Foreign Agricultural Service, United States Department of Agriculture

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

Final Evaluation

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RECOLTE Final Performance Evaluation Report

The United States Department of Agriculture (USDA) Food for Progress Project, OGSM: FCC-686-2013/027-00 or Revenue through Cotton Livelihoods, Trade, and Equity (RECOLTE), aims to increase organic cotton production and trade in agricultural products at the local, regional and international levels. The $12 million project aims to reach 10,000 producers in the eight production areas in 16 provinces of Burkina Faso. It is implemented by CRS in partnership with the National Union of Cotton Producers of Burkina Faso (UNPCB) and Texas A&M - AgriLife Research. RECOLTE also works in collaboration with the Institute for Environmental and Agricultural Research (INERA), as well as with the Ministry of Agriculture and Food Security and the Ministry of Trade, Industry and Handicrafts. The project worked closely with the office of the President of Faso, which led to the organization of the first edition of the International Cotton and Textile Exhibition (SICOT) in Koudougou.

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ACRONYMS

ABNORM	*Agence burkinabè de normalisation, de la métrologie et de la qualité* Burkinabè Agency for normalization, metrology and quality
ABI	*Agence burkinabè pour l'investissement* Burkinabè Agency for Investments
API-BF	*Agence pour la promotion des investissements au Burkina Faso* Agency for the Promotion of Investments in Burkina Faso
ALSP	ALSP, LLC Consulting
Bt	Bacillus Thuringiensis
C4CP	C-4 Cotton Partnership Project
CAD	*Comité d'aide au développement* Development Assistance Committee
CEDRES	*Centre d'études, de documentation et de recherches économiques et sociales* Center for Economic and Social Studies, Documenting and Research
CERFODES	*Centre d'études, de recherches et de formation pour le développement économique et social* Center for Economic and Social Development Studies, Research and Training
CES/DRS	*Conservation des eaux et des sols / Défense et restauration des sols* Conservation of water and soil/Protection and restoration of soil
CRS	Catholic Relief Services
ECDPM	European Centre for Development Policy Management
ECOCERT	Organic certification organization
FAO	United Nations Food and Agriculture Organization
FBDES	*Fonds burkinabè pour le développement économique et social* Burkinabè Fund for Economic and Social Development
FCFA	*Franc CFA*
FESPACO	*Festival panafricain du cinéma et de la télévision de Ouagadougou* Panafrican Film and Television Festival of Ouagadougou
FILSAH	*Filature du Sahel*
GOTS	Global Organic Textile Standard

GPCB	*Groupement de producteurs de coton biologique* Organic Cotton Growers' groups
IFDC	International Fertilizer Development Center
INERA	*Institut de l'environnement et de recherches agricoles* Environment and Agricultural Research Institute
MAAHA	*Ministère de l'agriculture et des aménagements hydro-agricoles* Ministry of Agriculture and Hydro-Agricultural Development
MICA	*Ministère de l'industrie, du commerce et de l'artisanat* Ministry of Trade, Industry and Crafts
NGO	Non-Governmental Organization
NOP	National Organic Program
OECD	Organisation for Economic Co-operation and Development
PCESA	*Programme de croissance économique dans le secteur agricole* Program for the Economic Growth of the Agricultural Sector
PNDES	*Plan national de développement économique et social* National Plan for Economic and Social Development
POSICA	*Politique sectorielle de l'industrie, du commerce et de l'artisanat* Sectorial Policy for Industry, Trade and Handicrafts
RECOLTE	Revenue through Cotton Livelihoods, Trade and Equity
RCP	*Réseau des caisses populaires* Network of Credit Unions
SAMAO	*Semaine des activités minières d'Afrique de l'Ouest* West Africa Mining Activities Week
SDR	*Stratégie de développement rural* Rural Development Strategy
SIAO	*Salon International de l'Artisanat de Ouagadougou* International Art and Craft Fair of Ouagadougou
SICOT	*Salon International du Coton et du Textile* International Show of Cotton and Textile
SNI	*Stratégie nationale d'industrialisation du Burkina Faso* National Industrialization Strategy of Burkina Faso

SOCOMA	*Société cotonnière du Gourma* Gourma Province Cotton Company
SOFITEX	*Société burkinabè des fibres textiles* Burkinabè Company for Textiles
SP/SFCL	*Secrétariat permanent de suivi de la filière coton libéralisée* Permanent Secretariat for the Monitoring of the Liberalized Cotton Sector
UNPCB	*Union nationale des producteurs de coton du Burkina Faso* National Union of Cotton Growers of Burkina Faso
USA	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture

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We would like to thank USDA and CRS for the confidence placed in CERFODES to conduct this final evaluation of the RECOLTE project. This was a significant challenge, but with the availability of the project staff and the project partner UNCPB, the evaluation team was able to obtain the necessary information and data and to complete this report.

Thanks to all the stakeholders of this project, who spared no effort to make valuable information and data available to us.

Thanks to the various key informants and cooperatives met during this study, who agreed to answer our questions with an open mind.

SUMMARY

Introduction

The United States Department of Agriculture (USDA)'s Food for Progress project, OGSM: FCC-686-2013/027-00 or *Revenue through Cotton Livelihoods, Trade, and Equity* (RECOLTE), seeks to increase the agricultural productivity of organic cotton and increase trade in agricultural products at local, regional and international levels (Catholic Relief Services (CRS), 2014). The project aims to improve the well-being of vulnerable people in rural areas. Ultimately, the project will contribute to the modernization of the organic cotton value chain and improve the livelihoods of vulnerable small producers in Burkina Faso. Initially, the project was planned for five years (September 27, 2013 to September 31, 2018). The project's implementation experienced some delays and is currently planned for completion by December 31st, 2019. The project is worth $11.9 million and aims to reach 10,000 producers in eight provinces of Burkina Faso. The strategic objectives are the following:

1. **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) by improving farm management.
2. **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.

After five and a half years of project implementation, a final evaluation was commissioned by USDA and CRS. The purpose of this final evaluation is to measure the impact of the project's strategies and interventions. It is a formative, evaluative and comparative evaluation that provides answers on relevance, effectiveness, efficiency, sustainability and impact. It also presents the lessons learned from the implementation of the project and makes recommendations.

