



Mid-term Evaluation Report

Revenue through Cotton Livelihoods, Trade, and Equity (RECOLTE) Project, Burkina Faso

USDA Food for Progress (2013-2018)

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Mid-term Evaluation Report
Revenue through Cotton Livelihoods, Trade, and Equity
(RECOLTE) Project, Burkina Faso
USDA Food for Progress

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ACRONYMS

Computer Assisted Mobile Interview (CAMI)

Catholic Relief Services (CRS)

Economic and Social Development Fund (FBDES)

Food for Progress (FFPr)

Government Investment Promotion Agency in Burkina (API)

income-generating activities (IGAs)

Information Communication Technology for Development (ICT4D)

Institute for Environmental and Agricultural Research (INERA)

Mobile data for moving herds management and better incomes in Burkina Faso (MODEHEM)

Monitoring, Evaluation, Accountability, and Learning (MEAL)

National Council of Organic Agriculture (CNAbio)

National Plan for Economic and Social Development (PNDES)

National Union of Burkina Faso Cotton Producers (UNPCB)

Netherlands Development Organization (SNV)

Open Data Kit (ODK)

Organic Cotton Producer Group (GPCB)

Organic Field Agents (ATBs)

Organic Technical Agents (ATB)

Credit Union Network (RCP)

Revenue through Cotton Livelihoods, Trade, and Equity (RECOLTE)

State Secretariat for Economic Affairs Switzerland (SECO)

Sustainable Development and Accelerated Growth Strategy (SCADD)

United States Department of Agriculture (USDA)

Zone Chiefs (CZ)

EXECUTIVE SUMMARY

The Revenue through Cotton Livelihoods, Trade, and Equity (RECOLTE) project is a five-year (September 2013- September 2018) value chain strengthening project for the organic cotton sector in Burkina Faso. The Food for Progress Program, financed by the United States Department of Agriculture (USDA), has a total value of \$11.8 million. Catholic Relief Services (CRS) has been implementing the project since September 2013.

The RECOLTE project works to upgrade the organic cotton value chain and improve the livelihoods of vulnerable smallholder producers. Organic and fair-trade cotton commercialization represents a niche market for smallholder producers in Burkina Faso, especially women. RECOLTE targets all cotton production zones in the country in the regions of Comoe, Loba, Ziro, Boulgou, Nayala, Oubritenga, and Gourma. CRS implements the project in partnership with the National Union of Burkina Faso Cotton Producers (UNPCB) and Texas A&M – AgriLife Research. RECOLTE also works in collaboration with the Institute of Environmental and Agricultural Research (INERA), as well as the Ministry of Agriculture and Food Security and the Ministry of Commerce and Trade, to support the government of Burkina Faso to foster long term support for the organic cotton industry.

RECOLTE works with UNPCB to increase production of organic cotton in response to high demand through two Strategic Objectives (SO). SO1 seeks to increase agricultural production by a) improving the quality of land and water resources; b) increasing the use of improved agricultural techniques and technologies; and c) improving farm management. SO2 seeks to expand the trade of agricultural products by a) increasing value added to post-production agricultural products; b) increasing access to markets to sell agricultural products; and c) improving transaction efficiency. The Results Framework in Annex 1 presents RECOLTE's objectives, results streams, intermediate results, and related activities.

The RECOLTE project is valued at \$11.8 million, and will benefit 10,000 producers. CRS has monetized 11,750 MT of milled rice valued at \$8.2 million, at the time of the mid-term data collection, with 5,000 MT left to monetize during the second half of the project. The proceeds are used to implement the program. Additionally, CRS will use approximately \$2 million to administer and monitor the program.

Main evaluation themes

The midterm evaluation collects data on indicators related to each strategic objective, and provides responses to key questions about the relevance, effectiveness, efficiency, impact, and sustainability of the program to inform USDA, project implementers and partners, the donor community, and other key stakeholders.

Key Evaluation Categories:

Relevance is determined by the extent to which project interventions meet the needs of the organic cotton producers, respect Burkina Faso's organic cotton sector development strategies, align to USDA's objectives, and consider economic, cultural and political contexts.

Effectiveness is determined by the extent to which the project has achieved its objectives. This will assess the extent to which the interventions contributed to the expected results or objectives.

Efficiency is determined by the extent to which the project's resources (inputs) have led to the achieved results, and if the same results could have been achieved with fewer resources or alternative approaches.

Impact is determined by the intended and unintended medium and long-term effects that can be attributed to the project's intervention. Effects can be direct or indirect, positive or negative.

Additionally, the evaluation will assess the extent to which the effects are due to the project intervention or other factors.

Sustainability is determined by the continuation of the benefits of an activity after funding stops, and how much the project has developed local ownership and sustainable partnerships.

Evaluation Methodology

The RECOLTE team provided the research consultants with the list of all producers currently participating in the RECOLTE project in the seven organic cotton production regions. With this list, the evaluation team generated a sample size of 775 people to survey, and identified the producer, place of residence, and producer organization membership. A pipeline analysis was performed as decided at the time of the evaluation planning in January 2014. A control group is not available, as all producers cultivating organic cotton are associated with the RECOLTE project by way of being participants in the UNPCB organic cotton program.

The 775 farmers were segmented into two groups: Cohort 1 includes organic cotton producers that have been involved in the project since the baseline; Cohort 2 includes organic cotton producers that joined the project after the baseline survey was completed. This segmentation allows the evaluation team to compare rates of change in production and revenue between producers who have received more project interventions over a longer time-frame (Cohort 1) compared to those who have been involved for a shorter time period and benefited from fewer interventions (Cohort 2). The assumption that producers with longer-term involvement in the project will have greater production, land area, production and crop value will be tested.

The evaluation team used both quantitative and qualitative methods for the mid-term evaluation. The quantitative survey was conducted with producers and other stakeholders. Qualitative exercises included focus groups to get a more detailed picture of cotton producers' constraints, opportunities, and coping mechanisms at the individual, household and community levels. Organic cotton producer groups were selected for focus group discussions defined by gender and zone, as well as focus groups with buyers, extension agents and other market players.

Key stakeholders, including the Government of Burkina Faso, INERA, UNPCB, USDA, United States Agency for International Development (USAID), United States Department of Labor (USDOL) who have interests in the project were involved in the evaluation process. They also participated in the discussions related to corrective actions to be taken to address evaluation findings and recommendations.

Evaluation Findings

Intervention Relevance and Strategic Fit

The mid-term evaluation has found that the RECOLTE project has strategically developed and adjusted project activities while considering the economic, political, and cultural context of Burkina Faso. The project follows the Government of Burkina Faso's economic and agricultural development policies and programs, which focus on vulnerable rural households. CRS and UNPCB have worked together to find areas where adjustments would create a better fit for the beneficiaries, such as supporting the purchasing of equipment for individual producers instead of groups of producers to allow for a more equitably shared resource. CRS and UNPCB are also working to adjust the project to address the new challenges after the pull out of Limited Brands. This includes supporting new sections of the value chain and international marketing.

Adequacy and Efficiency of Resource Utilization

In terms of efficiency, the mid-term evaluation performed a cost analysis by producer and a cost-benefit analysis. In the cost analysis by producer, it was found that the cost per producer increased by 6.17%, from \$180.70 per producer in 2015 to \$191.80 per producer in 2016. This is because the project experienced a 7.86% decrease in participants, thus causing the project to lose economies of scale since the activities were performed on a smaller scale and input costs were unable to be spread across a larger number of beneficiaries. Cost per producer could have been decreased by limiting the number of refresher trainings, strengthening organic compost production, and reconsidering the method of distribution for seeds and other inputs.

For the cost-benefit analysis, the mid-term evaluation found that the total production of organic cotton has been in line with the number of beneficiaries producing over the project period. Considering the decline of the producer price of organic seed cotton in 2016 (from 375 to 325 FCFA/kg), the rate of return that year was 52.9%, a decrease of 5% from 2015, despite the decrease in number of producers. The FairTrade premium remains the same and is received upon purchase of cotton from UNPCB, and then is shared proportionally to producer groups, who in turn use the money for community development. The RECOLTE project should continue to intensify production and seek to resolve the bottlenecks in processing and marketing to reach economies of scale and have a greater return on investment.

Effectiveness and Impacts of Intervention

Increased Agricultural Productivity

Average organic cotton yield was 393 kg/ha at baseline, while at the midterm, it was 252.9 kg/ha. This represents a decrease of 36% of organic cotton production tonnage. This is in part due to the short 2015/16 rainy season in Burkina Faso cotton production zones: rains began a month late and lasted 2.5 – 3 months, when 4 months is necessary for quality and quantity cotton production. Likewise, conventional crops experienced a 40% drop in production tonnage over this period, as conventional production was also impacted by the poor seasonal rainfall. Inputs, such as certified organic cotton seeds, were delayed and were not sown at the ideal time for the 2015/2016 season. The cohort analysis reveals that average organic cotton yield at mid-term was slightly higher for Cohort 1 (265 kg/ha) than for Cohort 2 (235 kg/ha), indicating a potential impact of the early project activities on yields. Average yields per hectare were also higher at mid-term for women than for men, indicating a change from the baseline situation which showed men having higher yields than women.

At baseline, producers were earning an average of 147,377 FCFA per hectare for organic cotton. At midterm, the average value of organic cotton production per hectare was a 94,547 FCFA/ha, with 98,004 FCFA/ha for Cohort 1 and 88,977 for Cohort 2. While average value in organic cotton production per hectare has decreased overall, women now earn 10% more than men overall (2.4% in Cohort 1 and 21.9% in Cohort 2). This aligns with their higher yields per hectare. This is an improvement from the baseline, which revealed that men earned 32% more than women. This positive improvement in women's incomes could be due to the project's activities to overcome barriers to women's access to productive inputs; for example, distributing farming tools directly to producers rather than to producer organizations, thus improving women's access to the tools and promoting higher agricultural productivity among women.

A project objective was to increase the surface area cultivated to 1 ha per producer, but at the time that this objective was set, gender disparities in access to land was not taken into consideration. At midterm, the average surface area (ha) cultivated by producer is 0.77 ha. Overall, men cultivate an average of 0.98 ha, while women cultivate on average 0.55 ha. Cohort 1 has an average of 0.88 ha per producer, while Cohort 2 has an average of 0.64 ha per producer, partly because most of the new producers in Cohort 2 are women, who have less access to land than men. Women not only face

cultural constraints to land access in general, but also limitations in the size of parcels that they can cultivate. The fact that the surface area objective of 1 ha/producer has not been met is thus related to the increased participation of women and other vulnerable producers in the RECOLTE project, and not an indication that these vulnerable producers have not improved their production capacity.

UNPCB also had a positive view of the project's impact in terms of support for all the components of the organic cotton value chain. INERA also stated that they benefited from institutional support and capacity building, including one of their researchers who benefited from internships with the laboratory and researchers at the University of Texas A&M AgriLife Research Center.

Expanded trade of agricultural products

The mid-term evaluation considered the RECOLTE project's activities aimed at expanding trade of agricultural products in the domestic, regional, and international arenas.

Organic cotton exports decreased between the 2014/15 and the 2015/16 growing seasons, from 2,622 MT of cotton fiber in 2014/15 to 1,170 MT in 2015/16. At baseline, 2,000 MT of cotton fiber were exported. The target of exports at the end of the project, 3,300 MT. This situation was due to the poor rainfall in the 2015 season, which had a negative impact on cotton production overall. Conventional crops experienced a 40% drop in production tonnage. Fiber cotton exports in the 2014/15 season generated about \$3,281,100, compared to \$756,374 in 2015/16, while the endline target is \$4,785,000.

Sustainability of project activities

Organic agricultural techniques and organizational capacity building appear to have high probability of sustainability. The high achievement and adoption rates across producers, genders, and zones are an early signal that the environmentally and operationally sustainable practices will continue.

On the other hand, there are activities along the value chain that are at risk of not being sustainable. Organic Field Agents (ATBs) have a low retention rate and limited time with producers to continue promoting behavior change in agricultural practice, while producers have low educational levels. The delayed ginning, and thus payment and seed access for the following season, discourages producers from continuing with organic cotton production, the pull out of Limited Brands has left the project vulnerable without a buyer.

The evaluation team is assured that CRS and UNPCB have adjusted their programming and activities to address these vulnerabilities. It is essential to the sustainability of the project to secure a ginning facility. At the writing of this report, the project is taking steps to address this specific issue by exploring the feasibility of an organic-focused ginning site.

Lessons learned

The mid-term evaluation highlighted numerous lessons that have been learned by the various partners on the RECOLTE project.

According to UNPCB, CRS' main partner, the project is quite innovative considering its broad scope. It is more substantially funded than previous projects, which UNPCB believes has helped to provide the necessary resources to achieve structural results. Similarly, UNPCB noted that the project has improved accountability at all levels and from all actors, which they see as a prerequisite for development. With increased capacity, UNPCB can share, collaborate, and listen to other partners to best promote organic cotton.

The evaluation team noted that organic cotton producers reflected that the project impressed upon them the importance of respecting standards for organic cotton production in order to be successful. They valued the project's support to the poor both at the individual and the community level, particularly through community investments made with the proceeds from the organic cotton premium funds. Producers stated that the most satisfactory and relevant project activities include the strengthened input supply, capacity building through the various trainings provided, and soil fertility enhancement. Producers highlighted the need for more equipment support, stronger support for income generating activities, and increased access to agriculture financing.

Field agents, including heads of areas and organic field agents (ATBs), also shared their perspectives on the project. They valued the project's pro-poor approach and said that the project helped them to understand that nothing can be achieved without gaining knowledge, which is a source of success and strength for both individuals and institutions. They were also satisfied with the flexibility in the project's implementation, in contrast to other projects where the rigidity often jeopardizes activity implementation.

During the activity implementation phase, CRS staff realized that some of the assumptions made at the project development stage proved not to be realistic on the ground and could have been better specified in more precise and explicit terms to avoid multiple adaptations.

Conclusion

The evaluation team has found that, at the mid-term, the RECOLTE project has demonstrated resiliency throughout impactful external changes, and is able to meet end-line goals and objectives. The external impacts have changed the structure of the project: the sudden departure of Limited Brands has added new activities and focus to the project, and the impact of a shortened rainy season has led to producers dropping out of the project. Yet CRS and project partners have continued to adjust and respond to the changes so as to continue to have a relevant, efficient, impactful, and sustainable organic cotton production sector in Burkina Faso.

Data collected during the mid-term evaluation indicates that objectives related to average yield, average surface area planted, and average value of production have not yet been achieved. A number of external influential factors, including an irregular rainy season, have limited the achievement of these objectives.

The objective to expand trade of organic cotton produced in the RECOLTE project has been met in that trade has been expanded to new buyers since the departure of Limited Brands. Yet, in terms of quantity of organic cotton exported and revenue earned from organic cotton sold, targets were not met. Organic cotton exports decreased from the 2014/2015 season to the 2015/2016 season, from 2,622 MT of cotton fiber in 2014/15 to 1,170 MT in 2015/16. Fiber cotton exports in the 2014/15 season generated about \$3,281,100, compared to \$756,374 in 2015/16, while the endline target is \$4,785,000. This situation was due to the poor rainfall in the 2015 season, which had a negative impact on cotton production overall.

Recommendations

Demonstration plots to meet farmer needs

CRS and UNPCB worked with the NGO Green Cross and INERA to develop demonstration plots and seed farms that tested new and different technologies and techniques. During implementation,

producers can learn about and test new techniques by dividing the plot into two to four different treatment sections. INERA initially tested four different techniques per plot, however this posed challenges in comparison and choice for producers at the field level. If demonstration plots are limited to two different technologies, then producers can easily test and compare new treatments, ultimately adopting the better treatment technique.

Stakeholder relationship building

UNPCB shares SOFITEX's cotton gins, which poses major challenges to the organic cotton production. The gins, which also process conventional cotton, need to first process all conventional cotton and then be thoroughly cleaned to avoid contaminating the organic cotton. This later ginning has a ripple effect such as farmers' receiving late payment which discourages them and causes all other activities to be late: farmer registration, laboratory analysis of seed cotton and hence the distribution of seed cotton distribution, then planting, and then finally impacts next year's yields. To overcome this challenge and become a majority shareholder, UNPCB builds and nurtures relationships with the main actors in the cotton sector and invests in creating an enabling environment for the existence and development of the organic cotton value chain.

Broader space for women in organic cotton production

Initial RECOLTE objectives included reaching an average of one hectare per producer for organic cotton farms. Organic cotton requires little input and no needed credit; thus, it is popular among vulnerable populations, especially women. However, women have little access to land. In working toward the goal of 10,000 producers, women were targeted and there was a spike in the percentage of women producers in the project and the average farm size decreased to less than 0.6 hectares. CRS and UNPCB ultimately evaluated and adjusted this indicator to reflect the reality of organic farming in Burkina Faso. In the project design phase, gender mainstreaming should be more strongly considered when defining goals.

INTRODUCTION

The Revenue through Cotton Livelihoods, Trade, and Equity (RECOLTE) project is a five-year (2013-2018) value chain strengthening project for the organic cotton sector in Burkina Faso. The Food for Progress project, financed by the United States Department of Agriculture (USDA), has a total value of \$11.8 million, including 16,750 metric tons of monetized rice. Catholic Relief Services (CRS) has been implementing the project since September 2013.

The RECOLTE project builds upon previous development work with the National Union of Burkina Faso Cotton Producers (UNPCB) to invest in upgrading the organic cotton sector. The RECOLTE project targets many points of the value chain to build technical knowledge, commercial capacity, and an enabling environment so that stakeholders may autonomously support and improve the livelihoods of vulnerable smallholder producers involved in the organic cotton sector.

RECOLTE has a target to reach 10,000 organic cotton smallholder producers, with the aim of 30% female participants. The targeted producers are in seven regions, which are all cotton production zones in Burkina Faso. The project activities are aimed at fulfilling two strategic objectives in the organic cotton sector: 1) increase agricultural production and 2) expand the trade of agricultural products.

CRS and its local partner, UNPCB, developed a monitoring and evaluation plan at the project's beginning. Based on this, the evaluation team has collected quantitative and qualitative data at producer and organizational level for the baseline and midterm evaluation periods to evaluate the progress on results indicators and on activity indicators, and to estimate the impact of the intervention over the first half of the project. The aim is to recommend strategic actions to build on achievements and identify areas for improved project performance during its second half.

1.1. Description of the Intervention

The RECOLTE Project works to strengthen the organic cotton value chain and improve production of rotational crops in Burkina Faso such as soy, sesame, shea, and peanuts. The project aims to benefit more than 10,000 smallholder producers from seven cotton production zones: Comoe, Ioba, Ziro, Boulgou, Nayala, Ouhitenga, and Gourma.

Additionally, the project is working to strengthen the organizational capacity of UNPCB, the input capacity of the Institute for Environmental and Agricultural Research (INERA), and the support structures of the Ministry of Agriculture and Food Security and the Ministry of Commerce.

1.1.1. Strategic Objectives

The RECOLTE project activities are aimed at fulfilling two Strategic Objectives in the organic cotton sector:

- 1) Increase agricultural production
- 2) Expand the trade of agricultural products

SO1, or the increase in productivity, is to be addressed by enhancing the quality of the land and water resources, increasing the use of upgraded agricultural techniques and technologies, and bettering farm management. This will enable improved production techniques and enhance producers' administrative capacity. SO2, or the expanded trade of organic cotton and rotational crops will be facilitated by increasing the value added to post-production agricultural products, increasing access to markets to sell agricultural product, and improving transaction efficiency (See Annex 1 for the Results Framework).

1.1.2. Program Activities

To achieve the above objectives, CRS implements a cohesive set of activities that strengthen four key areas of organic cotton and rotational crop value chains: production, post-harvest handling, processing, and marketing.

Activities to increase agricultural productivity in cotton and rotational crops focus on providing training to improve agricultural production techniques and farm management, strengthening seed and input systems to increase the availability of inputs, as well as developing farm-level financial and non-financial services that producers need to implement best practices. Activities to strengthen production are implemented in the field by Organic Field Agents (ATBs) who are trained as extension agents by UNPCB. Zone supervisors (CZs) manage ATBs in each zone and report to UNPCB about RECOLTE activities.

Activities to expand trade focus on supporting UNPCB in developing a marketing strategy, identifying buyers, and advocacy for an enabling environment for the organic cotton trade in Burkina Faso. The activities include organizational capacity building, attending cotton trade shows to develop and deepen a buyer network, and coordinating with government and private sector stakeholders in supporting the growth of UNPCB's organic cotton program.

1.1.2.1. Changes to RECOLTE activities

Initial RECOLTE targets for increased agricultural productivity included the following:

1. Average area per producer: target of 1 hectare per producer
2. Average yield per ha: target of 550kg/ha
3. Seed yield per ha: target of 300 kg/ha
4. 30% female participation

The target for Indicator 1 above, average area per producer, was set at 1 ha/producer at the start of the project. However, at midterm, the average area cultivated per producer remains much lower than the target, at 0.6 ha/producer (on average, 0.98 ha for men and 0.55 ha for women). At midterm, the RECOLTE team recognizes that the original target of 1 ha/producer is not achievable due to the high numbers of women participants who have limited access to land. CRS and UNPCB suggest that measuring surface area is not a realistic target for increasing productivity of organic cotton among the project's targeted farmers. The other 3 indicators remain in place and results are described in the following sections.

A number of changes to activities have been made over the course of the project and are summarized here, particularly as a result of the loss of the main buyer, and a changed strategy from focusing on farmers' groups to supporting individual farmers.

A new activity was added to the project using US \$140,000 received from Limited Brands. UNPCB manages this as a revolving fund to provide micro-loans for women to carry out income-generating activities (IGAs) in the target zones. Women can take out loans to engage in economic activities and repay once they receive their cotton income. When Limited Brands ended their contract as a purchasing agent, RECOLTE and UNPCB negotiated terms to offset the resulting lowered purchasing price (the loss of the Limited Brands contract meant that producers lost the 50 FCFA premium they had; thus the price fell from 375 FCFA/kg to 325 FCFA/kg). It is from this negotiation that these funds were made available, and this activity was added.

To mitigate the loss of Limited Brands as a buyer and adapt to the project's changed strategy of targeting equipment to individual producers instead of farming groups, in 2016, USDA granted CRS a 5,000 MT increase in monetization tonnage, equivalent to nearly \$2.75 million (i.e. a budget increase of more than 25%). This budget increase resulted in a dramatic increase in the number of producers, especially female producers, with access to farming equipment and inputs.

While RECOLTE initially aimed to equip 150 farming groups with crop production equipment over the course of the project, the team decided instead to support producers on an individual basis. The RECOLTE team came to this decision after realizing that group-level management of the equipment was not efficient considering that producers cultivate their fields individually. The project instead acquired an initial 530 pieces of equipment to benefit individual growers at a 50% discounted rate. With the increased budget, a total of 2,103 additional farming implements were purchased and made available to organic cotton producers at a reduced rate. As a result, 2,650 producers – 26% of the life of the project target – have access to these materials instead of 5% of producers as per the initial project design.

