

Table 18.4: Seeding practice in line by location

Region/Province	Both Male and Female	Both Male and Female	Total
	% in lines	% broadcast	
Est			
Gourma	100% (151/151)	0%	**100%**
Tapoa	79% (58/73)	21% (1573)	**100%**
Kompienga	100% (45/45)		**100%**
Total	94% (254/269)	6% (15/269)	**100%**
Boucle du Mouhoun			
Banwa	31% (30/90	69% (60/90)	**100%**
Mouhoun	80% (68/85)	20% (17/85)	**100%**
Kossi	25% (28/112)	75% (84/112)	**100%**
Total	43% (126/294)	57% (168/294)	**100%**
Total	67% (380/563)	33% (183/563)	**100%**

Table 18.5: Percentage of producers using improved seed

Region/Province	Male		Female	
	Use improved Seed	Use local seed	Use improved seed	Use local seed
Est				
Gourma	86% (77/90)	14% (13/90)	29% (44/61)	11% (17/61)
Tapoa	80% (41/51)	20% (10/51)	43% (9/21)	17% (12/21)
Kompienga	19% (5/27)	81% (22/27)	33% (6/18)	27% (12/18)
Total	73% (123/168)	27% (45/168)	59% (59/100)	41% (41/100)
Boucle du Mouhoun				
Banwa	66% (46/70)	34% (24/70)	84% (21/25)	4% (4/25)
Mouhoun	97% (70/72)	3% (2/72)	100% (13/13)	
Kossi	50% (46/92)	50% (46/92)	21% (4/19)	100% (15/19)
Total	69% (162/264)	31% (72/264)	84% (38/57)	7% (19/57)
Total	71% (285/402)	29% (117/402)	62% (97/157)	38% (60/157)

Table 18.6: Percentage of combined producers using improved seed

Region/Province	% Use improved seed use (Male and female)	% Use local seed (male and female)
Est		
Gourma	80% (121/151)	20% (30/151)
Tapoa	69% (50/72)	31% (22/72)
Kompienga	24% (11/45)	76% (34/45)
Total	68% (182/268)	32% (86/268)
Boucle du Mouhoun		
Banwa	71% (67/95)	29% (28/95)
Mouhoun	98% (83/85)	2% (2/85)
Kossi	45% (50/110)	55% (60/110)
Total	69% (200/290)	31% (90/290)
Total	**68% (382/558)**	**32% (176/558)**

Table 18.7: Percentage of men and women applying fertilizer on their field

Region/Province	Male		Female	
	Use of fertilizer	No use of fertilizer	Use of fertilizer	No use of fertilizer
Est				
Gourma	22% (13/60)	78% (47/60)	17% (9/52)	38% (43/52)
Tapoa	2% (1/50)	98% (50/51)	9% (2/22)	91% (20/22)
Kompienga	31% (8/26)	69% (18/26)	17% (3/18)	83% (15/18)
Total	16% (22/137)	84% (115/137)	15% (14/92)	85% (78/92)
Boucle du Mouhoun				
Banwa	44% (21/48)	56% (27/48)	35% (8/23)	65% (15/23)
Mouhoun	39% (28/72)	61% (44/72)	69% (9/13)	31% (4/13)
Kossi	22% (21/94)	78% (73/94)	21% (4/19)	79% (15/19)
Total	33% (70/214)	67% (144/214)	38% (21/55)	62% (34/55)
Total	26% (92/351)	74% (259/351)	24% (35/147)	76% (112/147)

Tableau 18.8 Rate of fertilizer use

Region/Province	% Fertilizer use (Male and female)	% No fertilizer use (male and female)	Total
Est			
Gourma	20% (22/112)	80% (90/112)	**100%**
Tapoa	4% (3/73)	96% (70/73)	**100%**
Kompienga	25% (11/44)	75% (33/44)	**100%**
Total	16% (36/229)	84% (193/229)	**100%**
Boucle du Mouhoun			
Banwa	41% (29/71)	59% (42/71)	**100%**
Mouhoun	44% (37/85)	56% (48/85)	**100%**
Kossi	22% (25/112)	78% (87/112)	**100%**
Total	34% (91/268)	66% (177/268)	**100%**
Total	**26% (127/497)**	**74% (370/497)**	**100%**

Table 19: Average plowed and not plowed area and corresponding total area

Region/Province	Plowed	Not plowed	Average	Estimated total plowed area (ha)
Est				
Gourma	2.04	0.27	2.01	3663
Tapoa	1.56	1.33	1.45	1031
Kompienga	2.20	9.08	2.51	1068
Average/Total	1.99	1.68	1.94	5761
Boucle du Mouhoun				
Banwa	1.63	0.37	1.60	2226
Mouhoun	1.59	1.46	1.58	1801
Kossi	2.77	1.02	2.76	4312
Average/Total	2.07	0.93	2.05	8339
Total	**2.03**	**1.59**	**2.00**	**14100**

Table 20: Average area in hectares planted in line and broadcast sowing and total area planted in line