Methodology

In terms of methodology, a sample of 500 organic cotton producers was randomly drawn from the database, taking into account the three main cohorts of the project. Cohorts are defined according to the year of affiliation of producers with the RECOLTE project. The first cohort of producers began participating in 2014-2015, at the beginning of the project; the second cohort of producers joined the project during the 2015-2016 season; and the third cohort began participating in the RECOLTE project from 2017 to present. Cohorts allow producers to be grouped according to the duration of their integration into organic cotton production within the RECOLTE project. Individual interviews were conducted with about 40 interviews with key informants (including 9 women) in Ouagadougou and Bobo Dioulasso, as well as in the project areas. In addition to individual interviews with key informants, twenty-two focus groups were conducted. In total, the focus groups concerned 12 women's groups, 8 men's groups and 2 mixed-gender groups.

Some limitations can be observed in the data. These limitations did not allow comparison with previous evaluations. These are mainly i) the analysis of the change in beneficiaries' income and in their access to markets, which cannot be done for lack of data in the final evaluation database and in the mid-term evaluation; ii) food security by cohort or in the target areas as requested by the CRS for lack of data in the final evaluation database (no variables). The limitation is explained by

the non-collection of these indicators during both evaluations (Midterm and Final) as well as during the monitoring of the project.

Main results of the final evaluation

The main results of the final evaluation make it possible to say that, although the quantitative results of the project (number of producers to enroll, surface of areas farmed using improved techniques and technologies, rates of improved production and productivity of organic cotton fields), have not been achieved, the RECOLTE project presents encouraging qualitative results for its beneficiaries, women in particular. Also, the weak achievement of some results of the project should be appreciated in regards of institutional and operational difficulties met during the project's implementation, with the 2014 popular uprising and the failed coup d'état of 2015 in Burkina Faso. Both situations resulted in the instability of the institutions responsible for approving and validating the project document and its implementation budget.

Relevance

The choice and quality of the partnerships developed by the project derive from the strategies adopted in both the design and implementation phases. UNPCB, the National Union of Cotton Growers of Burkina Faso (*Union nationale des producteurs de coton du Burkina Faso),* was selected as the main partner and implementer, the Institute for Environmental and Agricultural Research (*Institut de l'environnement et recherches agricoles,* INERA) and Texas A&M AgriLife were designated to provide technical assistance to ensure the use of quality seeds, and Green Cross, added during implementation, was selected to lead capacity building and development of techniques and technology. The involvement of UNPCB, as the main implementer of the project, and the partnership with INERA, the main provider of quality seeds, were relevant in view of the results on the production volume and quality of organic cotton made in Burkina Faso.

The project also benefited from the government's support and the partnership with the Ministry of Agriculture and Hydro-Agricultural Development (*Ministère de l'agriculture et des aménagements hydro-agricoles*, MAAHA). The Ministry participated in the delegation organized by the RECOLTE project to attend the 2017 edition of the Textile Exchange Conference, which was crucial as such events are key to enhancing the process of diversification of commercial partnerships and to securing higher sale prices for UNPCB's organic and Fair Trade cotton. The mission was an opportunity for the Minister of Agriculture and the General Director of the Agency for the Promotion of Investments in Burkina Faso (*Agence pour la promotion des investissements au Burkina Faso,* API-BF) to meet the United States Department of Agriculture (USDA) on behalf of the Burkinabe government. It can be noted that UNPCB can meet four international certification requirements: European Community (EC), National Organic Program (NOP), Global Organic Textile Standard (GOTS) and Fair Trade.

In terms of alignment and coherence, the RECOLTE project is in line with the policies and programs underway in Burkina Faso and presented as a priority axis of the country's development. Indeed, the project contributes to the National Plan for Economic and Social Development (*Plan national de développement économique et social,* PNDES), the government's development framework whose third strategic axis consists in boosting the growth sectors for the economy and

jobs, including of course, the organic cotton value chain. Regarding beneficiaries, the project is, through its approach, aligned with the needs of producers:

- Targeting poor producers, most of whom are dependent on subsistence farming, and introducing rotational crop production to prevent producers from relying exclusively on cotton farming.
- Providing a holistic intervention to support the increase of production through producer training to improve the well-being of producers and strengthen their resilience to shocks.
- Targeting women who are the poorest and most vulnerable small producers. Hence, women represented 58% of trained beneficiaries in new techniques and technology.

On the issue of stakeholder satisfaction, including government, SOFITEX, INERA, Texas A&M, Network of Credit Unions (*Réseau des caisses populaires*, RCP) and others, we note that the benefits of growing organic cotton are numerous: promotion of healthy and ecological practices, use of organic pesticide, low risk of chemical pesticide-related health problems in children, and increased income generation.

These advantages contribute to producers' satisfaction. This feeling is reinforced by the food security offered through rotational crops. The activities of the RECOLTE project are in line with and complementary to other organizations and programs. Their coherence is guaranteed by the coordination at the national level by centralized as well as decentralized technical government entities such as the agricultural and forestry, trade, industry and crafts services.

Effectiveness

The effectiveness of the RECOLTE project was evaluated at various levels during this evaluation process: the level of achievement of planned activities, the quality of management by the project team, and the gains or challenges expressed by the beneficiaries. For effective project management, the project setup had identified UNPCB as the main actor in the implementation of project activities in the field, while CRS would coordinate all project activities. With excellent knowledge of the field and the complete coverage of the project area by UNPCB, this collaboration was effective for the implementation of the project activities.

Regarding quantitative objectives, the achievements of various performance indicators vary according to the producer's sex (gender), the time the producer joined the project (cohort) and the intervention zone (province). For the three key performance indicators, namely the average area planted with organic cotton per producer (ha), the average yield of organic cotton per hectare (kg/ha) and the value of production per hectare (in Francs CFA, the local currency), which are directly linked to the first strategic objective of the project (increase of agricultural production), the achievement rates obtained are as follows:

- **Average area per organic cotton producer.** It went from 0.60 hectare (baseline study, 2014) to 0.98 hectare (midterm evaluation), to finally reach 1 hectare (final evaluation, 2018) for men, while for women it went from 0.60 ha (baseline study) to 0.55 hectare (midterm evaluation), ending at 0.50 hectare (final evaluation). The primary reason for such a gender disparity is women's lack of access to land. Generally, women in rural communities are granted only small portions of land to farm; these small plots are usually

dedicated to growing vegetables for household-level use. The increase in the rate of new women producers in the project, combined with their lack of access to land, resulted in a decline in the average area per woman. When examined from a cohort perspective, the results obtained were 0.69, 0.54 and 0.47 hectare respectively for cohorts 1, 2 and 3. In terms of differences between intervention areas, the figures ranged from 0.37 hectare (Nayala province) to 0.69 hectare (Comoé province). With the exception of men's achievement rates, the achievement rates of this indicator at the cohort level as well as at the provincial level remained below target values with an overall achievement rate of 75%. Despite these apparent differences in gender, cohort and province, the linear regressions did not show any statistical significance in the average area planted with the considered variables.