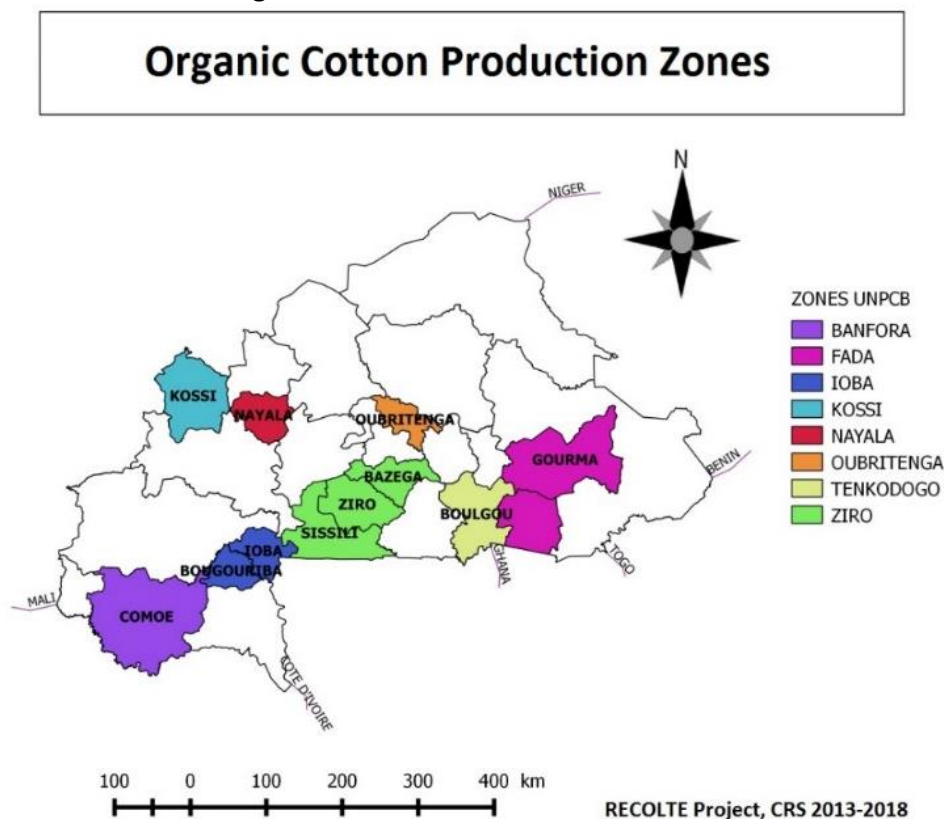
When developing the updated agricultural equipment subsidy, CRS and UNPCB worked together to determine a subsidy that would be efficient and appropriate to the task, gender sensitive, and would contribute to the sustainability of organic cotton production. Another important consideration was the government subsidy for conventional cotton producers, and how the project could make a competitive offer to producers. These factors directly informed the decision to equip individual producers instead of producer groups.

RECOLTE farmers can choose between two approaches for purchasing inputs and agricultural equipment at reduced rates. First, producers can take up to two seasons to reimburse UNPCB for the discounted equipment by taking a direct deduction on their income from the sale of cotton seed to UNPCB. Second, producers with larger financial capacities can decide to pay in cash in a single installment of the total subsidized amount for their equipment. The targeting elements of the subsidy include: women are prioritized, producers must agree to produce organic cotton for 3 years, women must have 0.25 ha to use for organic cotton, and men must have 0.5 ha to 1 ha for organic cotton.

1.1.3. Eligibility Rules, Targeting, and Selection of Beneficiaries

The program targets 7 of the 8 cotton production zones in the country: Comoe, Ioba, Ziro, Boulgou, Nayala, Oubritenga, and Gourma (see chart 1 below). These are areas in which organic cotton has previously been cultivated, and therefore there are existing UNPCB offices and field agents. These areas generally have adequate growing conditions for organic cotton, including rainfall.

Chart 1: Organic Cotton Production Zones in Burkina Faso¹



Beneficiary groups include all producers who are willing to become organic cotton producers. The selection of beneficiaries was based on the following criteria:

- Agrees not to produce both organic cotton and conventional cotton during the agricultural campaign;
- Agrees not to use genetically modified or chemical inputs or materials, such as seeds, fungicides, or fertilizers, and agrees to gradually transform his/her operations to conform to organic standards;
- Possesses storage areas specifically for organic production of crops including cotton, soy, sesame, and hibiscus;
- Does not belong to a producer unit that produces conventional or GMO products; in specific cases, as in the case of women or for young, unmarried individuals belonging to mixed farms, they could be selected for organic production if there is sufficient proof of complete isolation of the organic crop from the spouse or family member's conventional or GMO crop;
- Possesses sufficient land for crop rotation.

In addition to the primary selection criteria, the project selected beneficiaries using secondary criteria:

- Voluntarily become a member of an organic cotton producers group (GPCB);
- Willingness to sign a production contract in accordance with organic regulations; and
- Willingness to procure a sufficient amount of organic inputs, such as organic fertilizer and organic pesticides.

¹ The chart reflects an additional region. At the time of the mid-term evaluation, a decision had been made to expand activities to the Kossi region in order to increase the number of participants. New participants from this region joined in the 2016/2107 season, thus they were not included in the evaluation.

Along with beneficiary selection criteria, the project also had land parcel selection criteria. Land parcel selection is important as it enables beneficiaries to grow organic cotton within the organic certification criteria. The land parcel selection criteria include:

- a. Parcels must be at least 50 meters and upstream from all other non-organic parcels;
- b. A separation distance for seed parcels of 100 meters;
- c. For other organic rotation crops, observe a separation distance of at least 10 meters from conventional crops, 50 meters if the crops are GMO;
- d. Parcels must never have been planted with GMO crops and must not have been treated with chemicals (fertilizer or pesticides) during the previous three months;
- e. Parcels have sufficient organic matter and are accessible during every season;
- f. Minimum surface area of sown cotton: 0.25 ha for women, 0.5 ha for men.

The project has set different requirements for minimum surface area for men and women because women's access to land is much lower than men's access, and land that women use for farming activities often belongs to their husbands. Also, women have less access to equipment, which limits their ability to plant on more land. The cultural norms around equipment usage is that men have priority access, which minimizes the time that women are able to utilize the tools.

CRS and its partner UNPCB anticipate a total of 10,000 producers to participate in the RECOLTE Project. At the end of the baseline data collection period, a total of 7,094 producers were registered. At midterm, there were a total of 8,382 active producers in the program. The RECOLTE project seeks to enroll more producers to reach a total of 10,000 beneficiaries in activities.

Several factors kept the project from attaining 10,000 beneficiaries at midterm. For example, the difficult planting season in 2015-16, with inadequate levels of rainfall, meant that producers who were not well established within the cash crop system tended to withdraw the following season.

There are producers who were unable to produce or did not follow the guidelines for organic production, thus disallowing them from continuing with the program after their farms were not organic certified. Delayed payments for their cotton sales also resulted in some farmers withdrawing. However, the current planting season is showing positive signs, and the project's additional investment made it more appealing to produce organic cotton. As of September 2016, one new organic cotton production zone has been opened resulting in a geographic expansion. This addition anticipates 800 new participants in the 2016/2017 season. The project expects to continue working towards its target of 10,000 beneficiaries by the end of the project.

Chart 2: RECOLTE beneficiary numbers at Year 2, before organic certification of farms

Zones	Producers in 2013	Producers Project Year 1	Producers Project Year 2
Comoe	316	275	293
Ioba	995	650	718
Gourma	1,794	1,825	1,576
Ziro	668	863	1,192
Boulgou	2,793	3,333	2,709
Nayala	393	1,134	1,645
Oubritenga	135	239	249
Total	7,094	8,319	8,382

1.2. Evaluation Objectives

The objective of this midterm evaluation is to assess progress in implementation of the RECOLTE project and the relevance of interventions. The midterm evaluation examines the results framework

and critical assumptions and considers the implementing environment, including enablers and constraints in order to measure progress against stated goals, objectives, and targets against baseline values.

The midterm evaluation provides an early signal of the interventions' effectiveness, documents lessons learned, assesses sustainability efforts and progress to date, and recommends any necessary mid-course correction. The scope of the evaluation is both retrospective and prospective, assessing service delivery as outlined in the project operation plan and detailed implementation plans at mid-point.

1.3. Evaluation Questions

The midterm evaluation provides responses to key questions about the relevance, effectiveness, efficiency, impact, and sustainability of the program, as well as specific questions about each strategic objective that are important to USDA, the local partners, the donor community, and other key stakeholders. The evaluation questions included in the quantitative surveys and qualitative focus group discussions were oriented to address these key evaluation themes. For the mid-term evaluation, the questions to be answered are listed in Annex 3.

Key Evaluation Categories:

Relevance is determined by the extent to which project interventions meet the needs of the organic cotton producers, respect Burkina Faso's organic cotton sector development strategies, align to USDA's objectives, and consider economic, cultural and political contexts.

Effectiveness is determined by the extent to which the project has achieved its objectives. This will assess the extent to which the interventions contributed to the expected results or objectives.

Efficiency is determined by the extent to which the project's resources (inputs) have led to the achieved results, and if the same results could have been achieved with fewer resources or alternative approaches.

Impact is determined by the intended and unintended medium and long-term effects that can be attributed to the project's intervention. Effects can be direct or indirect, positive or negative. Additionally, the evaluation will assess the extent to which the effects are due to the project intervention or other factors.

Sustainability is determined by the continuation of the benefits of an activity after funding stops, and how much the project has developed local ownership and sustainable partnerships.

EVALUATION METHODOLOGY

The RECOLTE Project midterm evaluation reports on all indicators agreed upon with USDA, providing an update on indicators compared to the baseline study and targets. The mid-term evaluation followed a mixed-method approach using both quantitative and qualitative methods. This approach made it possible to:

- a. Triangulate results of the evaluation, which strengthens the validity and credibility of the results;
- b. Utilize information from one method to develop the instrument for another method;
- c. Have complementarity in the results;
- d. Have diversity in the value dimensions of the evaluation; and
- e. Generate new knowledge about the evaluation results.

By using both quantitative and qualitative methods, the evaluation is more capable of identifying underlying causes for the program results at the time of the midterm evaluation. Focus groups and individual interviews were used to gain beneficiary perspectives on project impact, validate quantitative findings, identify lessons learned, and evaluate the project's impact on producer

organizations and private enterprises, and to evaluate the degree of satisfaction with the services provided by the program.

2.1. Evaluation design

Data collection methods used in this evaluation included a quantitative survey, semi-structured interviews with project participants and stakeholders and focus groups with project participants. A literature review including ministry and government documents and project reports also contributed to the evaluation. The evaluation team sourced, whenever possible, enumerators with appropriate language proficiency in areas where they collected information; this allowed for the team to facilitate data collection in a linguistically and culturally appropriate manner.

This evaluation assessed the RECOLTE project's performance and impact on project beneficiaries at the mid-point of the project implementation period. Thus, data was gathered to complete and complement baseline and current project data from 2013 through 2016. The evaluation team began reviewing background documents cited in the existing project records. Quantitative as well as qualitative data concerning the project's performance was collected via field surveys.

Individual interviews were held for key stakeholders in the RECOLTE Project, including project partners, beneficiaries, and the project team itself (Annexes 3 and 4). The interviews provided an in-depth understanding of the effectiveness, relevance, and sustainability of the project.

Focus groups were conducted with the organic cotton producers (Annex 4). Topics covered included beneficiary motivations, constraints on the organic cotton value chain, women's participation, child labor, sources of contamination of organic product, adaptability to organic regulations, and satisfaction level.

Field Survey

A field survey was carried out from September 1st through 14th, 2016. A total of six teams led by field supervisors covered the seven project intervention areas. Team members were grouped according to their language proficiencies in order to remain culturally and linguistically relevant in the data collection. A total of 804 people were surveyed, but 29 observations were deleted after data treatment due to insufficient responses, with a final total of 775 people included in the analysis. This covers 9.6% of the total beneficiary population, which gives the survey a 95% statistical significance. The survey provided both qualitative and quantitative data for the midterm report.

The data collection questionnaires were transcribed into digital format (Annex 3). The CAMI (Computer Assisted Mobile Interview) method was used for the collection of quantitative data. Tablets were used to aid in data collection using the Open Data Kit (ODK) tool. The survey included the following sections:

Section 0: Identification

Section 1: Producer ID and general characteristics

Section 2: Household composition and members involved in farming

Section 3: Agriculture equipment and draught animals

Section 4: Characteristics of organic crops plots (cotton and rotational crops)

Section 5: Used inputs

Section 6: Seeds and applied techniques

Section 7: Inputs costs

Section 8: Organic Cotton production

Section 9: Cotton processing and production income

Section 10: Income and utilization

Section 11: Households shocks and stresses

Section 12: Accessing farming services

Section 13: Quality of Storage infrastructures

Section 14: Constraints and perspectives on the future of organic cotton

A manual on the use of tablets and Information Communication Technology for Development (ICT4D) for data collection was used to train enumerators.

2.2. Sampling Strategy

Target population

The target population at the time of the midterm evaluation, before organic certification of fields, was made up of all 8,382 beneficiaries registered in the RECOLTE project, which has been in implementation phase since April 2014. Attrition has occurred due to two main factors: abandonment of participating producers, or ineligibility due to inappropriate land parcels used for organic cultivation. The population was stratified into two cohorts for the purposes of this evaluation. Cohort 1 refers to the producers who started with the project from the beginning, thus benefiting from all project activities. Cohort 2 refers to the producers who joined the project after the baseline and therefore did not benefit from the earlier project interventions. This approach allows a comparison not only with the baseline status, but also between these two groups.

Per the evaluation plan developed and approved in January 2014, the evaluation follows a pipeline analysis methodology. This is because virtually all producers of organic cotton in Burkina Faso are associated with UNPCB's organic cotton program, and thus beneficiaries of the RECOLTE project. There are no other organic cotton projects in the country. If a producer cultivates organic cotton outside of the project, they would not have access to the organic pricing or sales.

Chart 3: Distribution of beneficiaries by cohort, after organic certification of farms

Intervention areas	Cohort 1			Cohort 2			TOTAL
	Male	Female	Total	Male	Female	Total	
Banfora	61	106	167	53	50	103	270
Fada	839	420	1,259	253	127	380	1,639
Ioba	327	54	381	163	26	189	570
Nayala	85	598	683	95	430	525	1,208
Oubritenga	60	77	137	33	34	67	204
Tenkodogo	1,141	978	2,119	170	204	374	2,493
Ziro	247	273	520	291	268	559	1,079

Total	2,760	2,506	5,266	1,058	1,139	2,197	7,463
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Sampling

Information used to generate the sample size of 775 people surveyed was provided by the RECOLTE project team. The primary resource was the list of all participating producers in the seven organic cotton production regions where the RECOLTE project activities are currently in implementation and included the producer, place of residence, and producer organization membership.

The sample size was determined using three indicators: the average production of organic cotton at baseline, the average area used for organic cotton production at baseline, and the average income from production at baseline. The sample size was calculated with the equation below using these three indicators, comparing the total size for each indicator, and the largest size was selected as the sample size to ensure the representativeness of the sample for all three indicators.

The following formula was used to determine sample size:

$$n = D \times \frac{(S_1^2 + S_2^2)(Z_\alpha + Z_\beta)^2}{(X_2 - X_1)^2}$$

With n = sample size; D = design effect, it is 2; $Z_\alpha = 1.65$ represents the coefficient to reach a confidence level of 95%; $Z_\beta = 0.84$ represents the coefficient to reach a statistical power of 80%; X_1 = cotton yield at baseline; X_2 = target value of cotton yield at the endline; S_1 = variance related to parameter X_1 ; S_2 = variance related to parameter X_2 .

The stratified two-stage random sampling was chosen. This choice is justified because of two advantages of this method:

1. Stratification makes it possible to obtain a representative sample per stratum. As indicated in the Evaluation Terms of Reference, the sampling design should provide a representative sample in the seven project areas of intervention. Thus, the strata are those seven areas where the project is implemented.
2. The two-stage drawing reduces the dispersion in the sample (the distance between two groups to be interviewed) and thus reduces the cost and time required to complete the data collection. A judicious allocation between the number and size of the primary units (producers' organizations – see following section) provides sufficient accuracy for the statistical indicators observed in the sample.

Selection of primary and secondary units

The primary unit selected is the Organic Cotton Producer Group (GPCB). A GPCB is made up of several producers. Each primary unit was created in proportion to their size in number of members, using the Probability Proportional to Size sampling method. This method was selected based on the assumption that the size of the GPCB is strongly correlated to the production and yield of its group members. A total of 79 GPCBs (42 from Cohort 1 and 37 from Cohort 2) were selected. Nayala has a high proportion of GPCB selected (12 GPCB out of 19 existing). This is due to the large memberships in the zone's groups. **Chart 4** below shows the distribution of the selected primary units by stratum (area of intervention) and by cohort.

Chart 4: Distribution of Primary Units Selected by Stratum (Area) and by Cohort

Area (stratum)	Cohort 1		Cohort 2	
	Number of GPCB	Number of GPCB selected	Number of GPCB	Number of GPCB selected

BANFORA	20	3	17	3
FADA	36	9	34	6
IOBA	37	4	32	3
NAYALA	16	5	19	12
OUBRITENGA	7	3	9	3
TENKODOGO	60	13	56	7
ZIRO	18	3	23	3
TOTAL	194	42	190	37

Source : A.C.I / D.-SA, based on the use of the framework provided by CRS

The secondary units, representing the participating producers in the RECOLTE project, were selected among the primary units. Using a systematic random sampling method, 10 producers were selected from each primary unit. A total of 804 producers were selected, 418 from Cohort 1 and 386 from Cohort 2. The following table shows the distribution of the number of producers for each stratum (zone) and cohort (**Chart 5**).

Chart 5: Distribution of the number of producers to be surveyed by area and cohort

Area	Cohort 1			Cohort 2		
	Total number of producers	Sampled producers	Percentage (%)	Total number of producers	Sampled producers	Percentage (%)
BANFORA	142	33	8	153	33	9
FADA	682	93	22	389	60	16
IOBA	324	44	11	160	33	9
NAYALA	378	52	12	808	123	32
OUBRITENGA	77	33	8	174	33	9
TENKODOGO	944	130	31	463	71	18
ZIRO	124	33	8	214	33	9
TOTAL	2671	418	100	2361	386	100

2.3. Data Collection and Analysis

Calculation of the aggregated indicators

Aggregation coefficients are necessary in order to extrapolate results from the sampled producers. These coefficients give weight to each secondary unit (producer) in the sample. The aggregation represents the number of producers in the total beneficiary population that are represented by each producer included in the survey sample.

The weights were adjusted to consider the effective non-response rate discussed below. The weight for each selected producer in the sample is the inverse of its probability of inclusion in the final sample. This probability of inclusion was obtained using the following formula:

$$p_i = \frac{n_i}{N'_i} \times n_s \frac{N_i}{N_s}$$

Thus,

$$w_i = \frac{1}{p_i}$$

With

$P_{(i)}$ = probability of inclusion; n_s = the size of the stratum sample s ; N_s = number of producers in stratum s ; N_i = number of producers in group i ; $[N']_i$ = number of producers enumerated in group i ; and n_i = number of producers interviewed in group i .

Data Analysis

For most indicators, data was analyzed using the SPSS analysis tool. The analysis incorporated adjustments to the weighting to account for non-responses during the data collection. These non-responses are due to difficulties in field data collection. In the case that a producer was not available, the enumerators randomly selected another participant.

As such, the estimation robustness may be affected to some extent depending on the way the indicator is linked to those above-mentioned factors.

For the pipeline comparison, the sample size calculation allows for direct comparison across the cohorts. Annexes 7 and 8 show the data disaggregated by cohort and by sex. While most of the indicators are disaggregated into the 7 cotton zones, it is important to note that the stratification applied to the sampling strategy does not ensure the representativeness of findings between those zones since the sample size calculation was not made per cotton zone.

T-test to determine differences between cohorts

Chart 6: Descriptive statistics on cohort 1 and cohort 2

Cohort		N	Mean	Std. Deviation	Std. Error
Total area for organic cotton 2015/2016	Cohort 1	286	.8778	.77076	.04558
	Cohort 2	249	.6418	.40449	.02563
Organic cotton yield 2015/2016 (kg/ha)	Cohort 1	286	260.6856	252.88100	14.95317
	Cohort 2	249	217.8312	312.99910	19.83551
Average value of organic cotton production based on 325F/kg for season 2015/2016	Cohort 1	310	78163.6346	82123.76378	4664.31635
	Cohort 2	266	66270.6395	99925.27556	6126.81175

Chart 6 shows the descriptive statistics for all of the indicators chosen to test for systematic difference between the two cohorts. These three indicators were selected as they provide insight into achieving the SO1, increased agricultural productivity, which is the most quantitatively measurable objective in the project. Since the project beneficiaries have all been selected for participation with the same selection criteria, it is hypothesized that the longer the beneficiary has been with a project, the more change will happen with their production outcomes.

Area, production, and cost are all reflected in the selected indicators; these are all measurable outcomes that are heavily influenced by participation in the RECOLTE project. By selecting these indicators, it is possible to statistically test the differences between the beneficiaries who have participated for a longer period versus the relatively new beneficiaries. Through a t-test, it is possible to know if there is a statistically significant difference between the two cohorts through the lens of the selected indicators.

Chart 7: T-test output

Statistics	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Total area for organic cotton 2015/2016	4.514	442.896	.000	.23603	.13326	.33880
Organic cotton yield 2015/2016 (kg/ha)	1.750	533	.081	42.85440	-5.23736	90.94616
Average value of organic cotton production based on 325F/kg for season 2015/2016	1.568	574	.118	11892.99506	-3008.52409	26794.51421

A t-test was performed to determine whether the two cohorts were systematically different from each other. These three indicators were selected to create the profile of the beneficiaries, and then the outcomes of Cohort 1 and Cohort 2 were tested. The inferential analysis tested the significance of the differences between Cohort 1 and Cohort 2. The null hypothesis is that there is equality of the averages of the two cohorts on indicators such as production, revenue, and yield. All of these analyses assumed normal distribution, homogeneous variance, and cohort independence.

The t-test demonstrated that:

- There is a significant difference, where $p < .000$, between the two cohorts in total area cultivated for organic cotton and rotational crops, at the 1% level.
- Even at 5%, there is no significant difference between the organic cotton yields of the two cohorts. The difference becomes significant from 10%. $P > .02$, at 0.081
- There is not a significant difference, where $p > .02$, between the two cohorts in the average value of organic cotton production based on 325 FCFA/kg.

According to the t-test, the two cohorts are systematically different only in terms of total area of production. As one out of the three measurable indicators are significantly different between cohorts at the 1% level, it is determined that the producers who started at the beginning of the RECOLTE project are not statistically different than the producers who began in later seasons. However, the criteria for being a beneficiary was the same for both cohorts, and those criteria requirements could affect the outcomes of the program itself.