Region/Province	In-line planting	Broadcast planting	Average	Total area of in-line planting
Est				
Gourma	2.01		2.01	3656
Tapoa	1.59	0.91	1.45	1564
Kompienga	**2.51**		**2.51**	1273
Total	2.00	0.91	1.94	6493
Boucle du Mouhoun				
Banwa	1.84	1.51	1.62	783
Mouhoun	1.71	1.07	1.58	1594
Kossi	**2.65**	**2.79**	**2.76**	1060
Total	1.96	2.13	2.05	3437
Average	**1.99**	**2.02**	**2.00**	**9930**

Table 21: Average and total area in hectares sown with improved seed and local seed

Region/Province	Average improved seeded area	Average local seeded area	Common average	Total area improved Seed	Total area with local in line planting
Est					
Gourma	2.14	1.49	2.01	3132	539
Tapoa	1.51	1.34	1.46	1298	507
Kompienga	2.20	2.61	2.51	273	1000
Total	1.97	1.89	1.95	4703	2046
Boucle du Mouhoun					
Banwa	1.73	1.32	1.60	1694	542
Mouhoun	1.57	2.00	1.58	1785	55
Kossi	2.60	2.90	2.76	1857	2475
Total	1.89	2.39	2.05	5337	3071
Moyenne	**1.93**	**2.15**	**2.00**	**10040**	**5117**

Table 22: Average area in hectares with fertilizer application

Region/Province	Average area with fertilizer application
Est	
Gourma	1.51
Tapoa	1.52
Kompienga	3.96
Total	2.26
Boucle du Mouhoun	
Banwa	1.29
Mouhoun	1.59
Kossi	2.48
Total	1.74
Total	1.89

Table 23: Fertilizer use

Region/Province	Kg of fertilizer used	Area applied (ha)	Dose of fertilizer (Kg/ha)
Est			
Gourma	14 000	541	26
Tapoa	1695	77	22
Kompienga	15 443	504	31
Total	31 138	1122	28
Boucle du Mouhoun			
Banwa	27 904	732	38
Mouhoun	31 935	807	40
Kossi	47 519	870	55
Total	107 358	2409	45
Total	**138 496**	**3532**	**39**

Table 24: Total area in hectares with organic manure application

Region/Province	Area with application of organic fertilize
Est	
Gourma	2599
Tapoa	1795
Kompienga	1040
Total	5434
Boucle du Mouhoun	
Banwa	1164
Mouhoun	727
Kossi	599
Total	2490
Total	**7924**

Table 25: Total area in hectares treated with at least one soil and water conservation technique application

Region/Province	Treated area (ha)
Est	
Gourma	1741
Tapoa	806
Kompienga	678
Total	3226
Boucle du Mouhoun	
Banwa	143
Mouhoun	1439
Kossi	2765
Total	4347
Total	**7573**

Table 26: Total area treated in hectareswith at least one phytosanitary product applied

Region/Province	Area (ha)
Est	
Gourma	507
Tapoa	325
Kompienga	3085
Total	3917
Boucle du Mouhoun	
Banwa	1273
Mouhoun	1748
Kossi	4659
Total	7680
Total	**11597**

Table 27: Type of sesame storage by farmers (% of respondents)

Region/Province	Packed in bags and stored in the dwelling house	Attic	Warehouse	Open air, covered space	Placed in a shop	Total
Est						
Gourma	62%		38%			100%
Tapoa	93%			3%	5%	100%
Kompienga	33%		67%			100%
Total	69%		29%	1%	2%	101%
Boucle du Mouhoun						
Banwa	22%		78%			100%
Mouhoun						
Kossi	8%	8%	85%			100%
Total	17%	3%	81%			100%
Total	**43%**	**1%**	**55%**	**0%**	**1%**	**100%**

Table 28: Percentage of producers who employed farm laborers at different stages of farming

Region/Province	Plowing	Planting	Weeding	Harvest	Others	Total
Est						
Gourma	15% (23/151)	40% (61/151)			1% (1/151)	**56% (85/151)**
Tapoa	12% (9/73)	3% (2/73)	5% (4/73)			**21% (15/45)**
Kompienga	22% (10/45)	4% (2/45)	9% (4/45)		2% (1/45)	**38% (17/45)**
Total	16% (42/269)	24% (65/269)	3% (8/269)		1% (2/269)	**43% (117/269)**
Boucle du Mouhoun						
Banwa	30% (29/98)		10% (10/98)	5% (5/98)	2% (2/98)	**47% (46/98)**
Mouhoun	13% (11/85)	15% (13/85)	14% (12/85)	15% (13/85)		**58% (49/85)**
Kossi	31% (35/113)	3% (3/113)	26% (29/113)	6% (7/113)		**65% (74/113)**
Total	32% (75/296)	5% (16/296)	17% (51/296)	8% (25/296)	1% (2/296)	**57% (169/296)**
Total	**21% (117/565)**	**14% (81/565)**	**10% (59/565)**	**4% (25/565)**	**1% (4/565)**	**51% (286/565)**