- **Average yield of organic cotton per hectare.** The yield has shown a downward trend throughout the implementation of the RECOLTE project, going from a value of 535 kg per hectare at baseline to 338 kg per hectare in 2018 in the final assessment. Gender and cohort analysis showed that men in cohort 1 and cohort 3 have significantly higher returns than women, while in cohort 2, men and women have similar yields with women displaying a slightly higher yield. The greatest disparity was found at the provincial level with yield values ranging from 48.64 kg per hectare (Kossi province) to 505.11 kg per hectare (Ziro province). With the exception of 2014, when the achievement rate was above the target (113%), performance achievement rates remained below target with an overall achievement rate of 56%. Although the differences between provinces are large, the linear regressions were not statistically significant for gender, cohort and province.
- **Average value of organic cotton production per hectare.** Closely linked to yield, the average value of organic cotton production per hectare has trended downward during the project implementation period of RECOLTE (2014-2018). Gender and cohort analysis showed that the average value of production among men was about 38% higher than that of women, while a 26% difference was recorded between the achievement rates of cohort 1 and cohort 2, and a 30% difference between cohort 2 and cohort 3. The greatest disparity was found at the provincial level with production values per hectare ranging from 16,502 FCFA (Kossi province) to 177,020 FCFA (Ziro province). Thus, with the exception of 2014, when the achievement rate of this indicator was 132% compared to the forecast target, the achievement rates remained below targets with an overall achievement rate of 71%. Despite differences between provinces, linear regressions were not statistically significant for gender, cohort or province.

Contrary to the conclusions that can be drawn from the quantitative data, interviews with beneficiaries of the project show a general level of satisfaction about the effectiveness of the implementation of the RECOLTE project. Beneficiaries mentioned that the project resulted in improved soil fertility, increased productivity of organic cotton and other rotational crops and thereby increased incomes. This feeling is widely shared among project beneficiaries despite the fact that the project did not reach most of its quantitative targets. Microcredit loans granted to women for the implementation of income generating activities were considered by the beneficiaries such as UNPCB and farmers (including women themselves) to be particularly effective in improving their income and living standards.

The actors agree on the fact that the marketing activity of the project was limited, because the project did not bring about any change in the purchase price of organic cotton nor any improvement in the delay of payments after cotton removal. Although commercialization issues are important, it must be recognized that issues of purchase price setting, the cotton collected from the producer by UNPCB and cash-for-sale are beyond the scope and capabilities of the RECOLTE project.

It should however be noted that, based on the analysis of the achievement of the objectives of the project grounded in the theory of change, and the changes were made possible by the project, especially in the use of agricultural production techniques and technologies, timely availability of improved seeds and compost, and gender mainstreaming with a focus on women who are the vulnerable producers.

Efficiency

The profitability analysis was done by comparing the amounts invested in the activities and the return on investment of said activities. The project invested in the organic cotton production chain, upgrading the organic cotton value chain and supporting market research and marketing. In the baseline study, cotton sales amounted to 152,000 FCFA per hectare for the first year of the project (2013-2014). The amounts of sales obtained from 2013 to 2018 evolved, from one year to another, in a jagged pattern. During the 2014-2015 season, the value of production per hectare saw a significant increase to 201,000 FCFA/ha. Overall, only the first two seasons (2013-2014 and 2014-2015) reached the forecasts. This situation could be explained by the cancellation of the purchase agreement between UNPCB and principal buyer Limited Brands in 2015. This had a negative impact on cotton farmers, as the purchase price decreased from 375 FCFA/kg to 325 FCFA/kg. However, some of the qualitative results give some perspective to the project's mixed effectiveness. Indeed, certain key factors motivated beneficiaries to grow organic cotton and gave them hope to earn income as compared to their personal investment. These are the comparative advantages of organic cotton production over conventional cotton production, as the production of organic cotton does not require significant initial investments, while the debt accrued by producers of conventional cotton has always been a detriment which often results in the abandonment of this cash crop. Another key factor is soil fertilization and increased yields of other rotational crops. Indeed, the new techniques introduced by the RECOLTE project increased the production of organic cotton growers, while soil remained fertile thanks to rotational crops.

Furthermore, growing organic cotton is less tiring to grow than conventional cotton, according to producers. In addition, income generating activities carried out by women, thanks to the microcredit loans and agricultural equipment provided, obviously made organic cotton growing more attractive for project beneficiaries.

Sustainability

CRS' participatory approach and use of adult education techniques in the RECOLTE project has been instrumental in transferring skills:

7,129 people, with 58% women, were trained in organic cotton production and improved farm management practices

229 demonstration plots were created

3 organic cotton seed multiplication farms were set up

209 people were trained in ginning techniques

UNPCB's client diversification went from one customer in 2014 to an average of four customers per season at the end of the project. UNPCB, as the main partner and implementer, benefitted from capacity building for all activities and therefore has the required skills and experience to continue implementing all stages of organic cotton production, including: seed production, cotton production, certification process for organic cotton and fair-trade, post-production, and processing and handling. Thus, all the activities and strategies can be continued after the end of the project, thanks to the ownership of these activities by UNPCB.

In the long run, however, a number of factors could have a negative impact on the sustainability of the project. We can mention the decline in the price of organic cotton observed since 2015 and the non-collection of Fair-Trade premiums. The lack of buyers of organic cotton could also be another major challenge to the sustainability of the project. But the upcoming opening of the organic cotton ginning plant will address challenges such as the number of organic producers, their payments, and therefore their participation in growing organic cotton.

Impact

The RECOLTE project has resulted in a series of significant and lasting changes in the lives of beneficiaries and the environment of individuals and groups having a direct or indirect link with the project. These changes are noticeable on several levels, some examples below:

- **Management and production of cotton by UNPCB** through the provision of quality seeds in sufficient quantity, improving the conditions of conservation, and securing their production. In addition, training producers in natural techniques contributed to improving the quality of organic cotton, increasing the demand on both national and international levels. In response, UNPCB implemented a more organized sales system, thus facilitating producers' access to the market. Thanks to the RECOLTE project, UNPCB has obtained GOTS certification, which has allowed it to access new markets in Belgium and sell the GOTS certified organic fair-trade yarn to SIGMA. In addition, since 2018, UNPCB, with the support of the RECOLTE project, has developed a fruitful working relationship with FILSAH, Burkina Faso's only spinning mill, allowing organic cotton fiber spun open-end to be placed on the local market for the first time. Thus, 5,514.5 kg of organic yarn were sold for CFAF 16,410,975 to local artisans.
- **Well-being of the participants** with the improvement of their health, reduction of their stress levels, better preservation of the environment, and the direct positive economic impact and social recognition of female producers within their communities.