2.4. Evaluation Limitations

The evaluation team acknowledges difficulties in collecting data, including in accessing certain intervention zones and identifying sampled producers. The evaluation was held during the rainy season, which rendered many roads impassable. Thus, some sites in the intervention zones were difficult to access, or, in some cases, totally inaccessible. This slowed the pace of data collection.

While the sampled producers were selected from the project database of all project beneficiaries, the reality was that when the enumerators went to interview them, some selected beneficiaries were difficult to find or unavailable. With the assistance of the Organic Technical Agents (ATB), the evaluation team selected replacements among the available producers using the same sampling

method. The non-response rate was considered in the calculations for sample. Thus, the sample size was increased and replacements were not necessary in many cases.

Despite these challenges, the overall non-response rate remained low. The response rate data is visualized in **Chart 8**. For Cohort 1, out of 418 selected producers, 406 were interviewed, thus creating a non-response rate of less than 2%. For Cohort 2, out of 386 sampled producers, 369 producers were surveyed with a non-response rate of less than 4%. These two rates are much lower than the initial assumption of a 10% non-response rate. These results imply that the indicators calculated from the data are reliable and therefore can be used to evaluate the project.

Chart 8: Quantitative survey response rate

ZONE	Cohort 1			Cohort 2		
	Selected	Interviewed	Response rate (%)	Selected	Interviewed	Response rate (%)
BANFORA	33	33	100	33	29	88
FADA	93	92	99	60	56	93
IOBA	44	43	98	33	27	82
NAYALA	52	53	102 ²	123	120	98
OUBRITENGA	33	29	88	33	32	97
TENKODOGO	130	123	95	71	73	103
ZIRO	33	33	100	33	32	97
TOTAL	418	406	97	386	369	96

OVERVIEW OF THE PROGRAM IMPLEMENTATION CONTEXT AND KEY ASSUMPTIONS

Programmatic Context

3.1.1. Commodity Management Context

RECOLTE project funding is based on a monetization plan in accordance with USDA. CRS based its plan for the first year of activities on a call-forward in December 2013, which would release program funds for use in May 2014. This would have enabled the start-up of key production activities, such as the establishment of the seed multiplication and foundation seed farms. These farms were to provide seeds for the first cohort of 1,200 producers in the second year of the project. Unfortunately, the monetization sale contract was not signed until May 27, 2014. At that time, CRS initially received a \$372,000 check from the monetization buyer, Group Velegda SARL. In June 2014, CRS received the final payment which covered the rest of the costs for the entire shipment. The shortfall in the project activity budget was \$316,740. However, with the pre-financing secured, CRS worked with UNPCB to closely monitor INERA as they started seed multiplication activities.

² There is a 102% response rate as 53 instead of 52 beneficiaries were interviewed

3.1.2. Country Level Political and Social Context

3.1.2.1. *Relevant policies and laws in Burkina Faso*

The government of Burkina Faso has several development policies that are relevant and supportive of the key objectives of the RECOLTE project. A brief description of those relevant policies, including subsections, follows.

3.1.2.1.1. *Sustainable Development and Accelerated Growth Strategy (SCADD)*

This Government of Burkina Faso strategy includes two themes relevant to Project RECOLTE. Theme 1, “Developing growth pillars,” which concerns (i) the development of production chains and promotion of niche markets; (ii) the promotion of pro-poor growth; (iii) the development of priority sectors; and (iv) the promotion of economic integration and external trade. Theme 2, “Development of human capital and social protection” includes employment and income growth, as well as technical and vocational training.

3.1.2.1.2. *National Plan for Economic and Social Development (PNDES)*

The PNDES includes several strategic objectives that are relevant for the RECOLTE project:

- Strategic Objective 2.4 – Promoting decent employment and social protection for all, especially for young people and women.
- Strategic Objective 3.1 – Sustainably develop a productive and resilient agro-forestry, pastoral, and fisheries sector, more market-oriented and based on the principles of sustainable development.
- Strategic Objective 3.3 – Promote trade and expand value-added services industries that create decent jobs.
- Strategic Objective 3.5 – Reverse the trend of environmental degradation and ensure the sustainable management of natural and environmental resources.

3.1.2.1.3. *National Council of Organic Agriculture (CNAbio) and agro-sylvo-pastoral law*

There is currently no policy or strategy for organic agricultural production in Burkina Faso; however, there is a document concerning organic farming standards, written by the National Council of Organic Agriculture (CNAbio). The CNAbio standards focus on the development of organic production and trade in Burkina Faso, including issues that can be used in negotiation of international standards. There is also an agro-sylvo-pastoral law (Law N°070-2015/CNT October 22, 2015) that provides the principle guidelines for the sustainable development of these natural resources, including agro-forestry and wildlife activities.

3.1.3 Regional Level Political and Social Context

One of the critical assumptions in the RECOLTE project design was that stability and peace within Burkina Faso and its neighboring countries, particularly Mali and Niger, would continue. However, this assumption has been tested several times as political and security issues have impacted project activities.

The first instance was the popular uprising that led to the long-time President of Burkina Faso’s departure in October 2014. Related to this uprising, UNPCB board members held a strike in Bobo-Dioulasso, asking the then-current UNPCB President to step down. This show of no confidence split the organization into two opposing camps, resulting in instability that slowed down implementation of RECOLTE activities. At the time of the midterm data collection, the situation had not been resolved, but at the time of writing the report, it has been resolved.

The second challenge related to peace and security was the failed coup d’état in mid-September 2015. Burkina Faso’s borders closed and a general strike led to a halt of all operations throughout the country, including the entire RECOLTE project. In addition to slowing down and stopping the regular operations of project activities, the coup prevented the RECOLTE team from attending two extremely

strategic international cotton marketing and promotion events for which RECOLTE had secured USDA approval: one in France, and the other in India.

3.1.4. Implementation Assumptions

Loss of buyer

Limited Brands, UNPCB's sole buyer at the beginning of the project, ended their purchasing agreement in late 2015. This presented a significant challenge for the RECOLTE project and lowered the price of organic seed cotton received by the producers. The arrangement with Limited Brands was not a typical arrangement in the cotton supply chain, and is therefore not expected to be replicated with any new organic cotton buyer. Limited Brands had paid for all activities along the supply chain beyond the farm gate, including processing of the seed cotton, ginning and analyses, transportation from the ginning plant to the port and logistics of shipping the cotton fiber bales to the port of destination. The loss of such an arrangement directly affected the operations of the producers' union, as well as the producers themselves, as they needed to learn how to manage these activities themselves and identify new buyers.

Cotton Price and Producer Enrollment

Two critical assumptions within the programming context were challenged: 1) the price of cotton will remain favorable for producers, and 2) new producers will continue to enroll in organic cotton producer groups each year.

The price of organic cotton has decreased since the design of the RECOLTE project. Limited Brands had purchased organic cotton at 375 FCFA/kg rather than the industry standard rate of 325 FCFA/kg. With the loss of the Limited Brands contract, UNPCB producers lost their higher price, which impacted the projected increases in revenue for RECOLTE producers.

At project design, it was projected that producers would join organic cotton producer groups each year at an increasing rate. It was planned to have 900 new producers in Year 1, and 2,100 in Year 2, and 1,500 in Year 3. However, this has not been the case, with some producers joining and leaving the groups at many points during the past 2.5 years of the project, and actual numbers of group members being less than anticipated. For the 2014/2015 year, there was a net additional 1,225 producers, yet for the 2015/2016 year, a net of 63 producers joined the program. Producers leave and join throughout the farming seasons.

3.1.4. Ecological Assumptions

The initial projections of harvest yields assumed the target zones would experience a normal amount of rain each season. However, during the 2015-2016 growing season, rains arrived a month later than expected. For a high quality and quantity organic cotton harvest, 4 months of rain is needed; in the 2015-2016 growing season, there were 2.5-3 months of rain. This delayed the planting time and shortened the cultivation period, impacting the quality and quantity of the harvest. Harvest tonnage dropped by 36% for organic cotton, while conventional cotton dropped by 40% for some companies.

EVALUATION FINDINGS

4.1 Producer Demographic Characteristics (Cohorts 1 & 2)

Household size

The total population living in the households of the sampled producers is estimated at 6,945 (4,011 for Cohort 1 and 2,934 for Cohort 2), with an average of 9 persons per producer household. The cohort

distribution reveals that the average number of people living in households in Cohort 1 (9.8) is higher than that in Cohort 2 (7.9). These sizes differ from the average size of rural households in Burkina Faso, which stands at 6.5. Large households are the most affected by poverty, as confirmed by the 2015 National Institute of Statistics and Demography of Burkina Faso. This difference could be because the survey focuses on only a specific section of the population (organic cotton producers), which is not an exact representation of the population of Burkina Faso.

The difference observed between the average sizes of the two cohorts could be explained by the fact that the proportion of female heads (12%) in Cohort 2 is higher than that of Cohort 1. Male heads of household are often polygamous and are responsible for children of more than one wife, while women heads of household are only considered responsible for their children.

Age and gender of heads of households

The age of the head of the household is important in any socio-economic survey because it is generally correlated with many other variables such as marital status, health, and other important indicators. In this study, the age of heads of households ranges from 21 to 93 years with an average age of 43 years. There is a strong dispersion, as evidenced by the standard deviation, which is very high, of 12.7 years.

Among organic cotton producers, only about one in ten women are heads of households. In terms of age, they are older (51 years on average) compared to men (46 years on average). Additionally, these women are mostly widowed (83%).

Main Livelihoods

Agriculture is the main activity of organic cotton producers. In addition to agriculture, all respondents declare trade as a principle livelihood activity. About 40% of producers practice animal husbandry. Other activities such as crafts and fishing occupy a very small number of producers.

4.2 Intervention Relevance and Strategic Fit

The RECOLTE project has considered the economic and political context of Burkina Faso and the organic cotton industry when developing and implementing its approach. RECOLTE targets smallholder producers in Burkina Faso, particularly women – a population with high rates of poverty and who have historically received fewer socio-productive resources. These organic cotton producers depend on agriculture for their livelihood strategy. The project fits within the Government of Burkina Faso's economic and agricultural development policies and programs, which also focus on vulnerable rural households (see section 3.1.2.1 above). The cotton sector and poverty alleviation are of high interest to the Government, and the RECOLTE project's components are in line with these interests.

The project also considers the cultural context in rural Burkina Faso. For example, CRS and UNPCB identified minor adjustments to some activities to better fit the context of the target beneficiary group, such as adjusting the equipment and input subsidy to target individual producers in 2015 in order to better benefit women, rather than target equipment subsidy to farmer groups who do not always equitably share resources with disadvantaged women producers. The evaluation team considers that these general modifications made to the project activities will enhance the outcomes.

There were multiple factors behind the decision to redirect the equipment strategy towards individualized support: inequity due to gender-based decision making, low productivity for women, and addressing vulnerability in participants' households. When the project began, the equipment strategy focused on producer groups, where producers would share the use of the equipment. It became apparent after the first farming season (2014/2015) that men, especially the most high-ranking ones, were the first to use the equipment for not only their organic cotton production, but all their fields. This led to women not gaining access to the tools until much later in the season, and heavily discouraged their productivity and participation. To ensure fair access and to avoid perpetuating

gender discrimination, continued vulnerability, and to support a profitable harvest for women, CRS concluded the necessity to change the targeting, and implemented the change in the 2015/2016 farming season.

The project also supports UNPCB in meeting the potential growth in demand for organic cotton. RECOLTE plays an important role in supporting UNPCB during the adjustments after the loss of Limited Brands as sole buyer. UNPCB must now adjust to the needs of new buyers to sell the organic cotton on the international market for a standard price. The evaluation team considers that the adjustments that RECOLTE made to their activities to better assist UNPCB with value chain upgrading and international marketing are key to project results.

The surveys, interviews, and focus group discussions reveal an overall favorable perspective of most RECOLTE activities among beneficiaries and project stakeholders, especially for technical assistance and workshops. The intervention approach is seen to be holistic, involving many activities that support the livelihoods of the producers.

4.2 Adequacy and Efficiency of Resource Utilization

In general, the RECOLTE project did not record enough activities during the first year of implementation. Therefore, the efficiency analysis only concerns the period 2015-2016.

Cost analysis by producer

The costs per beneficiary include: capacity building for producers on improved organic cotton production techniques, governance techniques and management of production units and various other modules through training. Other practical actions have also been realized thanks to the investment. These include the distribution of seeds, support for the creation of manure pits, the establishment of seed farms and other actions aimed at improving the marketing of cotton to producers, including participation in fairs and round tables with buyers.

During the 2015-2016 period, the project experienced a decrease in the number of beneficiaries, and is reflected in the efficiency indicators. In fact, from 8,457 beneficiaries in 2015, this number declined to 7,793 in 2016, a decrease of 7.85%. The overall cost of the activities was thus affected with a decrease of 2.16%. As a result, the project lost economies of scale, raising the average total cost per recipient from \$180.71 in 2015 to \$191.87 in 2016, an increase of 6.17%.

Under the same conditions and implementation approaches, if the RECOLTE project succeeds in enlisting the 10,000 target producers as planned by the end of the project, it will decrease costs per beneficiary from \$191.87 to \$149 per producer, which is a 22.3% difference. The overall cost will increase, but as economies of scale will be achieved, the cost per beneficiary will decrease.

The analysis shows that the project would have been able to reduce its costs per beneficiary by varying approaches to implementing activities. It is important to note, though, that some activities, such as the acquisition of space for seed farms in 2015, encountered obstacles that led to several expenses, which has increased the costs per beneficiary. The calculations, although not taking into account the depreciation factor of equipment and fixed assets over time, suggest a significant decrease in costs over the years. It is worthwhile to note that the equipment and fixed assets have contributed to the increase of cost per beneficiary in 2016.

UNPCB should intensify follow-ups on trainings with producers to limit annual re-trainings as much as possible. These re-trainings led to high supervision costs for the CRS team in 2016.

Costs related to Green Cross support in composting activities were high in 2016, at \$20,756. Strengthening organic compost production capacity at the producer level will limit related costs.

The purchase of a permanent truck at the UNPCB level would also have reduced the cost of seed distribution, particularly in view of its use with the installation of a ginning plant dedicated to organic cotton. But in the meantime, it will be better to plan and negotiate the implementation of the program to reduce costs for seeds and other inputs.

Cost-benefit analysis

In terms of cost-benefit analysis, the analysis shows that total production of organic cotton has been in line with the number of beneficiaries producing over the project period. With a unit price of organic seed cotton of 375 FCFA/kg², the RECOLTE project activities have made it possible for producers to benefit from a production value of \$877,500 in 2015 and \$785,850 in 2016. This is equivalent to \$104 per beneficiary in 2015 to \$101 per beneficiary in 2016.

The analysis shows that if the price of seed cotton for producers had not changed, the project activities, at a cost per beneficiary of \$180, would have generated about \$104 per beneficiary in 2015. In 2016, a return rate of 57.55% would have increased to 60.48% (a \$116 on a unit investment of \$191).

Clearly, if the price to the producer had not decreased as it did in 2016, the rate of return of the project would have increased by nearly 3% despite a decline in the number of producers of 7.85%. This decline in number of producers decreased project activity costs, but increased the cost per beneficiary.

Considering the decline of 13.33% (from 375 to 325 FCFA/kg) of the producer price of seed cotton in 2016, the rate of return in 2016 was 52.66%, a decrease of 5% compared to 2015. This is despite the decrease in the number of producers of 7.85%.

The raw analysis thus shows that the project has yielded results that limit the loss in profitability that the project would have otherwise suffered with bottlenecks in the cost control. RECOLTE should continue to intensify production at the producer level to improve farmers' agricultural productivity.

For the project to achieve an ROI of at least 100%, actions to achieve economies of scale in project activities should be considered. Additionally, the project can do more to improve sale prices to organic cotton buyers. The project has encountered a lot of obstacles in marketing cotton, which greatly impacts the price to producers. Depending on the purchasing client, the total profit could be more favorable when compared to other countries like Mali and Benin and compared to conventional cotton. The project will therefore benefit more by continuing its efforts to remove these constraints in the sale of organic cotton which have led to unsold inventories and the decline in the price on the international market.

Chart 9. Cost-Effectiveness and Benefit Analysis

Year	2015	2016	Growth rate (%)
Number of enrolled producers	8457	7793	-7.87
COSTS			
Total Costs (\$)	1,528,294.57	1,495,225.77	-2.2
Total costs per participant (\$)	180.71	191.87	+6.2
PRICES			
Purchase unit price to the producer(XOF ³)	375	325	-13.33
COST-EFFECTIVENESS			
Production volume (MT) of bio-cotton	1170	1209	N/A
Value of production (\$) producer using the reporting year price	877,500	785,850	N/A
Value of production (\$) using the 2015 year price	877,500	906,750	N/A

³ 500 XOF= 1\$

Average value of production (\$) per producer using the reporting year price	104	101	-2.88
Average value of production (\$) per producer using the 2015 year price	104	116	11.54
Cost-benefit ratio (value of production per producer/total cost per beneficiary*100) using the reporting year price	57.55	52.66	N/A
Cost-benefit ratio (value of production per producer/total cost per beneficiary*100) using the 2015 year price	57.55	60.48	N/A

Lessons learned for cost efficiency

- Intensifying the training follow-up of the producers by the UNPCB will help limit the costs of the project;
- A purchase of a truck for the transport of seed or seed cotton for ginning would limit the costs of the project;
- Intensifying producer productivity will improve the social profitability of the project;
- The diversification of the number of buyers of organic cotton in Burkina will allow the sector to achieve high internal rates of return.

4.3 Effectiveness and Impacts of the Intervention

Considering the effectiveness and impact of the RECOLTE project, the evaluation team considers that the project is on track to meet the development objectives, despite not having met all targets at midterm.

Organic cotton yields have been variable, due in part to the delayed rainy season and thus late sowing period. At the mid-term, there are no statistically significant changes in producers' productivity. The evaluation team considers this result to be expected, as it can take longer than two years of intervention to see sustainable changes in yields; the evaluation team would expect to see improvements in yield at endline.

Cohort 1 producers had higher organic cotton yields and incomes than Cohort 2 producers at midterm, although the t-test demonstrates that these differences are not statistically significant. This suggests that although the longer participation in the project has allowed producers to become more established, there is not a significant difference between producers who began earlier or later in terms of cotton yields and incomes. The evaluation team suggests strengthening project activities related to rotational crops, including marketing, to further increase revenue.

An important signal of RECOLTE's effectiveness and impact is the increased rate of women joining the project. What was originally forecasted to be 30% women is now 52% women. The inclusiveness and adjustments that the RECOLTE project has made demonstrate that the project is effective in supporting the economic livelihoods of poor women in Burkina Faso. Women face high barriers to entry into conventional cotton production, which is dominated by men. However, the RECOLTE project has assisted in making space for women to be able to participate in organic cotton production, which has lower barriers to entry with its lower input requirements and higher sale price. The revolving fund set up by CRS and UNPCB with the funds from Limited Brands increases impact for women even further, supporting women in other economic activities.

The evaluation team explored the project's impact on the livelihoods of producer families in the qualitative interviews. Most producer groups interviewed shared stories of increased food security, financial resiliency, housing upgrades, and health and education that have become accessible due to their increased revenues, even though the midterm quantitative data did not show such increases. The evaluation team would expect to see quantitative indication of increased revenues at the endline.

During focus group interviews, producers also cited positive changes in their communities due to their participation in the RECOLTE project. One such change at a community level is the use of the FairTrade premium for community investments. Producer groups receive a part of the FairTrade premium after the sale of their cotton, and this money is used on community-identified social development projects. For example, the organic cotton producer group [REDACTED] in the Comoe province uses their FairTrade premium to pay the school fees of all participating members' children. The [REDACTED] group in [REDACTED] village uses their premium as a source for emergency funds, thus contributing to improved resiliency to shocks and stressors.

The number of individual direct and indirect beneficiaries reached by the project remains on track, with 8,382 direct beneficiaries and 64,160 indirect. These numbers represent producers that have benefited from RECOLTE project activities, including those who later left the project, for reasons discussed earlier in the report. This represents an 80% achievement rate for direct beneficiaries and 128% achievement rate for indirect.

For more information on the progress of project implementation, all activities and indicators referred to are in Annexes 5 and 6. The midterm activities achievement rates give insight into the progress of the project implementation. For activity indicators, yearly target achievement rates are included, and for outcome indicators, overall achievement rates are provided.

4.3.1. Strategic Objective 1: Increased agricultural productivity

The RECOLTE project's activities associated with SO1 have been developed to provide a holistic approach to increase agricultural productivity. In order to increase agricultural productivity, the project has worked to improve land and water resources, has provided training on and improved access to agricultural techniques and technologies including improved inputs, and provided training on improved farm management, including support to improve infrastructure for on-farm production and access to financial services (see Annex 1 for the results framework). This section will present the results related to SO1's indicators and activities.

The agricultural productivity activities and indicators were developed with four critical assumptions in mind:

- (i) The rainy season will be normal in target areas
- (ii) The price of inputs will remain favorable
- (iii) The price of seed cotton will be favorable for producers
- (iv) Pest infestations will be appropriately managed

Assumptions (i) and (iii) have both been challenged during the lifetime of the project. As described previously, the rains arrived a month late during the 2015-2016 cotton farming season. This impacted the production of organic cotton, both in yield and in quality. Additionally, the price of seed cotton and its favorability towards producers has been challenged with the withdrawal of Limited Brands' purchase agreement with UNPCB that caused the price of seed cotton per kilogram to decrease from 375 FCFA/kg to 325 FCFA/kg. This price remains higher than conventional cotton, but still results in a decrease in revenues for participating producers.

Contributions to increased agricultural productivity

According to the project framework for the RECOLTE project, increased agricultural productivity is measured through: (i) an increase in the average yield of organic cotton per hectare; (ii) an increase in the average value of production per hectare; and (iii) an increase in the average surface area sown in hectares per producer.

Midterm data indicates that agricultural productivity and value of production per hectare have not increased among producers since the baseline. In fact, the average yield of organic cotton has decreased by 35.6% and the average value of production per hectare has decreased by 34%. A major contributor to this decrease in agricultural productivity and value was the poor rainfall during the planting season. Additionally, data collection occurred before the 2016/2017 harvest was complete; thus, the midterm data reflects only two production seasons during the life of the project.

The third measurement, an increase in the average surface area sown in hectares per producer, has changed as a target for increased agricultural productivity since the beginning of the project. At midterm, the average area cultivated per producer remains much lower than the target, at 0.6 ha/producer (on average, 0.98 ha for men and 0.55 ha for women). This is because of the increased participation of women in the RECOLTE project, who, due to cultural gender norms, have less access to land and thus smaller parcels of lands to cultivate. CRS and UNPCB suggest that measuring surface area is not a realistic target for increasing productivity of organic cotton among the project's targeted farmers.

Outcome indicators

Cotton harvest in kg/ha is targeted at 600 kg/ha, with a baseline of 470 kg/ha and a midterm result of 287 kg/ha. This is due to a difficult 2015/2016 harvest year. Late rains shortened the farming period, with too few months of rain for good cotton growing conditions. Inputs, such as certified organic cotton seeds, were delayed and were not sown at the ideal time. Thus, the yield was negatively impacted.