Table 29: Summary of focus group responses related to major needs

Province	Elderly Women	Young Women	Ederly Men	Young Men
Kompienga	- improved seed - agricultural material - fertilizer - space to produce - capacity building - follow-up support for producers - improved seed - inputs - post harvest equipment (blower, sieve, tarpaulins) - fixing of the price as for cotton	- access to more production space - warehouse - improved seed - agricultural material - agricultural inputs	- fertilizers and organic fertilizers - quality seed - agricultural material	- good quality seed - agricultural equipment (plow, cart) - work animals
Gourma	- improved seed - inputs - post harvest equipment (blower, sieve, tarpaulins) - fixing of the price as for cotton	- training on technical itineraries - agricultural equipment (plow, cart, rack) and draft animals - fertilizer - improved seed - if possible, tractor for groups	- access to affordable inputs - contracting the sale of sesame through a price fixing mechanism - training on production techniques - post harvest equipment (blower, sieve, tarpaulin) -quality seed and adapted to the zone	- access to affordable inputs - contracting the sale of sesame through a price fixing mechanism; - training on production techniques - post-harvest equipment (snowblower, sieve, tarpaulin) - seed of quality and adapted to the zone
Banwa	- fertilizer - pesticides adapted to sesame - lower cost access to improved seed - production equipment (plows) - access to credit for local processing of sesame - support to live during the production period - post-harvest equipment (tarpaulins, sieves, cisterns)	- access to semen and pesticides - post-harvest equipment - harvest (bache, sieve) - food support during the production period - work animals	- access to affordable inputs (fertilizers, seeds) - access to agricultural equipment (plows) - water management - harvesting equipment (cows)	- access to agricultural inputs - access to quality pesticides - draft animals - agricultural machinery (tractor plows)

Kossi	- agricultural equipment (plows, carts, manga hoes, sickles, sprayers, wheelbarrows); - improved seeds of sesame S42); - fertilizers (NPK fertilizer); - pesticides; - draft animals - capacity building on sesame production techniques - Sesame Price Information System	- access to financing; - agricultural equipment (plows, donkey carts, tarpaulins, sickles, wheelbarrows) - work animals - improved seeds - fertilizer - pesticides - membership training	- agricultural equipment (plows, carts, tarpaulins, radiators, sprayers) - improved seeds of sesame - fertilizers (NPK and Urea fertilizers) - pesticides - training on production routes - training of members - increase in cultivated areas - manpower	- cow carts, carts, manga hoes, sprayers, rakes, wheelbarrows, tarpaulins, rays - improved seed, but not variety S42 because this variety does not succeed well and causes a lot of expenses and interviews - access to fertilizers and pesticides - strengthening the capacity of groups and producers of sesame; - access to finance - information on the sesame sector and its price at the national level - technical advice and support
Mouhoun	- production equipment - pesticides - improved seed - harvesting equipment	- plow - improved seed - pesticides and fertilizers	- quality seed - technical training - fertilizers and organic fertilizers - harvesting equipment (blowers, tarpaulins)	- fertilizers, seeds, trainings on the technical routes of production of the sesame - draft animals to increase the area. - harvesting equipment (blowers, tarpaulins)

Table 30: Perception of sesame's contribution to current livelihoods (frequency of response)

Region/ Province	Male					Female				
	Minimal	Adequate	Significant	No change	Total Male	Minimal	Adequate	Significant	No change	Total Female
Est										
Gourma	26	13	50		89	25	9	26	1	61
Tapoa	5	9	35	1	50	4	4	14		22
Kompienga	1	14	12		27		5	13		18
Total	32	36	97	1	168	29	18	53	1	101
Boucle du Mouhoun										
Banwa	8	50	8	3	69	5	11	6	4	27
Mouhoun	7	15	50		72		7	5	1	13
Kossi	5	37	50	1	93		8	9		19
Total	20	102	108	4	234	5	26	20	5	59
Total responses	**52**	**138**	**205**	**5**	**402**	**34**	**44**	**73**	**6**	**160**
% based on total responses	**13%**	**34%**	**51%**	**1%**	**100%**	**21%**	**28%**	**46%**	**4%**	**98%**

Table 31: Perception of sesame's contribution to livelihoods over the medium-term

Region/Province	Male					Female				
	Minimal	Adequate	Significant	No change	Total Male	Minimal	Adequate	Significant	No change	Total Female
Est										
Gourma	6	4	78	2	90	5	4	49	3	**61**
Tapoa	2	10	37	1	50		5	16	1	**22**
Kompienga			27		27			18		**18**
Total	8	14	142	3	167	5	9	83	4	**101**
Boucle du Mouhoun										
Banwa	1	12	58		**71**	1	5	20		**26**
Mouhoun		6	66		**72**		2	11		**13**
Kossi	1	26	63	3	**93**	2	3	14		**19**
Total	2	44	187	3	**236**	3	10	45		**58**
Total	**10**	**58**	**329**	**6**	**403**	**8**	**19**	**128**	**4**	**159**
% percentage based on totals	**2%**	**14%**	**82%**	**1%**	**100%**	**5%**	**12%**	**81%**	**3%**	**100%**