- **Food security in the target areas**: the beneficiaries are able to ensure food security thanks to the practice of rotational crops, as yields are improved due to the fertilization of organic soils**.**
- Overall, the changes made will continue after the project ends. However, UNPCB will have to ensure continued improvement of the organic cotton production sector and the mobilization of producers regarding their level of organization.

Finally, participants of the RECOLTE project show a high level of resilience and display a variety of adaptation strategies to shocks. The level of resilience to shocks was shown to depend on the producer's gender and the area of intervention of the project but is not related to the duration of the producer's participation in the project. It should be emphasized that the project has helped increase the livelihoods of producers who adopted the practice of rotational crops. The provision of credit for income-generating activities has had an impact on the lives of some female producers. However, there are more efforts to be made as some producers are not yet resilient enough to the various shocks they experience. Similarly, the women's resilience strategy based on solidarity shows that additional efforts must be made to strengthen women's livelihoods.

Lessons learned

Several lessons can be learned as the project ends:

1. The longer the duration of beneficiaries' participation in the project, the greater their results in surface of areas farmed using improved techniques and technologies, production and productivity of organic cotton fields.

2. The provision of microcredit loans for income generating activities, coupled with the production of organic cotton, enhances the resilience of female beneficiaries.

3. The training, provided to more women than men, is not sufficient to increase the area of land sown or to increase the yield and, consequently, the value of their production. A gender approach is required here; advocacy with traditional and opinion leaders, focusing on changing mentalities in their communities, especially men's, will enable greater accessibility of girls and women to land, especially land of better quality. A potential solution could be to grant common fields to women grouped in associations or organic cotton production cooperatives within localities benefiting from this type of project. Such examples in facilitating women's access to land have broken down gender inequalities in access to land in some communities, as was the case with the Savings for Change approach developed by the Stromme Foundation in the Tahoua region of Niger.

4. An approach based on the support of a local partner, which sees its capacity strengthened, is a good strategic option since the activities initiated under the project will continue with the partner after the project's end. However, to successfully implement a project based on the local partner approach as is the case with UNPCB in the context of the RECOLTE project, it would have been necessary to observe a number of prerequisites, such as the prior organizational and institutional audit of said partner, in order to obtain a fairly clear picture of its capacity and competences, as well as the structure's insufficiencies and needs in capacity building.

5. It is crucial to combine value chain and rotational crop concepts in the context of cash crop promotion projects for the fight against poverty. Indeed, it is risky to support producers in cash

crop production, such as cotton, as most of them depend on subsistence farming, or food crop production. It was therefore essential to introduce the producers to the concepts of value chain of cotton production, as well as to the production of rotational crops such as soybean, corn, sesame, peanut, etc. This approach can be aimed at preventing producers from falling into a vicious cycle of poverty.

6. The project implementation strategy, which was based on the combination of individual and collective support to cotton producers, helped meet individual needs of some producers as well as the needs of producer groups or cooperatives.

7. The use of Fair-Trade premiums for community achievements contributed to strengthening social cohesion in some villages, giving a sense of pride to the producers of organic cotton in these locations.

8. In view of the importance of organic manure in organic production, training producers on the production techniques of quality manure is insufficient. Therefore, the design of future organic production projects must include a livestock component to facilitate the acquisition of animals for organic manure production.

9. To increase production of organic cotton in a significant way, it is essential to provide producers with mass-produced organic fertilizer and credits for production, as is the case with conventional cotton producers, who benefit from SOFITEX and a group of national and international banks that offer loans to ease the access to fertilizer and equipment.

10. The primary cause of producers to stop growing organic cotton is the lack of market opportunities or buyers; neither the delay in the payment of cotton purchase, nor its price, let alone the end of the RECOLTE project, constitute a sufficient reason for the abandonment of the production of organic cotton in the localities of intervention of the project.

11. The flexibility of the project has allowed the adoption of initiatives such as the International Show of Cotton and Textile (*Salon international du coton et du textile*, SICOT), which will become one of the sustainable products of the project. Indeed, plans are for SICOT to be institutionalized like the other major economic and cultural events of Burkina Faso, such as the West Africa Mining Activities Week (*Semaine des activités minières d'Afrique de l'Ouest,* SAMAO), the International Art and Craft Fair of Ouagadougou (*Salon international de l'artisanat de Ouagadougou*, SIAO) or the internationally recognized Panafrican Film and Television Festival of Ouagadougou (*Festival panafricain du cinéma et de la télévision de Ouagadougou*, FESPACO). The second edition of SICOT is scheduled for January 2020.

Recommendations

In view of the observed results and lessons learned from the RECOLTE project, here are some recommendations:

<u>To USDA and CRS</u>

- Continue to provide all the necessary technical and financial support required by UNPCB for the construction of the ginning plant, to have a growing contribution to expand the trade of agricultural products by increasing value added to post-production agricultural products.
- Establish a single market access information system by experimenting with a system using functional telephone networks in Burkina Faso to make price information on organic cotton products, rotation products and production available.
- Integrate a gender-sensitive dimension into the project through advocacy with community leaders in beneficiary areas to facilitate access to land for female producer cooperatives (cotton or sesame) through the provision of common fields, ranging from 10 to 15 ha average.
- Strengthen the partnership and work in synergy with the various stakeholders such as UNPCB, research institutes such as INERA, MAAHA and MCIA.

To UNPCB

- Ensure greater involvement in negotiations with the various partners and service providers for better follow-up activity implementation that was entrusted to them.
- Develop seed farm management and monitoring mechanisms in order to ensure the sustainability of these sources of good seeds for organic cotton production, and to maintain the modernization process initiated by the project.

To producers

Whether as individuals or organized in groups, assume ownership of the project and actively participate in the implementation of activities, despite the difficulties and risks associated with them. This is one of the conditions to improve the well-being of beneficiaries, as the project aims to create jobs and increase revenue, and therefore fight against poverty.

Conclusion

Although the quantitative objectives have not been achieved in terms of the number of producers enrolled, surface area farmed using improved techniques and technologies, rates of improved production and productivity of organic cotton fields, we can say that the qualitative results achieved are satisfactory for project implementers and actors, and above all the beneficiaries. The qualitative results are linked to the activities that supported the creation of the three seed farms, the provision of agricultural equipment for producers, the setup of income generating activities, the construction of a ginning plant for organic cotton, the production of training materials, the training of producers and technicians in the production of organic cotton and soil fertilization on organic farms, the promotion of organic cotton through participation in fairs, and the management of fair-trade premiums.