The monetary value per hectare of cotton production dropped from 152,000 FCFA/ha to 107,625 FCFA/ha. This is still a high price; as organic cotton has more value per kilogram. Yet, the low yield led to low value per hectare of production.

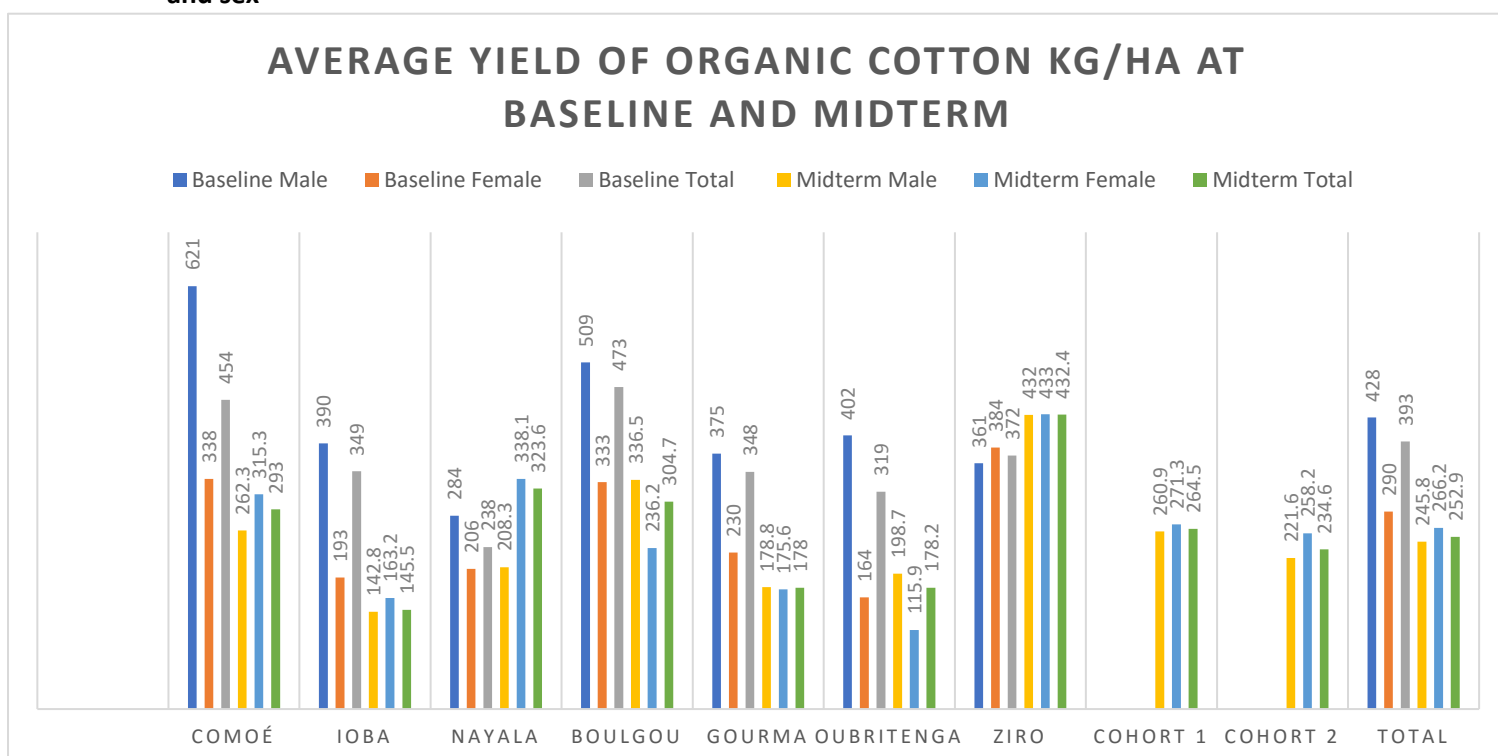
As discussed above, the average area cultivated per producer (ha) has not met its target for 1 ha. This is due to the increase in women participants, who have lower access to land. Thus, the average area remains 0.6 ha, and the target of 1 ha is suggested to no longer be a realistic target for increasing the productivity of organic cotton among the project's targeted farmers.

In calculating the agricultural production outcome indicators at the midterm, 242 of the 775 producers sampled and surveyed for this indicator were not included in the data analysis. This included 240 producers who did not know the area of their farm in hectares and were therefore excluded from the analysis, as well as 2 producers who did not know the value of their production per hectare in FCFA and were also excluded from the analysis.

Average yield

As seen in Chart 10, average organic cotton yield was 393 kg/ha at baseline, while at the midterm, it was 252.9 kg/ha – a decrease of 35.6% and well below the project target of 600 kg/ha. This decrease in organic cotton production from baseline can be explained in part due to the poor rainfall during this period. Late rains shortened the farming season, with too few months of rain for good cotton growing conditions. The irregular rainy season lasted 2.5-3 months, while a full cycle from sowing to maturity requires four months of rain. This impacted conventional cotton as well: one conventional cotton company reported a 40% decrease in yield in the 2015/2016 season. UNPCB also faced delays in providing certified organic cotton seeds to producers, resulting in the cotton crop not being sown at the ideal time. As a result, yield and production dropped.

Chart 10. Average yield (kg/ha) of agricultural products at baseline and midterm by cohort, zone, and sex



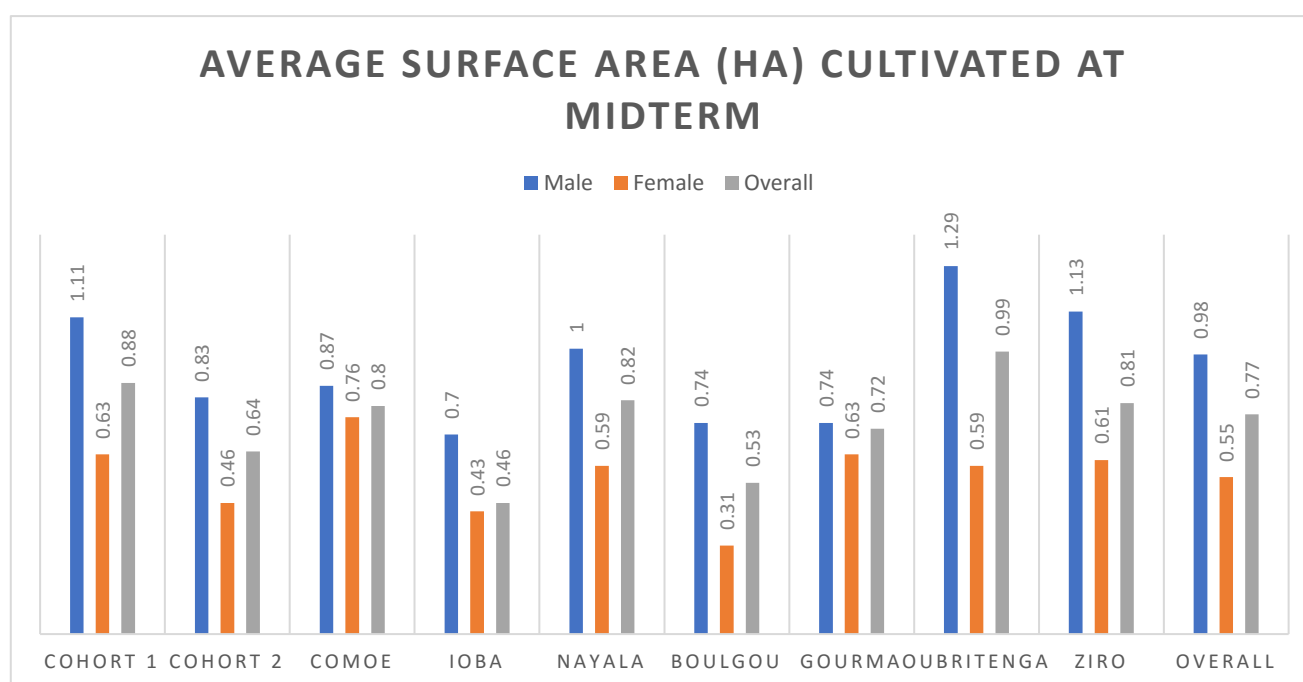
The cohort analysis reveals that average organic cotton yield was slightly higher for Cohort 1 (265 kg/ha) than for Cohort 2 (235 kg/ha). The t-test revealed that organic cotton yields between the two Cohorts are not statistically different in terms of characteristics that could affect the outcomes of interest, thus the difference in terms of average organic cotton yield could be due to the contribution of RECOLTE. This difference between the two cohorts could be due to the RECOLTE project as the longer period of program participation, long term adoption of farming practices, and skill gained for Cohort 1 could contribute to higher average value of production.

Average yields per hectare were also higher at mid-term for women (266.2 kg/ha) than for men (245.8 kg/ha). This is in contrast to the situation at baseline, which showed men having higher yields than women (428 kg/ha versus 290 kg/ha). The production gap between men and women has decreased at midterm, and while men and women both faced decreases in production at midterm compared to baseline as described above, women's decreases were less substantial than men's.

The Comoe and Boulgou regions have the highest average organic cotton production considering baseline and midterm results, with 454 kg/ha and 473 kg/ha at baseline, respectively, while the Ziro and Nayala regions both experienced increasing yields from baseline to midterm unlike the other regions that all experienced decreasing yields.

The Ziro region had increasing yields from baseline to midterm as it is situated in southern Burkina Faso, at the Ghanaian border. This region receives more rain than the other production zones, and the 2015 shortened rainy season did not have the same timeline in Ziro in particular.

Chart 11. Average surface area cultivated at midterm per producer by cohort, sex, zone, and crop



The average surface area (ha) cultivated by producer is 0.77 ha. Through the cohort analysis, Cohort 1 has an average of 0.88 ha per producer, while Cohort 2 has an average of 0.64 ha per producer.

To further understand the difference between the two cohorts, one must consider the average area cultivated per producer by gender. Overall, men cultivate an average of 0.98 ha, while women cultivate on average 0.55 ha. Most of the new producers in Cohort 2 are women, who have less access to land than men, thus making the average size of cultivated land less than the original project goal of 1 ha. The new producers that make up Cohort 2 have been predominately women who not only have cultural boundaries in land access, but also to the size of land that they can cultivate. The decreased surface area is thus a representation of the increased participation of women in the RECOLTE project.

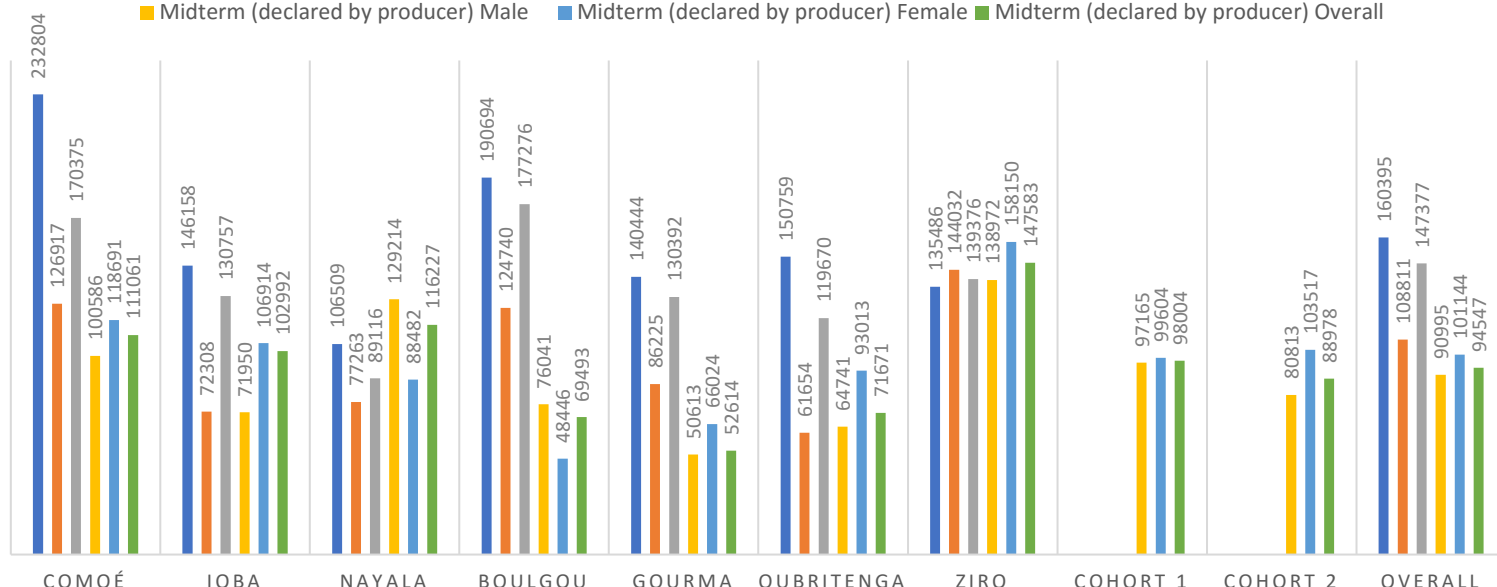
Average value of production per hectare

At midterm, the value of organic cotton production per hectare was a 94,547 FCFA/ha compared to the baseline value of 147,377 FCFA per hectare for organic cotton. The target for the endline is 195,000 FCFA.

Chart 12. Average value of production in FCFA/ha at baseline and midterm per sex, zone, and crop

AVERAGE VALUE OF PRODUCTION IN FCFA/HA AT BASELINE AND MIDTERM

■ Baseline Male ■ Baseline Female ■ Baseline Overall
 ■ Midterm (declared by producer) Male ■ Midterm (declared by producer) Female ■ Midterm (declared by producer) Overall



Overall, Cohort 1 had a higher average value of production per hectare than Cohort 2, with 98,004 FCFA/ha and 88,978 FCFA/ha respectively. On average, producers in Cohort 1 have a production value of 86,244 FCFA from organic cotton, while producers in Cohort 2 have an average production value 56,946 FCFA from organic cotton. However, while men's value of production was lower in Cohort 1 than Cohort 2, women's value of production was slightly higher. This difference between the two cohorts could be due to the RECOLTE project as Cohort 1 has higher average yield and thus higher average value of production, which could be attributed to longer term participation and skill building in the project.

On average, women were earning 32% less than men at baseline, with 108,811 FCFA/ha earned by women compared to 160,395 FCFA/ha earned by men. However, at midterm, as with the yields described above, this income gap has decreased and women at midterm earned 10% more than men overall (101,144 FCFA/ha for women and 90,995 FCFA/ha for males). This is even more pronounced in Cohort 2, where women have 21.9% higher yields than men. This positive improvement in women's incomes could be due to the project's activities to overcome barriers to women's access to productive inputs; for example, distributing farming tools directly to producers rather than to producer organizations, thus improving women's access to the tools and promoting higher agricultural productivity among women. This will be discussed in further depth later in the report.

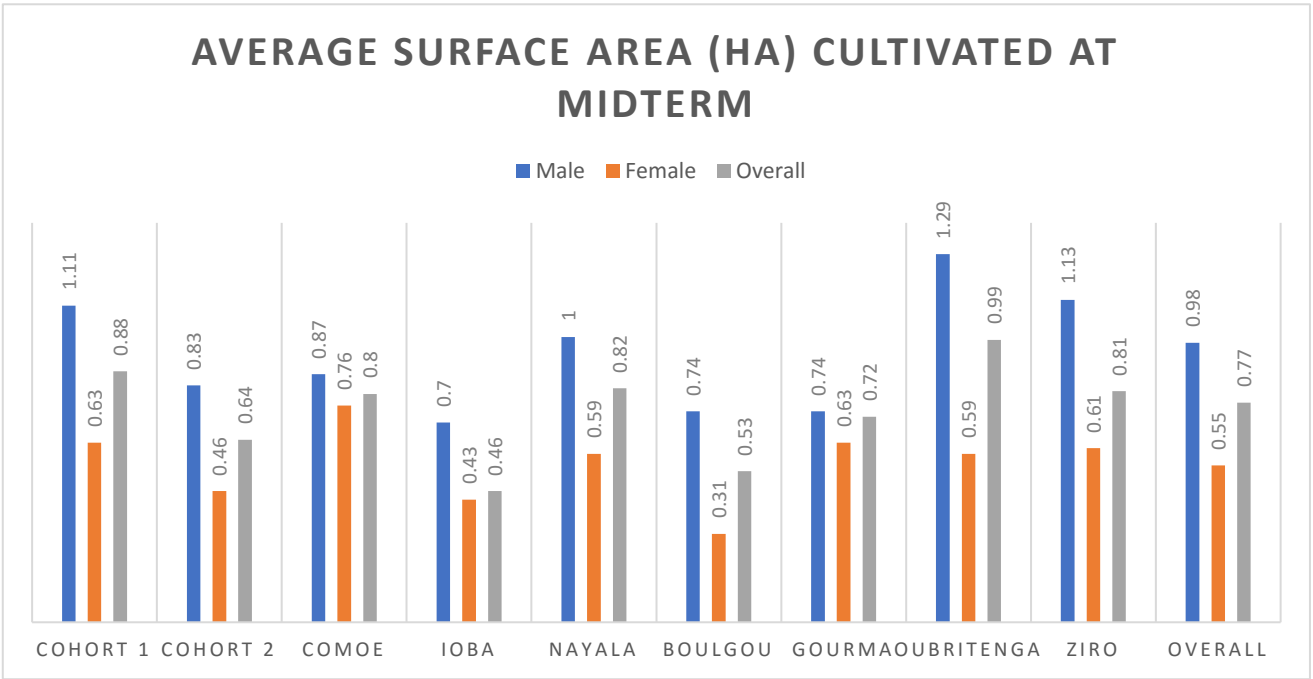
The production zones with the highest average value of production are Comoé (130,757 FCFA/ha) and Boulgou (177,276 FCFA/ha), which are also the zones with the highest average yields per hectare. However, these regions also experienced very sharp decreases in value per hectare at midterm compared to baseline. However, as with the yields, Ziro and Nayala had higher average value of production at midterm compared to baseline, while the other regions had decreasing average value from baseline to midterm. As discussed earlier, Ziro is situated in a rainier region of Burkina Faso.

Several factors influenced the overall decrease in the average value of production per hectare from baseline to midterm. The first was the decrease in the prices received by the producers due to the loss of the special premium that had been provided by Limited Brands. Once their purchasing agreement was terminated, the price of organic cotton for producers decreased leading to lower value per hectare of production. As described above, the factors related to the late rains and the delayed inputs also impacted production and thus revenue for the producers. Additionally, UNPCB paid producers later than usual due to difficulties they faced to secure the necessary bank loan.

Average surface area cultivated

As previously stated, the project objective was to increase the surface area cultivated to 1 ha per producer. However, at midterm, the average surface area (ha) cultivated by producer is 0.77 ha.

Chart 11. Average surface area cultivated at midterm per producer by cohort, sex, zone, and crop



As stated above, producers in Cohort 1 cultivate an average of 0.88 ha of organic cotton, while producers in Cohort 2 cultivate an average of 0.64 ha. Overall, men cultivate an average of 0.98 ha, while women cultivate on average 0.55 ha. Cohort 2’s lower values for average surface area cultivated are influenced by the fact that most of the new producers in Cohort 2 are women, who have smaller land plots than men. As described above, women not only face cultural constraints to land access in general, but also limitations in the size of parcels that they can cultivate. The fact that the surface area objective of 1 ha/producer has not been met is thus related to the increased participation of women and other vulnerable producers in the RECOLTE project, and not an indication that these vulnerable producers have not improved their production capacity.

The data presented here for increased agricultural production in terms of average yield, surface area, and value of production show that the overall project objectives for these three indicators have not yet been achieved at midterm. The evaluation team maintains that this is not due to a poor strategic fit of the project to the context, but rather to external influential factors, such as the inadequate rains during this project period and other factors described above.

Increased use of improved agricultural techniques and technologies

The use of improved agricultural techniques and technologies is encouraged throughout RECOLTE project activities. These include:

- Crop rotation
- Regulations for organic production and commercialization
- Identifying and preparing appropriate land
- Seed and crop management
- Harvest and post-harvest techniques
- Regulations for GMO contamination
- Water and soil conservation practices, for example: zai, stone barriers, half-moons, earthen dams, mulching, compost, crop rotation, agroforestry, live fencing and grassy hedges

The techniques have been disseminated through trainings and the use of demonstration plots. Trainings include organic farming and FairTrade principles, awareness and prevention of child labor, cotton production, organic pesticide use and treatment, and harvest and post-harvest techniques. Each year, UNPCB organizes three training sessions for organic cotton producers. The trainings follow a cascade format: the Zone Chiefs are trained by UNPCB, CRS, and INERA on organic cotton production, financial management and agricultural technologies, and seeds, respectively. In turn, the Zone Chiefs train the Organic Field Agents who in turn train the producers. Producer-level trainings are led by each Organic Field Agent, with support from the Zone Chief, using demonstration plots. The trainings are typically held between June and October, to have flexibility with the planting season. Additionally, Organic Field Agents hold repetitions throughout the year as part of their monitoring activities.

Demonstration plots are led by a model producer. During the agricultural season, producers visit the demonstration plots and receive hands-on training on the following agricultural techniques: application of organic fertilizer, spacing during sowing, application of 'batik' organic pesticide, comparison between organic pesticides 'batik', 'helitex', and 'metamix', and other organic practices to enhance cotton production.

The batik organic pesticide is made by Saphyto, a natural input company in Burkina Faso. Batik is a product that conforms to organic standards via Europe (CE) and the US (NOP). It's made up of the bacteria *bacillua thurigiensis*, a bacterium that improves the soil's nutrients and protects it from pests.

At midterm, 6,243 producers are using improved techniques and technologies, thus achieving 78% of the outcome goal of 8,000. This is on-track to achieve 100% of the goal by the end of the project. Additionally, 3,792 ha are under improved technologies, achieving 63% of the 6,000 ha outcome goal.

Training and use of new technologies and techniques

New technologies and techniques for agricultural production were among the most highlighted benefits of the RECOLTE project in the producers' focus group discussions. The adoption of the agricultural technologies and techniques were verified via site observations. Virtually all interviewed producers are pleased with the promoted technologies and have found that the techniques improve their organic cotton production. In contrast to the midterm production yield data, producers in the focus groups share the perspective that the techniques have improved the productivity of their cotton, and have increased their dedication to continue producing organic cotton and rotating crops according to the organic certification regulations.

Producers cite three main constraints to using the agricultural production techniques and technologies: timing of seed availability, sufficient compost, and gender roles.

Regarding input availability, the certified organic seeds that are made available to producers from INERA have been delayed during the two sowing periods that have occurred during the life of the project. Delayed seeds availability results in delayed sowing, which ultimately impacts the quality and quantity of organic cotton harvested. This problem was a common complaint in the focus groups.