INTRODUCTION

USDA's Food for Progress project, or “Revenue through Cotton Livelihoods, Trade, and Equity”, in Burkina Faso, aims to increase the agricultural production of organic cotton and trade in agricultural products at the local, regional and international levels (CRS, 2014). The project serves to improve the well-being of vulnerable people in rural areas. Ultimately, the project aims to contribute to the modernization of the organic cotton value chain and improve the livelihoods of vulnerable small producers in Burkina Faso. Organic and fair-trade cotton marketing represents a market potential for small producers, especially women.

Although the RECOLTE project agreement was formally signed on September 27, 2013, its effective implementation began in April 2014. After five and a half years of implementation of the project, a final evaluation was commissioned by USDA and CRS. The purpose of this final evaluation is to measure the impact of the RECOLTE project strategies and interventions while documenting good practices and lessons learned in order to inform the design and implementation of similar projects in the future.

Data collection was conducted from January to March 2019, and this report is based on a descriptive and comparative analysis of the data. The final evaluation is formative, evaluative and comparative. In addition to answering questions related to evaluation criteria, such as relevance, effectiveness, efficiency, impact, and sustainability, lessons learned are formulated and recommendations are made. Thus, the final evaluation proceeds with an analysis using differentiated variables such as: gender, cohorts, duration of participation in the project (2014 to 2017) and location (province). Furthermore, comparisons are made with targets and baseline data.

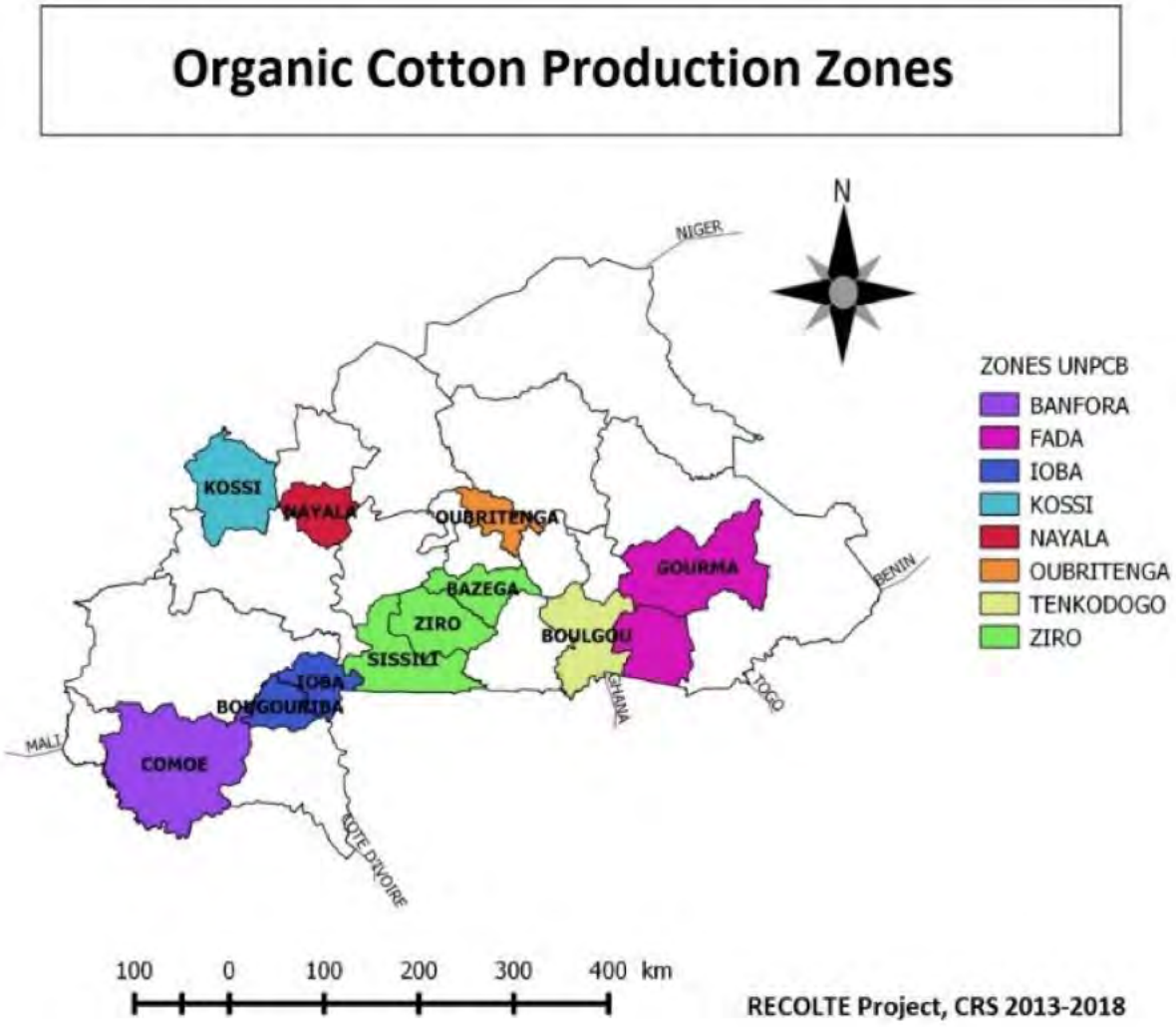
This report has been prepared by the Center for Economic and Social Development Studies, Research and Training (*Centre d'études, de recherches et de formation pour le développement économique et social,* CERFODES), which was not in charge of the collection of initial data. Thus, the methodology presented in this document is the one provided by CRS and the data was collected by the first consulting firm, ALSP, LLC, that CRS hired to conduct the final evaluation. Due to the poor quality of the report produced by ALSP, LLC, which did not meet the required thresholds, CRS terminated the contract, although it found the data collection work to be satisfactory. Thus a new firm, CERFODES, was selected. CERFODES was recruited through a call for applications to produce a report following rigorous evaluation guidance and requirements.

Apart from the introduction and the conclusion, the report is structured in four main parts. The first part consists of a general presentation of the national context and the specific context of the project, while the second part deals with the methodology used. The third part provides the presentation and analysis of project results answering evaluation questions. Finally, part four discusses lessons learned and recommendations.

I. NATIONAL CONTEXT AND CONTEXT OF THE PROJECT

1.1. Project description

The RECOLTE project aims to improve the organic cotton value chain and improve the livelihoods of vulnerable small producers in Burkina Faso. The marketing of organic and fair-trade cotton is a niche market for small producers, especially women. The RECOLTE project targets all the cotton producing areas of Burkina Faso, namely the provinces of Comoé, Ioba, Ziro, Boulgou, Nayala, Oubritenga, Kossi and Gourma. The map below shows the areas of intervention of the project.



Map 1 : Intervention areas of the RECOLTE project

CRS lead project implementation since April 2014 in partnership with UNPCB and Texas A&M AgriLife Research, adding Textile Exchange in 2018. CRS worked in partnership with UNPCB as the main implementing partner for activities.

The RECOLTE project also worked with national Burkinabè structures such as the Institute for Environmental and Agricultural Research (INERA), the Ministry of Agriculture and Agricultural

Development (MAAHA), the Ministry of Trade, Industry and Crafts (MICA). The RECOLTE project provided INERA with a contractual technical support to assist the project and UNPCB in the supply of quality seeds.

The RECOLTE project is valued at $11.9 million and aims to reach 10,000 cotton producers. The project has allowed USDA, through CRS, to monetize 16,600 metric tons of white rice worth $9.4 million. Additionally, CRS spent approximately $2 million to administer and monitor the project.

1.2. Strategic objectives

The RECOLTE project has been working with UNPCB to increase organic cotton production in response to strong demand through two strategic objectives:

1. Increase agricultural production by: a) improving the quality of land and water resources; b) increasing the use of improved agricultural technology and techniques; and c) improving the management of seed farms.

2. Develop trade in agricultural products by a) increasing the value added to post-production agricultural products; b) increasing market access to sell agricultural products; and c) improving the efficiency of organic cotton products' transactions. at the national and international level.

1.3. Project activities

Project activities focused on strengthening 255 farmer groups, increasing production of organic cotton, increasing UNPCB's management capacity and establishing links between UNPCB and the international market for increased sales of organic cotton.

CRS has worked to improve and increase the production of organic cotton by developing and organizing training for producers in organic cotton production. Training sessions focused on topics such as the proper positioning of organic fields, including the importance of maintaining the required distance from conventional fields or Bacillus Thuringiensis (Bt) fields, plot selection and seed preparation, internal management and control to ensure that organic standards are met, composting, integrated pest management and increased incomes through rotational crops other than cotton.

CRS developed 229 field demonstration plots in the project's provinces to combine theory with practice.

Since organic cotton production involves rotational crops, CRS has also promoted the production of agricultural crops such as soybean, sesame, peanuts and corn, grown conforming to organic standards, but not certified. Through the project, CRS and UNPCB worked to connect producers with service providers to provide intensive training and to provide advice on organic cotton production. The project facilitated female producers with microloans for income-generating activities through a revolving fund.

Below are the different activities listed in the project:

1. Provide training on organic cotton production to extension agents and producers.

2. Provide training on the management of improved organic cotton farms to extension agents and producers.

3. Facilitate the certification process of organic cotton and fair-trade for UNPCB.

4. Develop UNPCB's, as well as extension agents' and producers', trade capacity.

5. Develop business service providers for UNPCB, extension agents and producers.

6. Improve UNPCB's, as well as extension agents' and producers', post-production, processing and handling.

7. Facilitate agricultural loans to UNPCB and producers through improved financial services.

8. Improve trade links to increase UNPCB's trade in organic cotton.

9. Facilitate policy and regulatory dialogue on organic cotton for UNPCB, the government of Burkina Faso and the cotton private sector.

10. Promote gender awareness and prevention of child labor with UNPCB, extension agents and producers.

1.4. Project beneficiaries

The direct beneficiaries of the RECOLTE project are organic cotton producers organized in 255 groups. In total, the project targeted 10,000 vulnerable small producers, including a minimum of 30% women, who were to benefit from capacity building through training, the provision of agricultural equipment and support strategies for the marketing of cotton. However, the project reached an actual total number of 7,616 producers (58% female and 42% male). UNPCB, as the main implementing partner of the project, is also one of the project's direct beneficiaries.

1.5. Objective and scope of the final evaluation

The overall objective of the final evaluation is to evaluate and capture the results produced by the RECOLTE project strategy and interventions while documenting best practices in order to guide future programming and learning in a broad sense. The final evaluation covers the areas of design, implementation, management and lessons learned of the project. Thus, it provides lessons and recommendations to program participants, USDA, CRS and other key stakeholders for future programs.

II. METHODOLOGY OF THE FINAL EVALUATION

2.1. Data collection

The methodology for this evaluation adopted an approach that combines primary data (from field data collection) and secondary data (from desk review). The data collected is quantitative and qualitative. The evaluation team collaborated with the RECOLTE project staff to finalize the methodology and tools for the final assessment before conducting fieldwork.

2.1.1. Consultation with the RECOLTE project staff

The ALSP-MASCARE Consortium, which did the data collection portion of the evaluation, had regular meetings with the RECOLTE Chief of Party and the CRS Agricultural Value Chains Program Manager to ensure proper implementation of the evaluation. These meetings allowed for a participatory evaluation. They helped the team clarify the terms of reference and to solicit support from CRS for the meetings and documents that were used in the document review. So, partner organizations UNPCB and INERA participated in the design and testing of data collection instruments and assisted in training data collection agents and helped oversee the data collection field agents

2.1.2. Literature review

The ALSP-MASCARE Consortium evaluation team reviewed all documents made available by CRS, as well as other scientific publications and reports deemed relevant to the evaluation. The wealth of documentation allowed the evaluation team to better understand the project and its implementation. Reading the existing documents helped the team to better understand the project, its design, strategies and activities. This led to the development of appropriate data collection tools. The key project documents reviewed included:

1. Project proposal and results framework
2. Project agreement document and its amendments
3. Performance management and monitoring plan
4. Approved evaluation plan
5. USDA and Food for Progress documents
6. Baseline study report, midterm evaluation report and the various periodic reports provided by the project through the stakeholders

2.1.3. Interviews with key informants

RECOLTE project staff provided assistance in scheduling meetings and appointments with key informants. The core evaluation team conducted 13 interviews in Ouagadougou and Bobo-Dioulasso with representatives from the list of key stakeholders provided by the RECOLTE project staff. The team was unable to meet representatives of three organizations, namely the Burkinabè Agency for Investments (*Agence burkinabè pour l'investissement*), Faso Coton and the MAAHA, as these structures were not available for the scheduled interviews. Individual interviews were also conducted with relay producers and seed farm managers in the field using interview guides. A semi-structured questionnaire was then developed and used to collect data with these key informants. This questionnaire is adapted according to the field of intervention of each partner and key informant. A total of 29 interviews with key informants enabled the evaluation team to reach 64 people (including 6 women).