Regarding compost production, there is a contradiction between the quantitative data and the focus group information. 100% of producers surveyed have been trained in compost production by Green Cross, and 100% report using the pit compost technology to produce organic fertilizer. Yet, information gathered in the focus group surveys reveal that compost availability is a major constraint, with access to water cited as the main constraint to compost production. Producer groups note that water required for compost production is either not available, or at such a distance from their compost pits that transporting water to the pit is not considered an efficient use of time and labor. While compost use has been shown to increase organic cotton production, it is recommended that the project address this contradiction to find if limited compost production is a barrier to this objective.

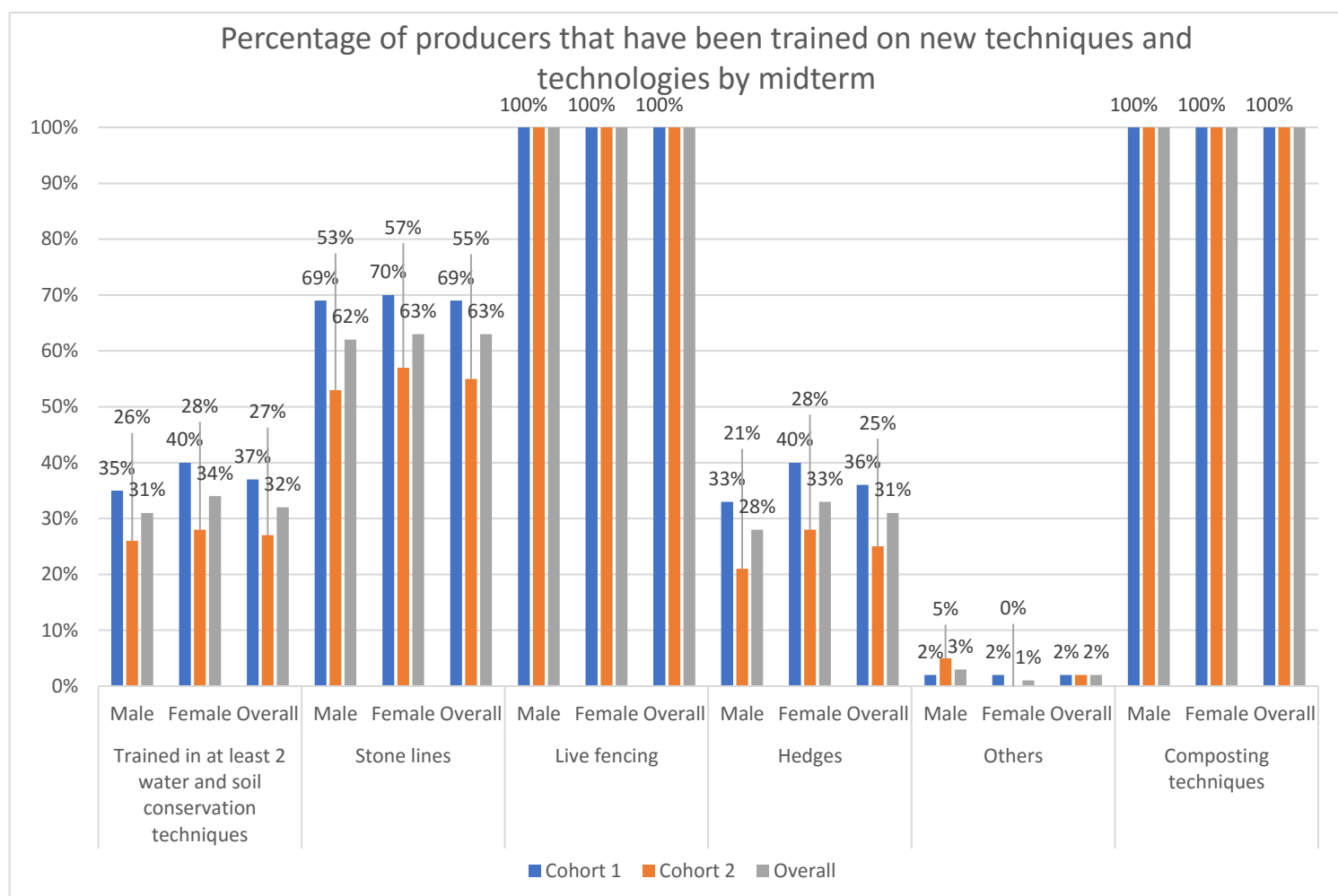
Most significantly, focus group participants noted gender as the biggest constraint to access to resources for agricultural productivity. Each producer group discussed with interviewers the constraints women face to access resources to implement the techniques and technologies. Women consistently access tools last as men have priority use of household agricultural tools such as labor animals and carts for harvest collection and transport. As women often borrow land from their husbands, they also have less autonomy over continued access to the land.

It is interesting to note, however, that women have higher rates of use of some improved agricultural techniques and technologies than men (**Charts 14 and 15**). Overall, application rates are similar between men and women, with women slightly higher according to the midterm evaluation survey: 91% of women and 87% of men use improved agricultural techniques (**Chart 14**).

Among the production zones, all zones have high rates of producers applying new agricultural techniques and technologies. The exceptions to this are Oubritenga, with 68.9% of producers using new techniques, and Ziro, where 60% of producers are using the techniques.

Almost all producers have been trained in live fencing and composting techniques through the RECOLTE project (**Chart 13**), whereas other trainings have much lower rates of participation. The RECOLTE project team has recognized that the knowledge level of producers after the first two years of training showed serious gaps, and thus will be implementing a new training strategy starting in November 2016, which will help to achieve the goals of 8,000 producers applying improved techniques.

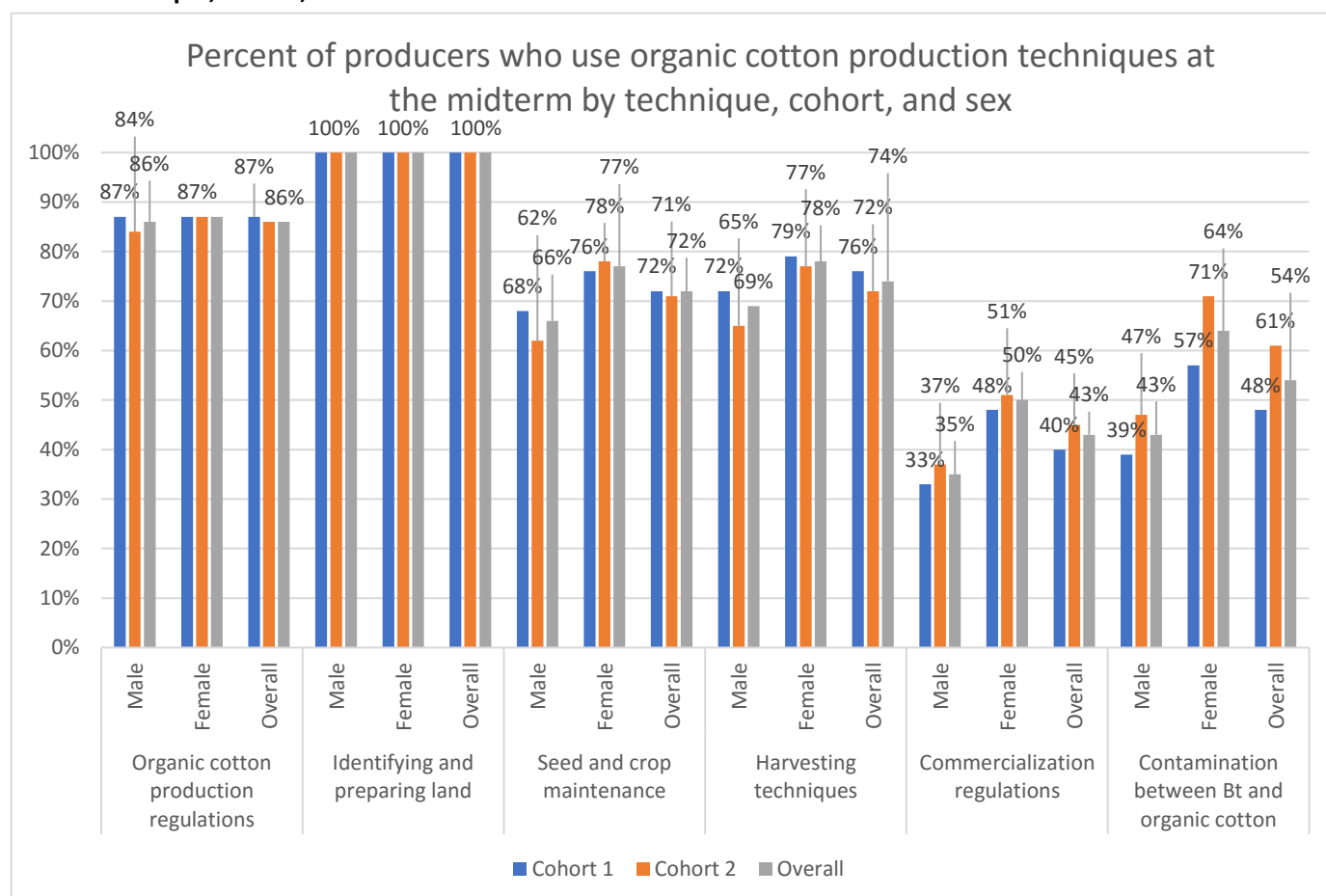
Chart 13. Percentage of producers that have been trained on new techniques and technologies by midterm



The technologies and techniques used to improve organic cotton production are many. The following two charts indicate the percent of producers who use organic cotton production techniques. Chart 14 includes techniques that are particular to cotton production, while Chart 15 refers to techniques applicable to crops more generally.

Chart 14 demonstrates the percent of producers who use organic cotton production techniques at the midterm. The techniques that the producers are trained on include organic cotton production regulations, identifying and preparing land, seed and crop maintenance, harvesting techniques, commercialization regulations, and avoiding contamination between Bt and organic cotton. These techniques are crucial to production of organic cotton that is compliant with certification standards.

Chart 14. Percent of producers who use organic cotton production techniques at the midterm by technique, cohort, and sex

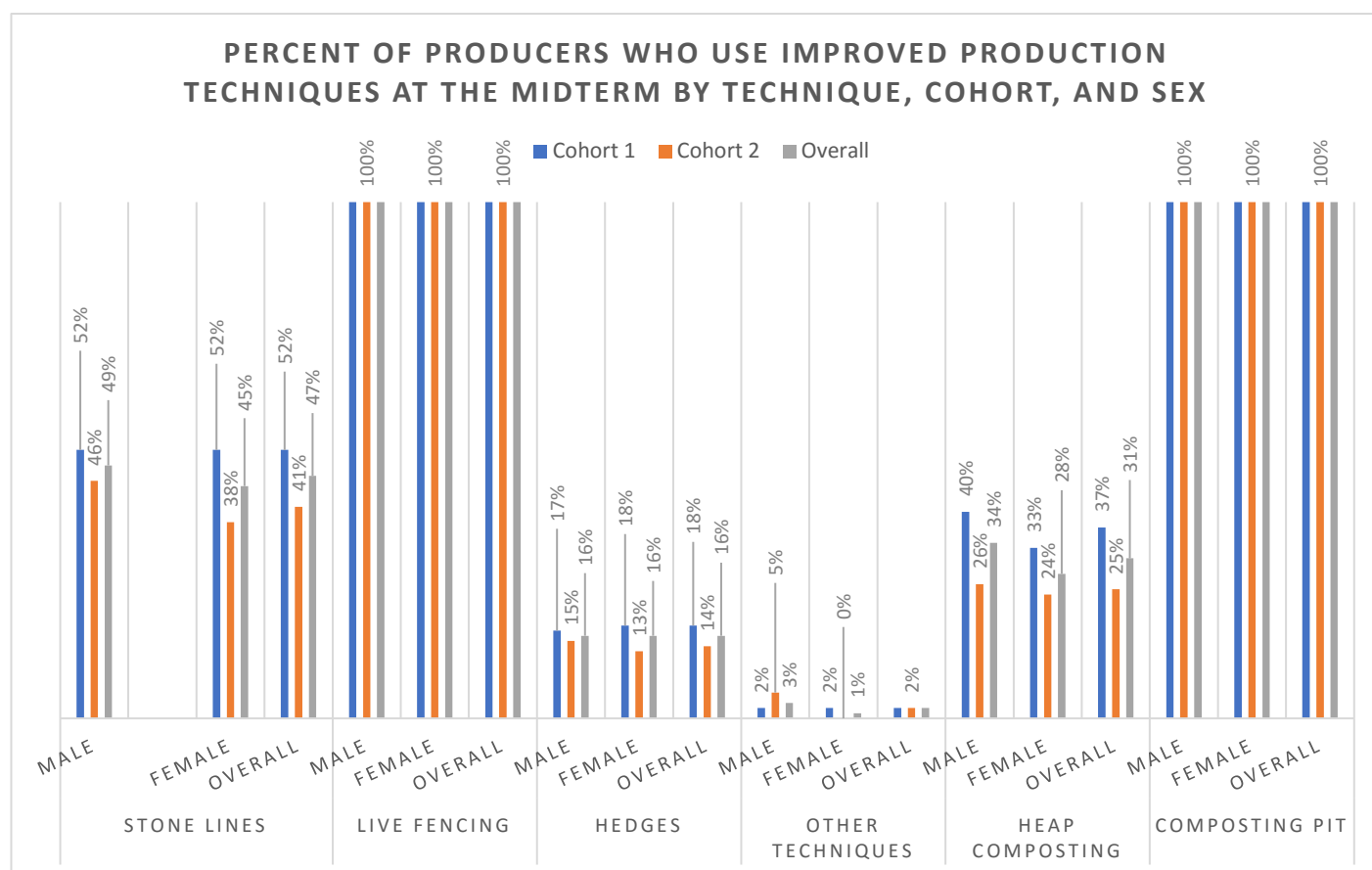


The most used technology is identifying and preparing land, and organic cotton production regulations. These are two of the most important technologies to master for organic cotton production. It is also of note that women have higher rates of implementation of improved techniques than men. This could be because they have a smaller surface area to maintain, allowing for them to use more techniques at a higher rate, than men, who would have to cover more area.

The category 'contamination between Bt and organic cotton' refers to producers who apply techniques to avoid contamination of their organic cotton by conventional, Bt cotton. To qualify for participation in the RECOLTE project and the organic cotton program at UNPCB, producers must follow strict guidelines to avoid contamination. The low levels of response to this question do not reflect that producers are contaminating their organic cotton. Instead, these low levels relate to the fact that many producers in the project do not cultivate conventional cotton, and thus the question of contamination does not relate to them (i.e. they are not practicing the technique because they do not need to).

Chart 15 shows the percent of producers who use improved general crop production techniques at the midterm by technique, cohort, and sex. The techniques included here are stone lines, live fencing, hedges, other technologies, composting using the heap method, and composting using the pit method.

Chart 15. Percent of producers who use improved production techniques at the midterm by technique, cohort, and sex



Live fencing and composting pits were among the most applied techniques for improved production, both with 100% implementation across sex and cohort. Live fencing is not only a very popular agricultural practice in the organic cotton production zones of Burkina Faso, but previous donor projects emphasized the technique before RECOLTE began, such as one that distributed tree saplings and live fencing seedlings in early 2013.

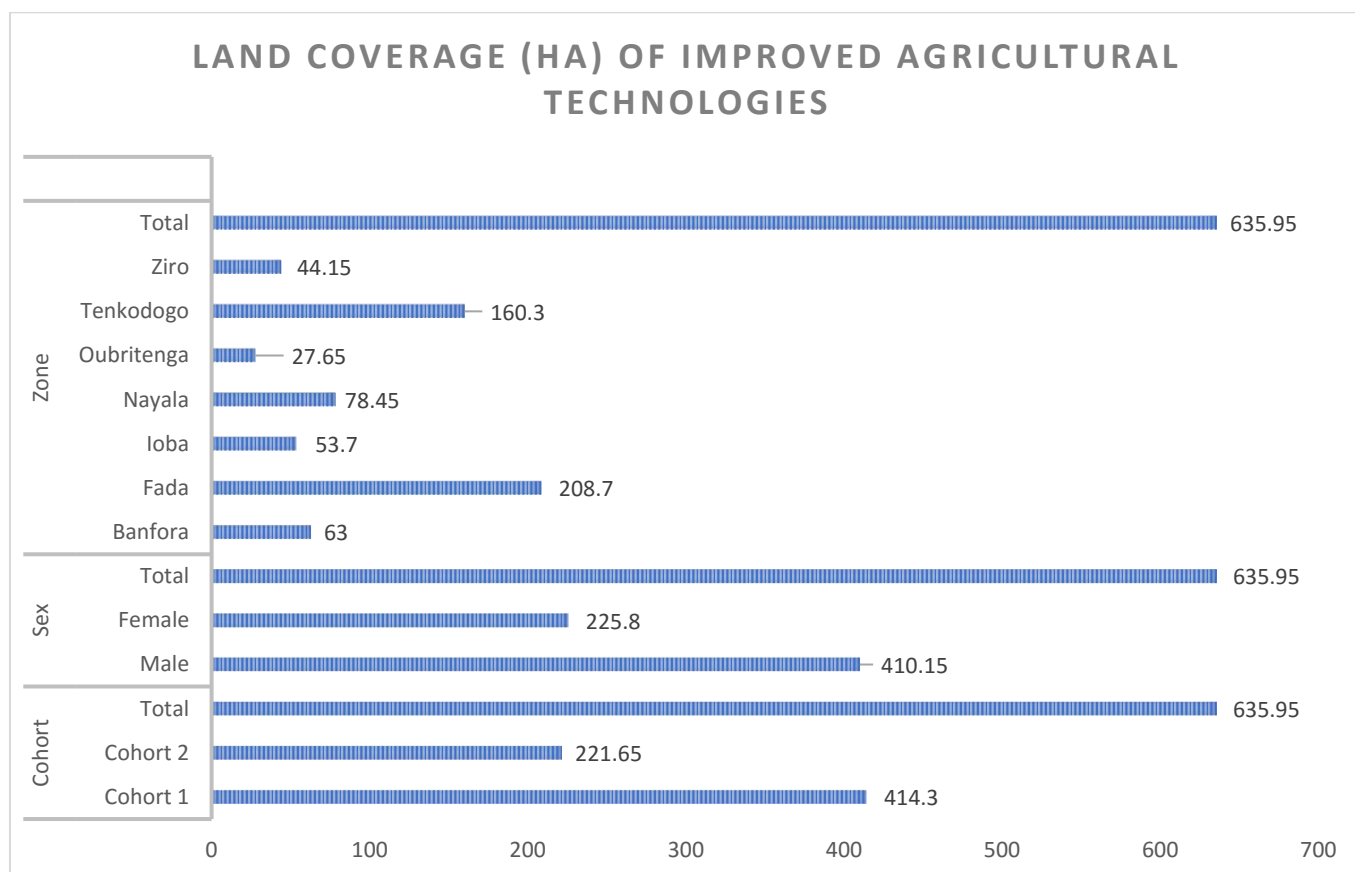
However, as discussed previously, producers face constraints in producing adequate amounts of compost due to challenges in accessing water. Furthermore, in analyzing the data on compost use, it was discovered that the data collection on this question was not specific to compost, but included the use of all types of organic fertilizer. While conducting interviews, it became apparent that while all producers have been trained on the use of composting pits, they are not often used, especially not by women. Instead, producers were referring to their use of organic fertilizer more generally, which is traditionally comprised of animal manure and crop residues from other organic crop harvests. Further exploration of this issue is recommended.

Overall, stone lines are used more often by men than women, especially in cohort 2, where 46% of men use the technique and 38% of women do. This is possibly due to the physical constraints for women to carry large stones. However, the percentage of women in Cohort 1 who use stone lines is as high as that of men (52%), indicating that perhaps over time women are able to find the resources to implement this technique.

Hedges are rarely used in both cohorts, at a rate of 18% and 14% for Cohorts 1 and 2, respectively. Compost heaps are also used at lower rates, by 31% of producers overall at midterm. This is due to the

dry environment of Burkina Faso which does not provide enough air moisture to support an exposed compost heap.

Chart 16. Land coverage by hectare of improved agricultural technologies of sampled producers



The cumulative total number of hectares on which improved techniques and technologies were applied stands at 3,792 ha at midterm: a 63% achievement rate towards the 6,000 ha outcome goal. **Chart 16** shows information on land coverage gathered from the survey sample for the mid-term evaluation. The cohort analysis shows that Cohort 1 implements the improved agricultural techniques on 414 ha, while Cohort 2 implements on 221.65 ha. Thus, 65% of the land cultivated under improved agricultural technologies is cultivated by Cohort 1. It is important to recall that mainly women comprise Cohort 2, which explains the lower land coverage, as they traditionally have less access to land. Men apply the technologies to 410 ha, while women do so on 225 ha. As women have lower access to land, yet higher application rates (see discussion above), this difference in hectares under improved techniques is not necessarily indicative of a low adoption rate by women.

The differences in land coverage of improved practices by cohort may also be related to the longer amount of time that Cohort 1 has had to implement the techniques, and the potential for them to have attended more trainings than producers in Cohort 2.

Increased availability of improved inputs

RECOLTE activities that seek to increase the availability of inputs are: purchasing organic cotton seed from INERA, creating foundation seed multiplication plots for organic cotton, providing subsidized equipment, and creating organic cotton and rotational crop seed farms.

At the time of the midterm, 2,600 kg of organic cotton seed had been purchased in 2015, exceeding the target of 1,350 kg. This is to catch up for the previous year, where 0 kg of seeds were purchased. Activity targets to establish foundational seed multiplication plots were met for both 2014 and 2015, with plots established in both years. Two organic cotton seed and rotational crop seed farms were created in 2014.

Chart 17. Seed needs and distribution (kg) by zone for the 2015-2106 farming season

Zone	Comoe	Gourma	Ioba	Nayala	Oubritenga	Boulgou	Ziro	TOTAL
Cotton seed needs (kg)	5,250	38,250	6,300	15,600	2,700	45,000	18,000	131,100
Seeds distributed (kg)	10,850	44,997	25,818	20,363	3,090	65,186	30,432	200,737

Chart 17 demonstrates the seed needs met by region for the 2015-2016 farming season. Overall, 153% of seed needs were met; however, these needs were not met in a timely manner. A major constraint for the 2015 sowing season, as cited by producers in focus groups, was the delayed arrival of seeds. Seed delay was due to both the delayed delivery of inputs and the delayed ginning and certification of seeds to be re-distributed by UNPCB. This was one contributing factor to the low agricultural yield from this growing season.

Organic cotton seeds are managed by both INERA and UNPCB. INERA conducts seed research and produces foundation seeds for breeding. The breeding seeds are available around February/March each year. INERA also maintains two seed farms to replicate the foundation seed. Experimental organic farming techniques are applied for demonstration and research at these locations.

UNPCB manages the distribution of seeds to participating producers. Once the organic cotton is ginned and seeds are extracted (which happens after the conventional cotton has been ginned and the gin cleaned), UNPCB sends the seeds to Europe to be certified as organic. The seeds are then returned to UNPCB, who distributes them to producers. However, this process can take time and the seed distribution to producers can occur around June, a month after rainy season and when the planting season typically begins. Virtually all interviewed producer groups cited the delayed arrival of inputs as a major challenge to their production and a disincentive to participate in organic cotton production and the project.