2.1.4. Organization of focus groups

Homogeneous and mixed-gender focus group interviews were conducted with organic cotton producers. The focus groups consisted of 8 to 12 producers, selected on the basis of their status as beneficiaries of the RECOLTE project, their membership in the group and their gender. The same focus group guide was used with mixed-gender groups as well as with female-only and male-only groups. These facilitation guides asked questions seeking to understand, among other things, the beneficiaries' perceptions of the project, their assessment of the project's implementation strategies and the changes made by the project in terms of organic cotton production, food security, market access and income. 22 focus groups were organized with the beneficiary producer groups of organic cotton. In total, the focus groups consisted of 12 women's groups, 8 men's groups and 2 mixed-gender groups.

2.1.5. Survey of the organic cotton producer groups

The RECOLTE project staff provided the sampling frame, which randomly selected 500 producers (294 of whom were women) who were interviewed during the field survey. For ethical reasons, respondents were first provided with an explanation of the purpose of the assessment, and formally consented to be interviewed. In case of refusal, replacements were planned. This led to oversampling to compensate for refusals or absences. An instruction manual indicated how the replacement should be done.

The quantitative data from the survey with producers was done using mobile phones. The structured questionnaire was developed using the Survey CTO Collect tool v2.50. Thus, the members of organic cotton producer groups were chosen to ensure a 95% probability that an observed variation is not due to chance (the statistical significance (α) with statistical power (β) of 80%).

Sampling of the final assessment was in line with the basic and midterm sampling strategies to ensure comparability. The sampling strategy for household surveys was stratified to ensure representative samples as follows: (A) cohort 1 represents farmers enrolled at the reference level (2014); (B) cohort 2 represents farmers registered in 2015 and 2016; (C) cohort 3 represents farmers enrolled in 2017. Respondents were randomly selected from each cohort. This approach allowed a coherent analysis of the results between the different groups (cohort comparison method) and similar groups (performance evaluation) of the farmers by comparing different rates of modification of the production, the incomes and the adoption of techniques. The terms of reference required the use of the following formula:

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

n = minimum sample size required

D = design effect (2, the default common, was used)

X1 = indicator reference numbers (yield, area or value of production per hectare)

X2 = the lifetime of the project objectives for the indicators (yield, area or value of production per hectare)

(X2 - X1) is the size of the magnitude of the changes or differences of comparison group, it is desirable to be able to detect it.

S1 and S2 are the expected standard deviations for the baseline and previous year indicators.

Zα = the score z corresponding to the degree of confidence that an observed change in size (X2 - X1) would not be the result of chance (statistical significance), α. The value of α used was 0.95, which implied Z0.95 = 1.645.

Zβ = The dimension z corresponding to the degree of confidence with which one wants to be certain to detect a modification of the size (X2 - X1) if it actually occurred (statistical power), β. The value of β was used at 0.80, which implies that Zβ = 0.80 = 0.840.

Table 1: Sample distribution and cohort replacement process

	Number of members	Sample percentage	Sample size	Replacements						
				Total	FA*	DA*	NA*	OUB*	TK*	Ziro
Cohort 1	2279	2279/ 4693 = 49%	241 (117 women + 124 men)	14	1	0	3	1	9	0
Cohort 2	1327	1327/ 4693 = 28%	142 (121 women+ 21 men)	9	1	3	3	0	1	1
Cohort 3	1087	1087/ 4693 = 23%	117 (56 women+ 61 men)	11	0	1	0	0	8	2
TOTAL	4693	100%	500	34	2	4	6	1	18	3

Source: The ALSP-MASCARE Consortium evaluation team.
Note: (*) FA stands for Fada N'Gourma; DA Ioba; NA Nayala; OUB Oubritenga; and TK Tenkodogo/Boulgou.

2.2. Data quality assurance

A data quality assurance plan was set up so as to ensure that accurate data are collected, and the right information reaches stakeholders and the donor. A multidisciplinary team ensured that the data collection process complies with the standards of validity, reliability, accuracy, integrity and timeliness. The goal was to collect high-quality data while minimizing errors. The design of appropriate data collection tools was a first step in the evaluation process. After several rounds of corrections, the survey team tested the tools.

Qualified instructors prepared a detailed training program for data collectors and their supervisors. The training program included mobile phone handling and data entry procedures. The training methods are provided. After the training, data collectors were assigned to groups by the trainers.

During the data collection fieldwork, the computer analyst checked the data daily to ensure that the data entry had been done appropriately. He then performed a preliminary analysis of the data to ensure that it had been correctly captured. A form was prepared and verified to ensure that procedures had been followed.

2.3. Data processing and analysis

The purpose of data clearance is to detect errors and inconsistencies in the database. Control by comparison with the best data was conducted first, followed by an accounting control to check if the data respected accounting logic, and finally structure and validity controls to ensure there were no conditions or codes that should not be in the database.

At the end of the data clearance process, CERFODES produced tables and indicators based on the data analysis plan. In addition to statistical analyses, qualitative data collected from key informants or partners was triangulated with qualitative data to understand "*how and why*" change or resistance phenomena are observed at the end of the project.

When analyzing quantitative data relative to a given theme or an indicator of the project, additional information is sought through qualitative data to explain or better understand the level of the calculated indicators. In some cases, quantitative data may not be available because they were not collected during the data collection fieldwork. Qualitative data found in individual interviews with key informants or focus groups were used to overcome this lack of data. This approach also made it possible to fill-in certain information gaps by recovering data that the quantitative survey had not collected during the beneficiary survey. Statistical treatment of quantitative data and triangulation of qualitative data yielded the results and indicators used in this final evaluation report.

The analysis of results and indicators is based on explanatory analysis, using variables such as cohort, province and gender. Sometimes the analysis is based on the $\chi 2$ Test (pronounced "chi-square" or "chi square" Test).