UNPCB also manages the distribution of inputs such as organic pesticides and organic fertilizers. UNPCB also works with Green Cross for technical assistance in compost and SAPHYTO for farming inputs, materials, and trainings. The RECOLTE project subsidizes work with Green Cross, while UNPCB purchases equipment directly from SAPHYTO. Both entities have held trainings for Zone Chiefs, Organic Field Agents, and producer groups, to promote compost production and proper use of equipment.

As discussed earlier in this report, the RECOLTE project updated their equipment strategy to strengthen input supply. By switching from a strategy focused on producer groups to making equipment investment available to individual producers, 2,633 equipment inputs were made to be financially accessible to project participants over the life of the project. This is beyond the original target of 45 pieces of equipment in 2014 and 60 pieces of equipment in 2015. The equipment includes: transportation equipment, oxen, small equipment, harvest and post-harvest sacks and tools. This has aided 2,650 producers.

The project set up an input fund for the purchase of organic pesticides such as Batik.

Chart 18: Average cost of inputs in FCFA at baseline

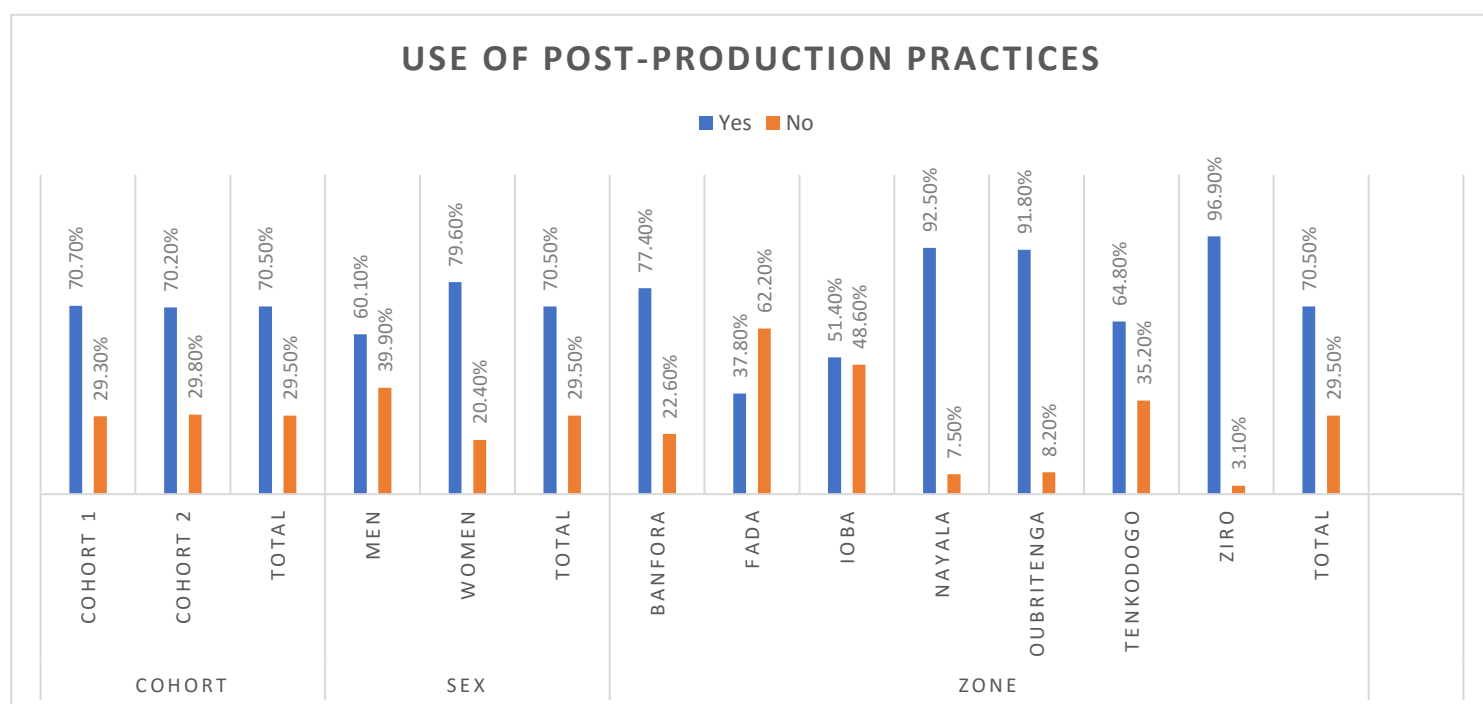
ZONE	Total	Men	Women
Comoé	31,258	38,582	27,788
Ioba	22,724	24,172	17,588
Nayala	21,695	13,192	24,828
Boulgou	23,487	20,302	30,921
Gourma	11,424	11,942	9,827
Oubritenga	18,387	24,465	13,120
Ziro	29,885	30,151	29,507
Average	21,047	19,611	23,952

Improved infrastructure to support on-farm production

RECOLTE built silos and other storage infrastructure for UNPCB use. This improved storage infrastructure allows UNPCB to maintain a clean, organically certified environment for the organic cotton. Cross contamination risk is reduced with these additional storage options.

At producer level, on average, 70% of producers have reported improved post-production operations, in harvest and storage, for rotational crops (Chart 19). Nonetheless, storage remains a problem for producers. Most producers participating in organic cotton production do not have easy access to storage spaces. Only 16.8% of growers have access to the UNPCB warehouse (15.8% of men and 17.7% of women) (Chart 20). These figures are improved from the baseline, when only 12.5% of growers had access to the UNPCB warehouse (14% men and 10% women), but still remain low.

Chart 19: Producers with access to quality/effective off-farm storage



Storage of organic cotton harvest at midline

Charts 20 and 21 below illustrate the storage practices of organic cotton producers. At the midline, over half of all producers utilize a personal storehouse for their organic cotton. In all zones except Banfora, access to the UNPCB warehouse is limited. Producers are obliged to store their raw seed cotton at home until the cotton gin is available (organic cotton is ginned after all conventional cotton in Burkina Faso has been ginned and the machine cleaned in order to avoid cross-contamination). This exposes the organic cotton to other sources of contaminants or destructive environments such as pests, animals/rodents, chemicals, and weather.

Chart 20: Type of storage facility by cohort, sex, and zone

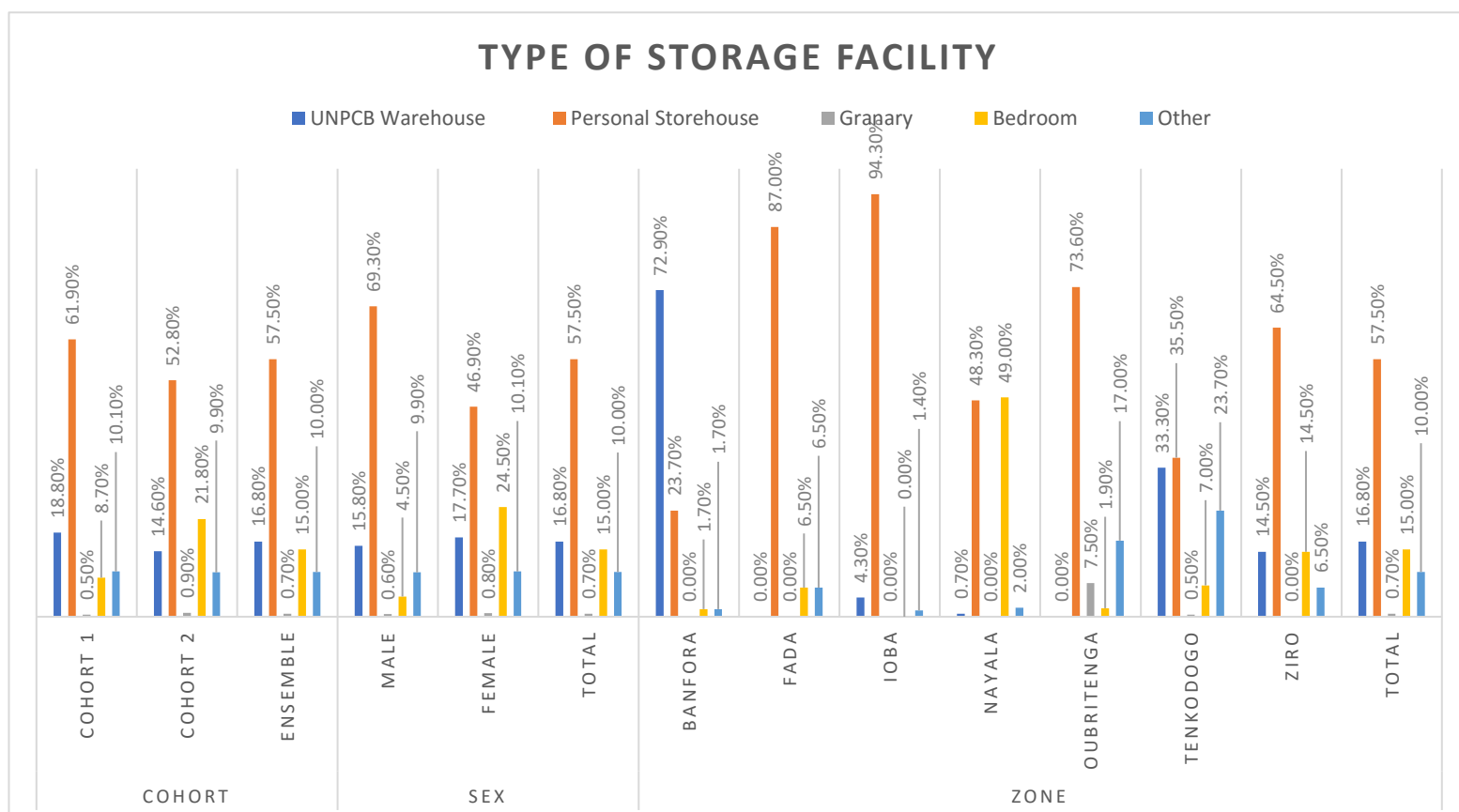
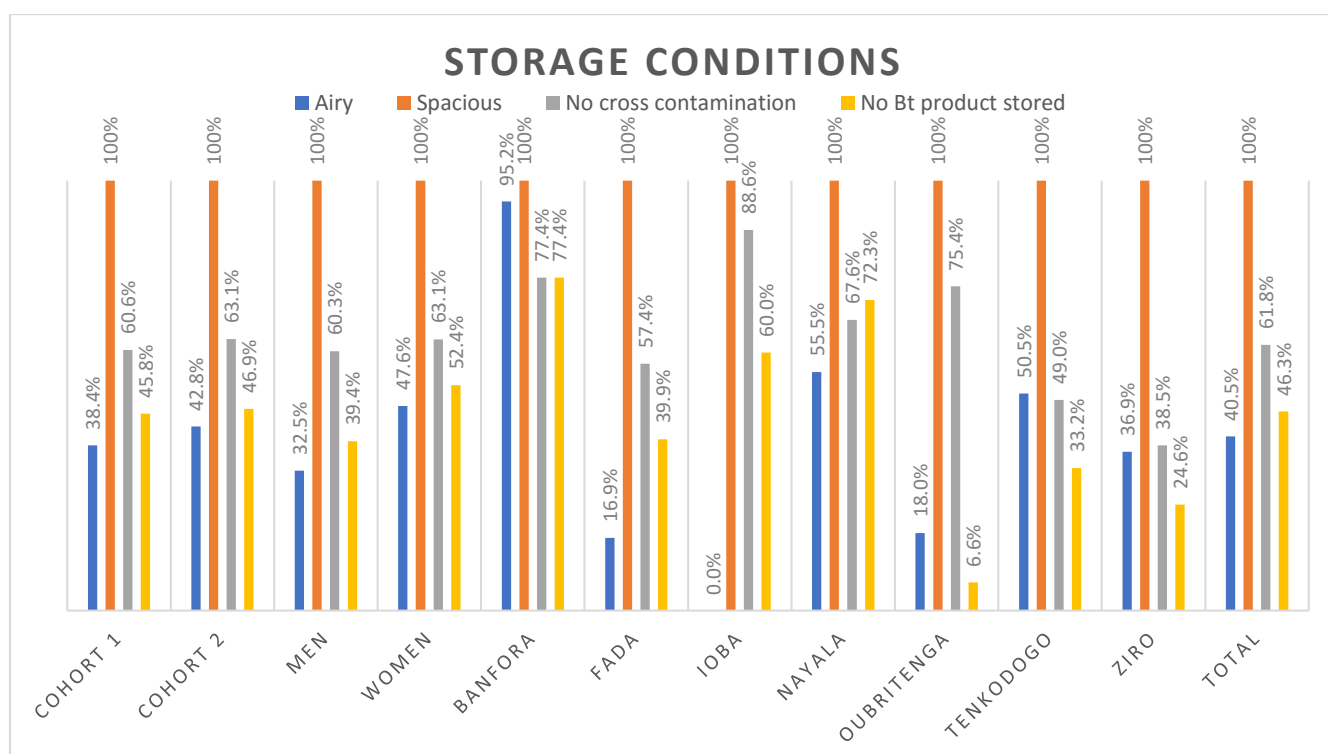


Chart 21 below describes the storage unit characteristics. Over half of focus group respondents reported contamination of their storage spaces.

Chart 21: Storage unit conditions by cohort, sex, and zone



Increased use of financial services

Producers are accessing credit from UNPCB, RECOLTE, Credit Union Network (RCP), Institution de Microfinance and other structures. This evaluation assessed producers' access to credit both for inputs and for equipment. The producers interviewed in the Oubritenga and Ziro zones have high variations between midterm and baseline responses in terms of access to credit (**Chart 22**). This is due to the formulation of the interview question. Producers in these areas do access credit through the RECOLTE project, as do producers in other project activity zones, by way of paying a small down payment for inputs and equipment at the time of delivery, and paying the rest at the time of harvest payment.

As seen in **Chart 22**, many more producers access credit to purchase inputs (77%) than to purchase equipment (5%) at midterm. However, compared to the baseline, the use of credit for both inputs and equipment purchases has declined significantly; 97% of male and female producers used credit for inputs and 34% (32.5% of men and 36.8% of women) used credit to purchase equipment at baseline.

Since the project has provided subsidized agricultural equipment, producers have greater access to equipment without seeking credit approval from a bank. Equipment is often not an annual purchase, but rather on an as-needed basis. This has led to a decrease in credit accessed for equipment. Additionally, inputs for organic cotton farming are generally cheaper, and thus more accessible than inputs for conventional farming. With the provision of subsidized inputs, such as seeds and batik, producers are able to purchase without seeking credit from a bank.

In comparing access to credit by gender at midterm, it is evident that men access credit for equipment more often than women (9% for men and 2% for women). But in terms of credit to purchase inputs, women and men access credit at relatively the same rates: 77% for men and 76% for women. However, gender disparities appear regarding the amount of credit obtained by sex. For inputs, men access an average amount of credit of 4,171.90 FCFA compared to 2,441.09 FCFA for women. Regarding credit for equipment, men also receive higher amounts of credit, with an average amount of 69,209.90 FCFA for men and 56,264.52 FCFA received by women.

A comparison with the results of the baseline survey reveals that access to credit was higher at the beginning of the project. In fact, more than 9 out of 10 producers said they had access to input credit and one third of them had access to credit equipment. Similarly, gender disparities were not as alarming at the time as 96.7% of men and 96.3% of women had access to credit for inputs and 32.5% of men compared with 36.8% of women had access to credit for equipment.

In general, producers seek financial services, such as credit, to purchase equipment and inputs for their crops. Unfortunately, the reality is that access to credit is a major hurdle for producers. The producers that are participating in the RECOLTE project are generally smallholder producers. They do not have titles to their land, as they are managed under customary laws, and thus do not have a guarantee requested by the banks. The RECOLTE project has been working on a partnership between CRS, UNPCB, and RCP to increase accessibility to credit for the participating producers. CRS is using \$150,000 as a guarantee in place of producers' title to their land. At the time of the mid-term evaluation, this agreement was still in discussion.

Chart 22: Percentage of project participants accessing credit for inputs or equipment in the 2015/2016 season

	Midterm						Baseline					
	Input credit			Equipment credit			Input credit			Equipment credit		
Sex	Male	Female	Overall	Male	Female	Overall	Male	Female	Overall	Male	Female	Overall
COMOE	80%	70%	74%	20%	14%	16%	77%	84%	82%	16%	20%	19%
IOBA	95%	100%	96%	3%	0%	3%	92%	100%	94%	20%	50%	25%
NAYALA	86%	93%	92%	3%	1%	2%	100%	95%	96%	72%	53%	58%
BOULGOU	89%	95%	92%	16%	3%	10%	96%	96%	96%	27%	25%	26%
GOURMA	94%	97%	95%	0%	0%	0%	100%	100%	100%	37%	50%	40%
OUBRITENGA	0%	0%	0%	9%	0%	5%	100%	100%	100%	46%	78%	63%
ZIRO	5%	0%	2%	14%	0%	5%	100%	100%	100%	57%	29%	46%
Overall	77%	76%	77%	9%	2%	5%	97%	97%	97%	32%	37%	34%

Improved farm management, including operations and finance

The RECOLTE project has implemented trainings in improved farm management. These trainings cover organizational capacity building for developing producer organizations. Themes include: operation, finance, management, and roles and responsibilities.

At baseline, an average of 29.7% of producers applied improved management practices (of which 28.8% were men and 31.5% were women) such as a family farm council and financial management planning. At midterm however, all producers who were trained by the project report applying the management tools in their groups or in their on-farm management.

Chart 23: Percentage of producers who apply management practices at midterm*⁴

		Those who have already taken training courses on production unit management	Those who apply management tools learned in training
Cohort	Cohort 1	74.6%	100.0%
	Cohort 2	69.9%	100.0%
	Average	72.4%	100.0%
Sex	Men	68.9%	100.0%
	Women	75.5%	100.0%
	Average	72.4%	100.0%
Zone	BANFORA	77.4%	100.0%
	FADA	90.5%	100.0%
	IOBA	82.9%	100.0%
	NAYALA	79.8%	100.0%
	OUBRITENGA	42.6%	100.0%
	TENKODOGO	63.3%	100.0%
	ZIRO	50.8%	100.0%
	Average	72.4%	100.0%

The trained producers in both cohorts apply their farm management techniques at a rate of 100%. In Cohort 1, 74.6% of producers were trained in farm management, while in Cohort 2, 69.9% have been trained.

Number of producers using market information, breakdown by source

For smallholder producers, information on market prices for cotton is limited. UNPCB hosts forums each year in production zones to share the cost for seed cotton, but not for cotton fiber. Since organic cotton prices are found only online, this information is inaccessible to most producers, who do not have access to the internet.

Market information is circulated by radio, mainly for staple crops, but not for organic crops. Producers may use this information to learn about prices for their rotational or other crops. At the baseline, 3.6% of producers received market information from APEX, the agency for the promotion of Burkina Faso exports, while 69.8% of producers reported using market information from sources other than APEX, and 33.8% received information from SONAGES, the National Society for Food Security Stock Management. This remained consistent at the midterm, with very few producers using APEX and

⁴ The question was not asked correctly and in its entirety by the data collection team. The question should have specified management techniques as a result of USDA assistance, and this specification was not included.

SONAGES for information (0 and 3.5% respectively). All producers with access to market information reported using INADES, an agency that, among other services, provides technical information in rural zones. 43.4% also use other sources of information that were not included in the survey questionnaire.

Private sector institutions supporting agricultural productivity, In-kind/monetary, nature and quantity of support

While the project initially targeted one private institution to contribute to the project, at midline the project surpassed this target with 5 different institutions contributing.

The RECOLTE project has many private sector stakeholders, as cotton is the largest industry in terms of volume of export in Burkina Faso. In fact, the key partner, UNPCB, is a private sector institution. UNPCB supports agricultural productivity as part of its mission as a Burkinabe cotton farmers union. The institution provides services to its members including access to inputs and technical advice, cotton sales, and producer representation in the Burkinabe cotton sector. They are a main and essential player in the organic cotton value chain in Burkina Faso.

FairTrade International and FairTrade Africa are bodies that manage the international FairTrade standards, whose mission is to bring together poor producers and consumers, promote more FairTrade conditions, and enable producers to fight poverty, to strengthen their position and better control over their lives. The RECOLTE project has used their technical expertise to create high-level training resources on child labor prevention for the benefit of UNPCB's organic cotton producers and extension services.

Green Cross is a private company that has developed a technology called Compost Plus, which reduces the time of the composting process from 6-9 months to 2 months through the use of a certified organic product that accelerates the decomposition of organic matter, thus reducing the farmer's work and allowing for composting in any season of the year. Green Cross has promoted this technology across the country, in partnership with FAO, WFP and the Ministry of Agriculture. CRS is working with them to train all UNPCB fieldworkers and lead producers on the use of the Compost Plus technology. Demonstration plots will then be set up to expose producers to the technology and its benefits for organic cotton production.

In the same vein, CRS has asked SAPHYTO, a private pest control company, to provide organic pesticides and training for UNPCB field agents and organic cotton producers. The organic pesticide the company produces and sells is 'batik', made of the bacteria *bacillua thurigiensis*, a bacteria that improves the soil's nutrients and protects it from pests. This natural input conforms to organic standards in Europe (CE) and the US (USDA NOP). The safe and effective use of organic pesticides and the maintenance and repair of sprayers will be the focus of the training.

4.3.2. Strategic Objective 2: Expanded trade of agricultural products (domestic, regional, and international)

The RECOLTE project's activities associated with Strategic Objective 2 have been designed and adapted to expand trade of agricultural products in the domestic, regional, and international arenas. Activities include: value add for organic cotton post-production, attending trade shows, developing adaptable marketing strategies, diversification of buyer portfolio, and coordination with government and private sector stakeholders to reinforce an enabling environment for organic cotton production.

The activities concerning the trade expansion of agricultural products were developed with two critical assumptions in mind:

- (i) The political peace and stability is maintained in Burkina Faso and the sub region
- (ii) The international price is not volatile

As explained in the context section earlier in this report, the first critical assumption was the most challenging for the RECOLTE project. With the popular uprising and ousting of the former President in October 2014, the subsequent repercussions with UNPCB's hierarchy, and the failed coup d'état in September 2015, implementation of all RECOLTE activities were slowed. The perturbation of political peace and stability in Burkina Faso has impacted UNPCB's operations and finances, the reputation of the country in terms of business risk, and the relationships CRS and UNPCB maintain within the government of Burkina Faso.

The second critical assumption was also challenged in that Limited Brands, the buyer at the time of project development, abruptly ended their purchasing agreement with UNPCB. As the business had been purchasing cotton at a higher than market average price (375 FCFA/kg), the price of organic cotton decreased for producers, to 325 FCFA/kg. Responding to the loss of the sole buyer, CRS and UNPCB worked together to readjust RECOLTE activities to develop a new business and marketing plan.

The sections below discuss the various activities associated with SO2. They include activities to expand organic cotton trade at the regional and international levels, and activities related to post-production technologies and quality control, as well as production cost estimates at midterm.

Regional and international export markets

The volume of organic cotton exports decreased between the two seasons included in the midline reporting period from 2,622 MT of cotton fiber in 2014-2015 to 1,170 MT in 2015-2016. Compared to the baseline figure, which was 2,000 MT for the 2013-2014 season, there was a decrease on average of more than 41%. This situation was due in part to the poor rainfall that producers experienced in the 2015 season, which had a negative impact on cotton production overall and thus quantity available for export. The target quantity for export by the end of the project is 3,300 MT; the midterm results have not yet achieved this, and averaging the two seasons exports puts the project at achieving 57% of this target at midterm.

Fiber cotton exports in the 2014/15 season generated about \$3,281,100, compared to \$756,374 in 2015/16, while the endline target is \$4,785,000.

Percent of organic cotton certified as meeting international standards

In the 2015-2016 farming season, 77.67% of fiber was certified organic by the European Commission (CE), the United States Department of Agriculture National Organic Program (USDA NOP), and FairTrade (FLOCert). During this season, a total of 7,136 farms were certified, after 8,457 were proposed for certification. 964 producers abandoned their plots or did not harvest anything due to rain shortage, and were not considered for certification while 357 producers were ruled out because they breached the organic standards. As a result, the target for 10,000 certified farms for the 2015-2016 farming season was not met. However, the inception to date target (14,000 farms) has been achieved and even exceeded, with a total of 15,112 farms certified after two years.

Improved marketing of agricultural products

A major challenge in the RECOLTE project was the withdrawal of Limited Brands, due to their changes in business and branding strategy. They were previously the sole buyer of UNPCB organic cotton. The improved marketing of organic cotton became a major strategic objective as the RECOLTE project and UNPCB worked to adjust to the change by incorporating new activities such as the development of a new marketing strategy and attending trade shows and fairs. The goal is to diversify UNPCB's portfolio of buyers to decrease risk and increase resiliency in the face of buyer changes.

After the withdrawal of Limited Brands, UNPCB opted for diversifying trading partners, following a strategy to build partnerships in the long term. CRS and UNPCB held strategy meetings and reformed the project to include marketing activities, such as going to trade shows.

To do this, UNPCB has gradually worked to improve the quality of the cotton fiber (grade and length of silk) with good traceability (use of the digital data collection system).

Number of trade shows/fairs since start of project

Due to the instability of the political environment in Burkina Faso, attendance at trade shows was delayed until October 2016. During the failed coup-d'état, the borders closed and travel to previously programmed trade shows in France and India were cancelled.

Thus, at the time of the midterm, UNPCB has participated in two seed fairs with INERA in June 2015 and 2016. Post-midterm data collection, UNPCB attended the Textile Exchange Conference in Hamburg, Germany in October 2016 and in Washington, DC in October 2017.

Number of buyers for organic cotton (sales)

At midterm, UNPCB had three buyers at the international level: Limited Brands, Biocoton, and SIGMA. There have been two buyers at the national level: Filsah and SOFACOB.

UNPCB has diversified its buyer portfolio and has been able to sell organic cotton at competitive prices, though not at the high price that Limited Brands offered, as their pricing was higher than industry standard. Additionally, not all the cotton is sold with the FairTrade premium, as some buyers have sought to purchase organic-only cotton.

Constraints to market access

Over the lifetime of the project, there have been constraints to market access. They are:

- Changes in the country's political environment and stability have altered the reputation of Burkina Faso in terms of business risk.
- UNPCB is based in a French-speaking country and seeking buyers in the Anglophone world presents a language challenge.
- The ginning bottleneck creates a high risk for attrition among participating producers who must wait months after harvest to sell their cotton, thus threatening the production level of organic cotton in Burkina Faso and thereby discouraging buyers.

Post production techniques

The RECOLTE project has sought to improve the quality of smallholders' organic cotton by promoting post-harvest techniques. The organic cotton is categorized into 1st choice and 2nd choice categories according to quality criteria such as cleanliness and color. The price varies with the quality. The same applies to rotation crops, such as shea, whose quality criteria and the corresponding purchase prices are set by the buyers.

Value add

The RECOLTE project has trained UNPCB and producers on best practices for post-production to increase the quality and thus the value. These trainings include: harvesting techniques, quality control, storage, and ginning. Interviews with UNPCB staff have revealed that these post-harvest techniques do influence the quality not only the cotton, but also the rotational crops. The effects of higher quality are reflected in the cotton's price, as it is certified as organic and/or FairTrade, and is eligible for a premium on the price.

Increased efficiency of post-production processes

A major challenge for the RECOLTE project is supporting the increased efficiency of the post-production processes. The efficiency of the organic cotton value chain encounters bottlenecks at the cotton gin: organic cotton cannot be ginned until all conventional cotton has gone through the factory and the machines are cleaned to organic standards. This bottleneck delays payment to producers, certification of cotton and seeds, distribution of seed inputs, sale of the cotton, and then delays the next season's planting and harvesting.

Two critical assumptions are associated with this indicator:

- (i) The price of inputs and prices for producers remains favorable
- (ii) Producers adopt post-harvest techniques

While neither assumption is directly challenged, both have been indirectly challenged. The price of inputs and prices for producers do remain favorable, however, the delay in timing for these two important pieces de-incentivizes producers from continuing to cultivate organic cotton. While farm-level post-harvest techniques are being adopted by producers and are contributing to improve the quality of harvested cotton, the producers have little control over when and how the cotton is ginned. The ginning process bottlenecks (See page 26) are a major barrier to achieving increased efficiency of post-harvest processes for organic cotton. RECOLTE staff are in discussions with UNPCB to look for a suitable solution to this issue.

Chart 24: Average production cost per ha of organic cotton (FCFA) without family labor

Cohort	Cohort 1	21,761
	Cohort 2	20,566
	Average	21,296
Sex	Men	17,850
	Women	27,676
	Average	21,296
Zone	BANFORA	51,949
	FADA	6,662
	IOBA	31,711
	NAYALA	47,593
	OUBRITENGA	21,005
	TENKODOGO	10,456
	ZIRO	43,387
	Average	21,296

As seen in **Chart 24** above, women's production costs are 35% higher than men's and yet have lower yields because men have access to family labor, however women do not. As a result, women must pay laborers for services such as transportation, planting, and harvesting.

There are many cultural barriers in place that explain the disparity between the production costs for men and women. Generally, the first farm worked on in the day is the head of households, meaning

that the whole family unit works together on the same field. The head of household is typically a man with access to a larger surface area. Family labor decreases costs for men cultivating organic cotton. Individual farms are tended to in the afternoon, thus the women must hire laborers to replace the family labor. Since women have smaller surface area for cultivation, they can apply the new technologies more efficiently.

Some regions have high disparities in production costs as well, like Banfora (51,949 FCFA) and Fada (6,662 FCFA) for example. Fada has the lowest production cost, which is explained by the farming culture in the area. It is a traditional practice to use organic matter, such as manure, as fertilizers. Fada is an agricultural production zone with some of the highest yields in the country. Banfora is an area where organic fertilizers are not a typical practice, and the traditional agricultural practice does not lead to high yields. Due to this, they must spend more money for resources, such as manure and compost, that do not have high demand nor high production.

4.4 Monitoring, Evaluation, Accountability and Learning

CRS used their Monitoring and Evaluation approach, Monitoring, Evaluation, Accountability, and Learning (MEAL), for the RECOLTE Project. This approach sets in place an operational system to serve for not only reporting, but also learning during the course of the program. The SMILER (Simple Measurement of Indicators for Learning and Evidence-based Reports) workshop was used to develop an operational MEAL manual that emphasizes routine monitoring and continuous learning.

While the M&E plan approved by the donor did not expressly mention the preferred method for routine monitoring, CRS put in place a comprehensive system that follows core standards and is tailored to the RECOLTE project. This system responds to the roles and responsibilities of all stakeholders, a MEAL working group with quarterly meetings, a data flow map, a communication and reporting map, as well as data collection forms covering all output level indicators and most of outcomes indicators such as cultivated plot areas, production and sales.

Although these procedures are planned in the M&E operating manual, the MEAL working group did not meet periodically as initially planned. The M&E working group should be an opportunity to update the M&E system to consider gaps or changes in approaches like for cotton (or rotational crops) market information system, the SILC approach, among other oversights, which were dropped in the first year.

With expert support from the CRS HQ-based Global Knowledge and Information Management Unit, a tailored ICT4D solution was designed for the MEAL systems, which reinforces data quality including timely reporting and data integrity. The solution was successfully tested in the Oubritenga production zone in April 2015, and full spectrum pilot covered Oubritenga and Comoe production zones starting in June 2015 after training project and partner staff. ICT4D was then fully scaled to all the production zones in 2016. The solution uses three software packages for farmer identification/registration, for electronic data collection and for reporting. It is an important decision for UNPCB to evolve from paper-based data collection to adoption of the proposed ICT4D solution. Their feedback on the solution has been very positive, and extension to all production zones is being considered now; if adopted, this will be the first of its kind in cotton production in West Africa.

The RECOLTE project should continue to build on these successes to reinforce its MEAL system to be a supportive resource in learning and decision making. While the donor's MEAL requirements are focused on tracking quantitative indicators, the program monitoring should continue to systematically document successes, challenges, and lessons learned which would have been addressed by qualitative data.

M&E Lessons Learned

- The M&E working group will help RECOLTE be more adaptive to the changing environment of the project implementation;
- ICT-based information system help dedicate time for learning while improving information system quality, including integrity and timeliness
- Systematic documentation of successes, challenges, and lessons learned improves learning for better decision making

4.5 Gender Mainstreaming and Sustainability of Project Activities

Sustainability

Sustainability of the RECOLTE project might be affected in many points along the value chain. It is vulnerable at the producer, processing, and purchasing levels, as elaborated below.

Organic Field Agents (ATBs) have a low retention rate and limited time to continue promoting behavior change in agricultural practice, while producers have low educational levels, which are all threats to sustainability.

From the processing level, the delayed ginning, and thus payment and seed access for the following season, is a threat to the sustainability of producers' longevity in the project, as well as the stability of meeting a purchasing agreement.

From the purchasing level, the pull out of Limited Brands has left the project vulnerable without a sole buyer and the higher than market average fixed price.

With project knowledge, the evaluation team is assured that CRS and UNPCB have adjusted their programming and objectives to address these vulnerabilities. It is essential to the sustainability of the project to secure a ginning facility that will allow for timely ginning of the organic cotton, which will thus create more stable relationships with both producers and purchasers alike.

Apart from the risks to sustainability, it is determined that there are aspects to the RECOLTE project that have high positive probability of sustainability. The organic agricultural techniques and organizational capacity building have high achievement rates and high adoption rates. These are early signals to the continuation of environmentally and operationally sustainable practices.

Gender mainstreaming

Even though women have a potential opportunity to enter into the organic cotton industry, gender is the biggest constraint to increased agricultural activity, and thus agricultural-based revenues, in Burkina Faso. Traditions in the country limit women's access to resources such as credit, land, transportation, and tools. Women have less autonomy over family land, the division of labor, and transportation methods and use, such as carts for harvesting and cotton collection.

Furthermore, women's production costs are much higher than men's because women must pay laborers for services like transportation, planting, and harvesting. Men, on the other hand, have easier access to networks that can provide assistance in transportation and priority in utilizing family members for other agricultural tasks.

RECOLTE's efforts to involve women in organic cotton production and improve their access to finance are successful. The project undertook actions and negotiations with Limited Brands to promote access to credit inputs and equipment and to develop micro-finance services and income-generating activities. In this way, women's participation has improved and money is now in a revolving fund for women's income generating activities that include off-farm income generation.

The increased number of women producers – from the initial goal of 30% to 52% at the midline – is a significant level of gender mainstreaming. This inclusiveness and adjustments to project objectives demonstrates that the project is effective and has impact on the economic livelihoods of poor women in Burkina Faso.

4.6 Constraining and Facilitating Factors of Project Implementation

Strengths

CRS and UNPCB emphasize regular exchange with stakeholders and promote flexibility in all aspects of the project. When Limited Brands terminated the contract, and in effect, all the benefits to producers, UNPCB adapted a new marketing strategy that focused on key actions necessary to attract new and diverse buyers. It is recommended that UNPCB develop a coherent marketing policy that anticipates opportunities, improves the visibility of organic cotton in Burkina Faso, accounts for customer expectations, and tracks customer satisfaction.

CRS and UNPCB highlight the importance of appropriate activities to meet project objectives. In this way, focus groups revealed producer's interest in organic cotton production and the need for UNPCB to access market information so as to develop a strategic marketing strategy. Access can be improved through reinforcing the existing market information system platforms and provide this information to producers. It is recommended that market trends are studied and reported every three years.

Increased female autonomy

In December 2015, CRS set up a revolving micro-grant activity to benefit women cotton producers. Its main objective will be to reach at least 1,500 women producers each year, for a total of 4,500 women producers by the end of the RECOLTE project in 2018. The grants are for off-season, which is also known as the 'lean season', income-generating activities. With these loans, the women's resilience will be strengthened, and they will be enabled to diversify their livelihoods and increase their income by developing or scaling up income-generating activities. It is expected that increased income for women will translate into improvements for the entire household, as baseline data showed that women spend a larger share of their income on the well-being of their families. Since project inception, the number of women producers participating in organic cotton production has increased by 15%. At mid-term the micro-grant activity implementation was still in planning stages.

Stakeholders

The RECOLTE project actively engages with both US and national level stakeholders on marketing and microfinance activities. This expertise and knowledge sharing environment has led to strong support and relationships with the CRS director of operations and corporate engagement, the Réseau des Caisses Populaire du Burkina (RCP), high level government officials, and with Limited Brands. Following the departure of Limited Brands, and with their connections, efforts are underway to reach other potential buyers.

Further collaboration with representatives from IFDC, INERA, University of Bobo-Dioulasso, Fairtrade International, Texas A&M University, ECOCERT Burkina Faso, *Conseil National de l'Agriculture Biologique*, *Direction de la Production des Végétaux* of the Ministry of Agriculture and SOFITEX contributed to the preparation and updating of the organic cotton production, certification and processing manual as well as a child labor prevention trainer's manual. The manual, developed by Fairtrade International and FairTrade Africa, was created as a resource for UNPCB's organic cotton producers and extension services. The RECOLTE team is working with Ministry of Family and Social Action to review and receive Ministry approval. Upon completion of the review, the manual will be published and made available to trainers to further enhance the capacity of all UNPCB extension officers and Ministry of Agriculture staff in the organic cotton production areas.

These important national and international organizations, led by the RECOLTE project, worked together to create the manuals, which will become references for the entire region. The manuals are based on fair trade principles and specific to the organic cotton production in Burkina Faso, however

the environmental and ecological cotton production zone in West Africa render the manual regionally relevant.

Livelihoods

Final results for the 2014-2015 planting season obtained after ginning was completed in May featured a very positive status for certifications, yield, production and revenues. Gross revenue for the producers increased to \$2 million from \$1.6 million in the previous planting season. This increased revenue had a visible impact on livelihoods of producers. Producer group interviews revealed that they can now afford to send their children to school, invest in housing, purchase animals, and have an overall improved diet with better quality food. Unfortunately, the 2015/2016 season experienced a bad harvest, which did not allow for such investments, but hopefully they will continue in the next season.

Weaknesses

Delayed ginning of the organic cotton is one of the main challenges encountered every year. The impact is delayed sale, resulting in late payments to the producers, late processing of the seeds, late distribution of inputs, and then late planting in the next season. This cycle frustrates producers, leading many to quit the organic cotton value chain. In addition, the late planting affects cotton maturity, decreasing yields and total production, as well as seed quality.

USDA agreed to increase RECOLTE funding to allow for the construction of a gin dedicated to organic cotton. Approximately 1.2 million USD from the sales of the additional commodity tonnage will be used for this investment. This initial investment has become seed money, as it has generated a tremendous interest from all parties in the cotton value chain in Burkina. In fact, a public-private partnership has been identified as the best way to make this impact investment. This partnership will involve UNPCB (with the RECOLTE investment and possibly their own additional contribution), SOFITEX (the biggest and most influential cotton company), the Economic and Social Development Fund (FBDES - investment fund set up by the Government) and the Government Investment Promotion Agency in Burkina (API - which is part of the President's Cabinet). A feasibility study for a dedicated gin is underway.

The late introduction of seeds is the most frequent constraint put forward by nearly two out of three producers. This has led to the reduction of the number of producers from year to year. For example, the drop-out rate of Cohort 1 members is 26%. During the 2013-2014 agricultural season, there were 7,094 producers in Cohort 1, yet in the 2015-2016 agricultural season, there were 5,266 producers left in Cohort 1. UNPCB is unable to pay producers for their organic cotton until all conventional cotton has been ginned in the SOFITEX gins and the gins are cleaned per organic standards. Typically, this is four to six months after harvest, just before the next sowing season begins. At that point, certified organic inputs that are necessary to begin the season are often delayed due to bottlenecks in certification and distribution. The RECOLTE project is supporting UNPCB to identify solutions to these issues.

The project undertook actions to promote access to credit inputs and equipment, the development of micro-finance services and income-generating activities (IGAs) to benefit all producers. At the time of the evaluation, a micro-finance strategy and a tripartite collaboration protocol between CRS, the UNPCB and the Caisse Populaires has been initiated, but has not yet been signed and is not yet running.

The quality of the work from local consulting firms doing evaluations is often questionable. Unfortunately, the budget for M&E activities is not always enough to get international consulting firms interested in project evaluations.

CONCLUSIONS AND LESSONS LEARNED

The evaluation team has found that, at the mid-term, the RECOLTE project has demonstrated resiliency throughout impactful external changes, and is able to meet end-line goals and objectives. The external impacts have changed the structure of the project: the withdrawal of Limited Brands has added new activities and focus to the project, the impact of a shortened rainy season has led to producers dropping out of the project. Yet, CRS and project partners have continued to adjust and respond to the changes to continue to have a relevant, efficient, impactful, and sustainable organic cotton production sector in Burkina Faso.

Evaluation Findings

Intervention Relevance and Strategic Fit

The mid-term evaluation has found that the RECOLTE project has strategically developed and adjusted project activities considering the economic, political, and cultural context of Burkina Faso. The project is in-line with the Government of Burkina Faso's economic and agricultural development policies and programs, which focus on vulnerable rural households. CRS and UNPCB have worked together to find areas where adjustments would create a better fit for the beneficiaries, such as providing equipment for individual producers instead of producer groups in order to allow for a more equitably shared resource. CRS and UNPCB are also working to adjust the project to address the new challenges after the withdrawal of Limited Brands. This includes supporting new sections of the value chain and international marketing.

Adequacy and Efficiency of Resource Utilization

In terms of efficiency, the mid-term evaluation performed a cost analysis by producer and a cost-benefit analysis. In the cost analysis by producer, it was found that the cost per producer increased by 6.17%, from \$180.71 per producer in 2015 to \$191.87 per producer in 2016. This is because the project experienced a 7.86% decrease in participants, thus causing the project to lose economies of scale. Cost per producer could have been decreased by limiting the number of re-trainings, strengthening organic compost production, and reconsidering the method of distribution for seeds and other inputs.

For the cost-benefit analysis, the mid-term evaluation found that the total production of organic cotton has been in line with the number of beneficiaries producing over the project period. Considering the decline of the producer price of organic seed cotton in 2016 (from 375 to 325 FCFA/kg), the rate of return that year was 52.9%, a decrease of 5% from 2015, despite the decrease in number of producers. The RECOLTE project should continue to intensify production and seek to resolve the bottlenecks in processing and marketing to reach economies of scale and have a greater return on investment.

Effectiveness and Impacts of Intervention

Increased Agricultural Productivity

Overall, the participants in the RECOLTE project have not increased their agricultural productivity. The average organic cotton yield decreased by 35.6%. This decrease in organic cotton production can be explained in part due to the poor rainfall during the planting season. Yet, for women, average yields per hectare were also higher at mid-term than for men, indicating a change from the baseline situation which showed men having higher yields than women. This shows that despite many gender-based constraints, organic cotton production is becoming increasingly more relevant for women.

The average value of organic cotton production dropped alongside the decreased in yields. The poor rainy season and the loss of Limited Brands, a buyer who paid higher prices, had a heavy impact on the revenues for participants. While the average value in organic cotton production per hectare has decreased overall, women now earn 10% more than men overall (2.4% in Cohort 1 and 21.9% in Cohort

2). This aligns with their higher yields per hectare. This positive improvement in women's incomes could be due to the project's activities to overcome barriers to women's access to productive inputs; for example, distributing farming tools directly to producers rather than to producer organizations, thus improving women's access to the tools and promoting higher agricultural productivity among women.

Expanded trade of agricultural products

At the mid-term, the RECOLTE project has experienced a large loss in terms of expanded trade of organic cotton. The loss of Limited Brands not only decreased the price paid per kilogram of organic cotton, but it also required the RECOLTE project and UNPCB to adjust to mastering the processing part of the value chain. Due to this, exports decreased over the course of the project, resulting in lower revenue generation for the organic cotton produced.

The evaluation team has found that while there are many bottlenecks in processing to address, the RECOLTE project has worked to address them in the most sustainable and relevant ways possible. It is notable that the project addresses not only the bottlenecks in terms of ginning, but also in alliances between the private and public sector to create an enabling environment for the organic cotton sector in Burkina Faso. It is of the utmost importance that CRS continue their facilitation role in order to secure a gin with local ownership, to catalyze the production, processing, and sales of organic cotton produced by project beneficiaries.

Sustainability of project activities

There are aspects to the RECOLTE project that are highly likely to be sustainable. Organic agricultural techniques and organizational capacity building have high achievement and adoption rates. These are early signals to the continuation of environmentally and operationally sustainable practices.

Sustainability of the RECOLTE project might be affected in many points along the value chain. It is vulnerable at the producer, processing, and purchasing level. Organic Field Agents (ATBs) have a low retention rate and limited time to continue promoting behavior change in agricultural practice, while producers have low educational levels. The delayed ginning, and thus payment and seed access for the following season, discourages producers from continuing in with organic cotton production. The loss of Limited Brands has left the project vulnerable without a buyer.

The evaluation team is assured that CRS and UNPCB have adjusted their programming and activities to address these vulnerabilities. It is essential to the sustainability of the project to secure a ginning facility.

Lessons Learned

Participatory approach to project management

UNPCB and other stakeholders remarked that they are satisfied with the CRS project management, which they noted values their input throughout the project implementation.

Gender dynamics and finance

In Burkina Faso, cultural gender norms exclude or marginalize women from access to finance. The project undertook actions to promote access to credit inputs and equipment and to develop micro-finance services and income-generating activities. In this way, women's participation improved and money is now in a revolving fund for women's income generating activities that include off-farm income generation.

Loss of buyer

Limited Brands, who paid an inflated price, ended their contract with UNPCB. This forced CRS and UNPCB to revisit the UNPCB business model and establish a marketing plan. This decreased risk by diversifying the network of potential partners and buyers. Interviews with UNPCB reveal that CRS support and project activities are more relevant and respond to their needs to increase their capacity.

Demonstration plots

Initially, CRS and UNPCB were unsure of the appropriateness of organic pesticides and fertilizer techniques in the daily lives of producers, given their time and resources available to production. To encourage appropriate technologies and innovation, CRS and UNPCB worked with the NGO Green Cross and INERA to develop demonstration plots and seed farms that tested new and different technologies and techniques.

Demonstration plots are designed to introduce new technologies at the farm level. During implementation, producers can learn about and test new techniques by dividing the plot into two to four different treatment sections. Treatments are monitored and compared so that producers can determine the best method. INERA initially tested four different techniques per plot, however this posed challenges in comparison and choice for producers at the field level. If demonstration plots are limited to two different technologies, then producers can easily test and compare new treatments, ultimately adopting the new treatment technique.

Cotton gin

UNPCB shares SOFITEX's cotton gins, which poses major challenges to the organic cotton production. The gins, which also process conventional cotton in April - May, need to be thoroughly cleaned to avoid contamination with the organic cotton. This delays payment and sales and effectually discourages producers. To overcome this challenge and become a majority shareholder, UNPCB builds and nurtures relationships with the main actors in the cotton sector and invests in creating an enabling environment for the existence and development of the organic cotton value chain.

Failure to reach an average of one hectare per producer for organic cotton farms

Initial RECOLTE objectives included reaching an average of one hectare per producer for organic cotton farms. Organic cotton requires little input and no needed credit; thus, it is popular among vulnerable populations, especially women. However, women have little access to land. In reaching the goal of 10,000 producers, there was a spike in the percentage of women producers in the project and the average farm size decreased to less than 0.6 hectares. CRS and UNPCB ultimately evaluated and adjusted this objective to reflect the reality of organic farming in Burkina Faso. In the project design phase, gender mainstreaming should be more strongly considered when defining goals.

RECOMMENDATIONS

Constraints and solutions for certification

The organic and FairTrade certification of the organic cotton produced in the RECOLTE project is by far the largest value-add to the agricultural product. It has a large impact on its international sales and revenue for UNPCB and producers. Organic certification adds 90 FCFA/kg, which is a 38% increase in price compared to conventional cotton (235 FCFA/kg). FairTrade premium is 3 FCFA/kg, which then represents an almost 40% total increase in price compared to conventional cotton.

Yet, the certification comes with financial difficulties. One such difficulty is the cost of certification. Without the financial support of USDA and the RECOLTE project, UNPCB would have challenges to afford the yearly certification costs. A solution proposed is to exchange with the certifying bodies to

encourage them to reduce certification costs, either as a form of partnership, or through competition among organizations.

Another financial challenge is the cost of GMO analysis. Currently, UNPCB sends cotton and seeds to France for analysis and certification. Not only does the entire process take about one month, it is also costly. A solution proposed is to seek accredited laboratories in Africa to reduce the GMO analytical costs, or to support the accreditation of a laboratory in Burkina or in the sub-region.

Successful organic farming relies on strict adherence to compliance rules. To achieve this, it is essential to build grower capacity to ensure certified and fair products. It is therefore necessary to continue the training efforts which address the specific needs of the growers, especially to the benefit of the new members of the organic cotton program.

Constraints for companies to access information

The constraints for RECOLTE partners to access information: the main difficulty is the lack of availability of up-to-date program data on the UNPCB website. The partners wishing to access the information are forced to contact UNPCB by mail or through telephone exchanges. To allow producers to have easier access to prices on the market, a solution is proposed to facilitate partnership agreements with SONAGES, which has a functional, sub-regional online Market Information System that reports on organic products. This would be key for UNPCB's market information, which would thus impact their business strategy. Additionally, they would be able to share this same information with producers in the same way they have in the past, during annual site visits.

Constraints on production and processing

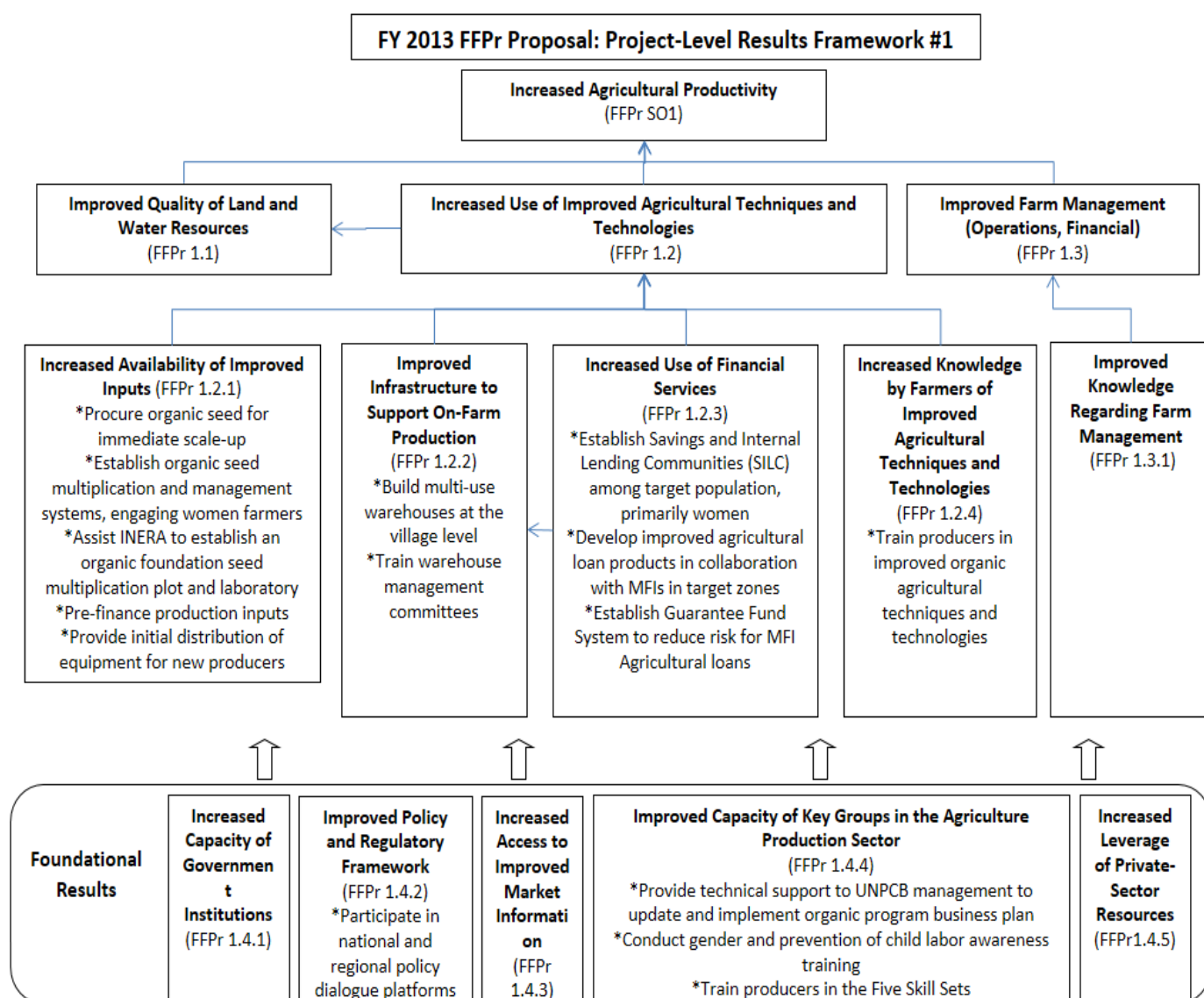
With the loss of Limited Brands and the higher than average fixed purchase price, the price of organic cotton declined. This threatens organic cotton sector growth and the livelihoods of producers. To offset this price decrease, the development of a rotational crop market is recommended as a catalyst for the development of organic cotton. A solution proposed is to promote an enhanced UNPCB organic cotton value chain with the addition of other existing organic crops.

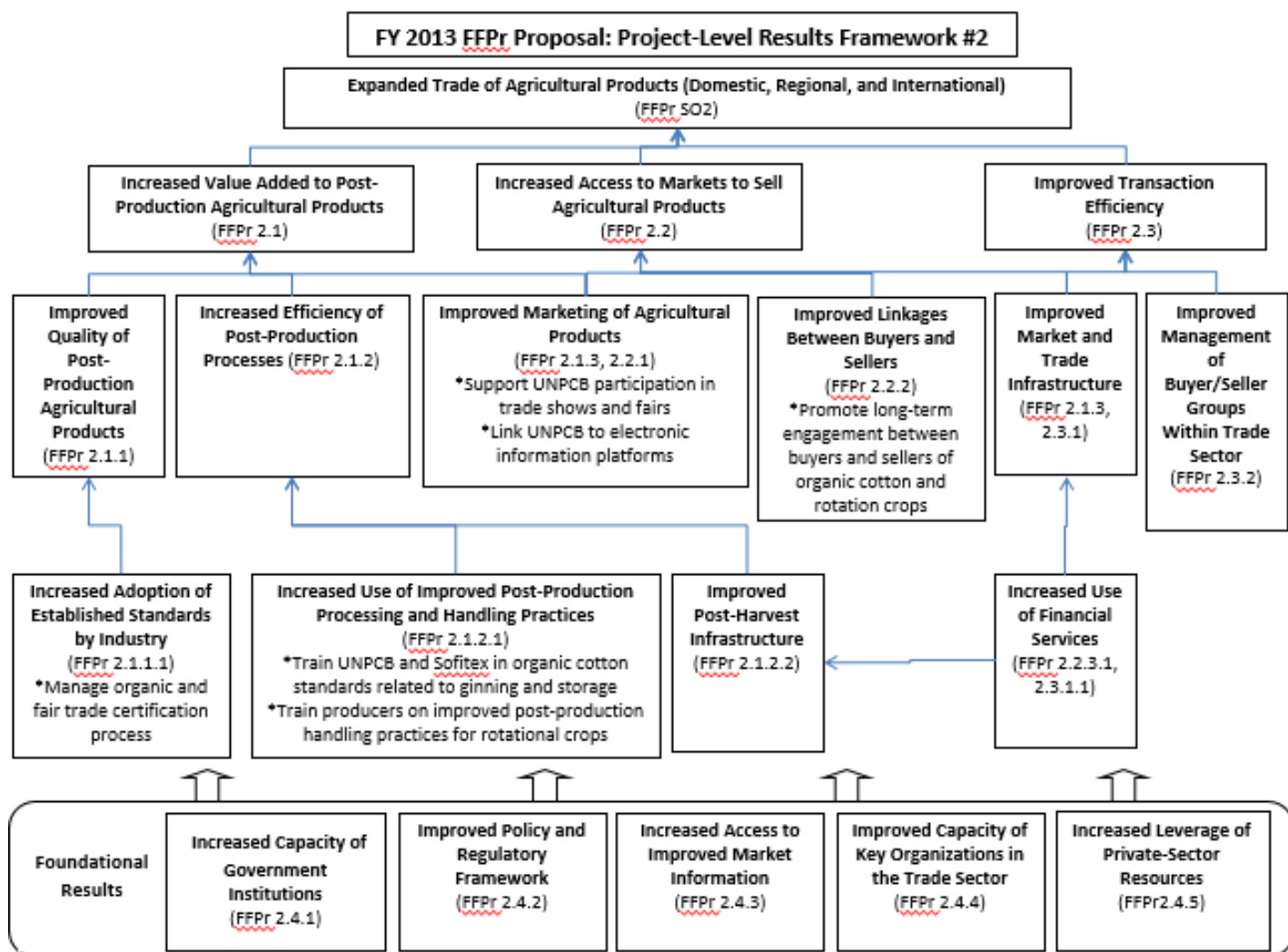
The late distribution of organic cotton seeds has a negative effect on the number of growers from one year to the next. Growers become discouraged and grow other crops, or they quit. It is recommended that UNPCB undertake further methods to provide producers with a sufficient quantity of quality seeds in a timely manner.

The evaluation highlighted major constraints in the sub-sector, namely delays in payments and the availability of seeds. Difficulties in ginning are the main cause of these constraints. To remove these constraints and allow the project to reach the target of 10 000 producers, it is recommended to resolve the problem of ginning by setting up a plant dedicated specifically to organic cotton or striking an agreement with SOFITEX to allow organic cotton to be ginned first.

Annex 1: Results Framework

Results framework





Annex 5 ⁵: Mid-term activities achievement rate 2015-2016

Activities	Indicators	2014 (Baseline)	2015			2016			2015-2016
			Achievement	Target	Achievement rate	Achievement	Target	Achievement rate	Average achievement rate
Conduct training on organic cotton production	<i>Number of training courses for organic cotton Producers</i>	0	2	1	200	2	1	200	200
	<i>Number of demonstration plots (school fields) established</i>	0	158	125	126	208	125	160	146
	<i>Number of UNPCB head of areas and Organic Technique Agent trained as trainers</i>	0	50	59	85	51	59	86	86
Conduct training on improved management of organic cotton farms	<i>Number of UNPCB head of areas and Organic Technique Agent trained as trainers</i>	47	48	59	80	51	59	86	84

⁵ The data reported here are those which are available at the MTE data collection period (July-August 2016).

Activities	Indicators	2014 (Baseline)	2015			2016			2015-2016
			Achievement	Target	Achievement rate	Achievement	Target	Achievement rate	Average achievement rate
Facilitate the process of organic-fair certification of cotton	<i>Number of Certified Producer Plots</i>	7,976	7,136	8,000	89	8,457 ⁶	10,000	84	87
Develop cooperative management capacities	<i>Number of UNPCB staff trained in management, financial management and operations</i>	0	1,865	15	12,433	54	15	360	6,397
Develop Procurement Services	<i>Number of kg of organic cotton seed purchased</i>	1,000	0	1,350	0	2,600	1,350	192	96
	<i>Number of kg of organic rotation crop seed purchased</i>	980	530	1,360	39	580	1,360	43	41
	<i>Number of foundation seed multiplication plots of organic cotton cultivated</i>	0	1	1	100	1	1	100	100

⁶ The number of plots proposed to certification at MTE

Activities	Indicators	2014 (Baseline)	2015			2016			2015-2016
			Achievement	Target	Achievement rate	Achievement	Target	Achievement rate	Average achievement rate
	<i>Number of equipment subsidies provided</i>	0	530	45	1,178	2,103	60	3,505	2,508
	<i>Number of organic cotton seed and rotational crop seed farms created</i>	0	2	0	-	0	1	0	200
Improve post-production operations, processing and handling	<i>Number of training courses on post-production, processing and handling operations</i>	1	3	1	300	2	1	200	250
	<i>Number of training courses on improving ginning and storage conditions for cotton</i>	0	1	1	100	1	1	100	100
Facilitating access to agricultural credit	<i>Number of trainings held on new types of agricultural loans</i>	0	1	1	100	1	0	-	200

Activities	Indicators	2014 (Baseline)	2015			2016			2015-2016
			Achievement	Target	Achievement rate	Achievement	Target	Achievement rate	Average achievement rate
Improving market access to increase organic cotton sales	<i>Number of UNPCB Organic Techniques Agents heads of Areas trained</i>	0	59	59	100	4	59	7	53
Facilitate dialog on organic cotton production policy and regulation	<i>Number of roundtables organized</i>	0	1	1	100	1	1	100	100
Awareness-raising on gender and the prevention of child labor	<i>Number of training sessions on gender and child labor prevention awareness-raising</i>	0	1	1	100	1	1	100	100

Annex 6⁷: Mid-term outcomes achievement rate 2015-2016

Outcome	Indicators	Baseline	Midterm	2018 target	% of achievement rate
		2014	2016		
Contributions to Feed the Future	<i>Number of hectares where improved techniques and technologies are applied as a result of USDA assistance</i>	0	3,792	6,000	63
	<i>Number of Producers and others applying new technologies and techniques as a result of USDA assistance</i>	0	6,243	8,000	78
	<i>Number of individual beneficiaries who received short courses on agricultural productivity and food security as a result of USDA assistance</i>	0	7,844	10,000	78
	<i>Value of agricultural and rural loans secured as USDA assistance (\$)</i>	0	0	150,000	0
	<i>Number of public-private partnerships established as a result of USDA assistance</i>	0	4	1	400
	<i>Number of Producers and others who apply improved production unit management techniques (governance, administrative and financial management) as a result of USDA assistance</i>	0	5,562	7,000	79
	<i>Percentage of Producers who have attended at least three types of training on the management of production units</i>	0	39	95	41

⁷ The data reported here are those which are available at the MTE data collection period (July-August 2016).

Outcome	Indicators	Baseline	Midterm	2018 target	% of achievement rate
		2014	2016		
	<i>Number of producers and others who have received training on improved farm management practices (eg, Governance, Administration)</i>	0	7,698	10,000	77
	<i>Number of individual beneficiaries who received short-term training on water and soil conservation and agroforestry activities as a result of USDA assistance</i>	0	4,207	8,820	48
	<i>Number of Producers using financial services as a result of USDA assistance</i>	0	0	600	0
	<i>Number of Producers and others who received training on improved agricultural techniques and technologies as a result of USDA assistance</i>	0	7,874	10,000	78
Increased agricultural productivity	<i>Product / harvested volume of selected crops per hectare (kg / ha): cotton</i>	470	287	600	48
	<i>Monetary value of per hectare production (CFAF)</i>	152,000	107,625		N/A
	<i>Average area cultivated per Producer (ha)</i>	0,6	0,6	1	60
	<i>Number of individual direct beneficiaries reached by USDA intervention</i>	0	8,020	10,080	80
	<i>Number of indirect individual beneficiaries reached by USDA intervention</i>	0	64,160	50,000	128

Outcome	Indicators	Baseline	Midterm	2018 target	% of achievement rate
		2014	2016		
	<i>Number of public-private partnerships established as a result of USDA assistance</i>	0	4	1	400
The contribution of private sector resources is increased	<i>Number of private institutions that have made a monetary or in-kind contribution to increasing agricultural productivity (inputs, markets, information, research)</i>	1	7	1	700
	<i>Number of new and improved managerial practices implemented by UNPCB</i>	0	0	1	0
The capacities of the main agricultural productivity groups (cooperatives, smallholder grouping) are improved	<i>Number of producers enrolled in the UNPCB organic cotton production program</i>	6,000	7,793	10,000	78
	<i>Value of budget / income of target associations and cooperatives (\$ USD)</i>	2,964,272	1,028,300		4,800,000
	<i>Percentage of soils that meet quality standards (to be determined)</i>	78.57	Endline		N/A
Soil and water quality improved	<i>Number of hectares where improved techniques and technologies are practiced as a result of USDA assistance</i>	0	3,792	6,000	63
Use of improved agricultural technologies and	<i>Number of Producers applying new agricultural technologies and technologies</i>	0	6,243	8,000	78

Outcome	Indicators	Baseline	Midterm	2018 target	% of achievement rate
		2014	2016		
technologies has increased	<i>Volume of seed produced / harvested per seed farm per hectare (yield)</i>	0	0	300	0
Availability of quality inputs availability has improved	<i>Number or percentage of public agricultural research or extension institutions with enough infrastructure and supplies</i>	0	1	1	100
The capacity of public institutions is strengthened	<i>Number of individual beneficiaries who benefited from short training courses on agricultural productivity and food security through USG funds</i>	0	7,698	10,000	77
	<i>Number of Producers and others trained in financial services as a result of USDA assistance</i>	0	0	600	0
Increased use of financial services	<i>Number of loans secured for Producers and others as a result of USDA assistance</i>	0	0	600	0
	<i>Value of agricultural and rural loans secured for Producers as a result of USDA assistance</i>	0	0	150,000	0
	<i>Number of individual beneficiaries who benefited short courses on agricultural productivity and food security as a result of USDA assistance</i>	0	7,844	10,000	78

Outcome	Indicators	Baseline	Midterm	2018 target	% of achievement rate
		2014	2016		
Producers knowledge of improved techniques and technologies improved	<i>Number of Producers and others who benefited from training on improved agricultural techniques and technologies through assistance from the USDA</i>	0	7,874	10,000	78
	<i>Percentage of Producers in the area who can explain the main applications and benefits of the new crop rotation technique</i>	42	63	70	90
	<i>Number of Producer and others who benefited from USDA training in production unit management (governance, administration and financial management)</i>	0	7,698	1,000	77
Production unit management (Finance and operations) is improved	<i>Number of Producers and others who apply improved techniques with regard to the management of production units (governance, administration, finance)</i>	0	5,562	7,000	79
	<i>Values of selected agricultural products in international or sub-regional cotton fiber and seed trade (\$ USD)</i>	2,818,528	756,379	4,785,000	16
Increase agricultural products trade (national, sub-regional, international)	<i>Volume of selected agricultural products in international or sub-regional trade (tons)</i>	2,000	1,170	3,300	35
	<i>Number of public-private partnerships that have resulted in private sector resource contributions</i>	1	0	2	0

Outcome	Indicators	Baseline	Midterm	2018 target	% of achievement rate
		2014	2016		
	<i>Number of surveyed Producers who report having improved post-production operations for rotational crops</i>	0	4,884	6,000	81
Private sector resource contribution increased					N/A
The use of post-production operations, processing and handling is improved	<i>Number of countries where selected products are exported to</i>	1	2	1	200
Access to quality market information is improved	<i>Percentage of farmers who have accessed current market information in the last week /month</i>	0	-	85	-
Improve market access to increase organic cotton sales	<i>Number of countries to which selected agricultural products are exported</i>	1	2	1	200

Annex 7 : Focus groups distribution, RECOLTE project intervention area

Areas	Province	Village	GPCB name	Group type	Cohort	Number of GPCB
Fada N’Gourma	Gourma			Mixed	Cohort 1	4
				Mixed	Cohort 2	
				Mixed	Cohort 2	
				Mixed	Cohort 1	
Tenkodogo	Boulgou			Mixed	Cohort 1	6
				Mixed	Cohort 1	
				Mixed	Cohort 1	
				Mixed	Cohort 1	
				Mixed	Cohort2	
				Mixed	Cohort 2	
Nayala	Nayala			Female	Cohort 1	4
				Mixed	Cohort 2	
				Mixed	Cohort 2	
				Mixed	Cohort 1	
Ioba	Bougouriba			Mixed	Cohort 1	4
				Mixed	Cohort2	
	Ioba			Mixed	Cohort 1	
				Mixed	Cohort 2	
Ziro	Sissili			Mixed	Cohort 2	4

				Mixed	Cohort 2	
	Bazèga			Mixed	Cohort 1	
	Sissili			Mixed	Cohort 1	
Oubritenga	Oubritenga			Mixed	Cohort 1	3
				Mixed	Cohort 1	
				Mixed	Cohort 2	
Banfora	Comoé			Mixed	Cohort 1	2
				Mixed	Cohort 1	
TOTAL						27 including 1 female and 26 mixed 11 in 2014 & 16 in 2013