In statistics, a test of $\chi 2$, is a statistical test where the test statistic follows a $\chi 2$ law under the null hypothesis. For example, the $\chi 2$ test allows to test the adequacy of a series of data to a family of probability laws or to test the independence between two qualitative random variables. In this final evaluation, we have considered a model, having the dependent variable Y as the "the shock happened or not";
The first variable consists of gender of producers: X1 = gender of producers who faced to shock or not;
The second variable is the locations of producers: X2 = locations of producers is taken through the provinces;
The third variable is the cohort: X3 = various cohorts (1, 2 and 3);
In this final evaluation we have performed the chi-square test between the dependent variable (shock happened or not) and the 3 explanatory or independent variables (gender, provinces and cohorts) to know if there is any correlation between them.
The hypotheses of the test are:

$$\begin{cases} \boldsymbol{H0}: \boldsymbol{There\ is\ a\ correlation}\ \textbf{between Y et Xi} \\ \textbf{H1}: \textbf{there is no correlation between Y et Xi} \end{cases} \quad \text{with i=1,2,3}$$

The decision criteria are:
If α ', the calculated test statistic is such that α' <α = 5%, then the Test is significant, and the hypothesis H0 is retained. At the threshold α = 5%, there is, therefore, a correlation between the two variables Y and Xi.
If α ', the calculated test statistic is such that α'> α = 5%, so we reject the hypothesis H0. At the threshold α = 5%, there is, therefore, no correlation between the two variables Y and Xi.

2.4. Challenges encountered

It should be noted that a number of challenges were encountered in the data clearance process:

- Database sectioning: the databases were sectioned (base box, parcel base, base section 3: equipment, base section 7: input, base section 9: marketing) without the matching merge key. This difficulty does not allow crossings of certain variables that are located in another database.
- String variables: it was then necessary to recode these variables into numeric variables in order to be able to make the calculations.
- Aberrant data: 100-ton production in an area of 3 hectares, producers who produced 400 kg but have no acreage, producers who did not produce anything but sold products, producers who received loans of 105 FCFA, 175 FCFA, 265 FCFA, 365,0000 FCFA, etc.
- The statement of non-coded variables.
- Absence of code book.

Solution: CERFODES carried out plausibility checks, which aim at verifying the credibility of the recorded data. They are based on knowledge acquired in the field of study and involve standards or ranges of evolution of the values of variables or reports of these values. Regarding the quantitative variables, implausible values were declared for those relating to expenditure, areas, production and amounts of loans. All producers who reported implausible amounts, areas or quantities were identified and treated on a case-by-case basis after reviewing the questionnaires. Some values were the result of a wrong entry and were therefore simply corrected.

The random hot deck method was used to process missing values. This method consists of producing an “artificial value” to replace the missing value. It allowed the use of a unique weight associated with each individual or modality, so that the results of various analyses were necessarily consistent. The missing value was replaced by the value observed with a close respondent, called a donor. And the donor was randomly selected from the respondents.

Duplicates in the database correspond to a beneficiary being registered multiple times. The method used to solve this consisted of matching the answers to several common questions in the database and removing the answers that are superfluous after having read them.

The databases were merged to make the different crossings (gender, province, cohort) and calculations including the yields.

2.5. Evaluation limitations

The limitations of this database mainly concern certain measures that are obtained on the basis of producers' declarations. As mentioned above, the areas, the production, the quantities sold, and the loan amounts were obtained based on the producers' declarations. This data consists of approximate estimates and not objective measures. In addition, some analyses could not be done due to the lack of data collected during the survey. These include:

- the analysis of change in the beneficiaries' incomes and in their market access, which cannot be completed due to lack of data in the final evaluation and midterm evaluation databases.
- the analysis of change in food security by cohort or overall in the target areas, as requested by the donor, for lack of data in the final evaluation database (no variables). The analysis is based on the statements made by beneficiaries during the interviews and focus groups.

2.6. Extrapolation of results

The sample included 500 individuals, out of a total of 7,616 organic cotton producers. The results of the evaluation were applied from the representative sample data to the overall beneficiary population. It was therefore necessary to extrapolate the results obtained from the survey. The method used for this approach consists of the calculation of the average of the variable (quantitative), weighted by the total number of organic cotton producers (7,616). These estimates concerned production, area and income.

III. RESULTS OF THE FINAL EVALUATION

3.1. Relevance

This section discusses the relevance of the RECOLTE project. The relevance analysis is based on a series of questions relating to: i) the adequacy of the project with the current economic, cultural and political contexts of Burkina Faso; ii) the priorities of the Burkinabè government and the beneficiaries; iii) the project's compliance with current government policies and programs; iv) the level of alignment and complementarity of the project with programs managed by other donors, NGOs and/or local organizations; and finally v) the level of satisfaction of stakeholders including organic cotton farmers and local authorities as to their participation in the project.

Before dealing with analytical aspects, it should be noted that the notion of relevance used in this evaluation is based on the criteria of the Organization for Economic Co-operation and Development's (OECD) Development Assistance Committee. Relevance is the "extent to which the objectives of the action match the expectations of the beneficiaries and the needs of the territory." Relevance is the added value of the project. Is its implementation appropriately motivated? The relevance of a project is mainly based on its design. It concerns the extent to which the objectives anticipated by the project respond correctly to identified problems or to real needs. Relevance needs to be assessed throughout the project cycle. If changes occur regarding both the problems initially identified and the context (physical, political, economic, social, environmental or institutional), a focus or a new orientation should be given. Relevance concerns the adequacy of the project with the problems to be solved at two given moments of a project: during its design and its evaluation.

Thus, the alignment of the project with government priorities and with the needs of producers can be analyzed from several angles, which will be discussed below.

3.1.1. Alignment of the project with government priorities and producers' needs

Alignment of the project with the government's development priorities. The analysis of the activities carried out within the framework of the project makes it possible to say that it fits in the priorities of the government regarding economic and social development policies. In fact, the activities carried out consisted of supporting vulnerable rural households with the aim of reducing poverty. This goal of poverty reduction for rural households, which is clearly stated in the project, is explicitly mentioned in the National Plan for Economic and Social Development (PNDES). One of the PNDES' priorities is the implementation of activities that can generate multiplier, cumulative and sustainable effects for the improvement of income for producers and allow for subsequent reduction of their poverty level.

Alignment of the project with the needs of the producers. Based on the analysis of the activities and the expected results of the project, the project is aligned with the needs of the producers. Indeed, the project offers new perspectives to producers suffering from the effects of climate change and food insecurity, the latter having become quasi-structural. This is perceptible through the targeting of poor producers who are mostly dependent on subsistence farming. These producers

needed alternatives, such as organic farming, to face the new challenges. Activities introducing rotational crop production such as soybean, corn, sesame, and peanuts allowed producers to no longer rely exclusively on growing cotton. Thus, they were able to increase their income while ensuring their food security. The intervention approach was conducted in a holistic manner, involving many activities and actors to support production activities and improve the sustainable management of natural resources by beneficiary populations. Finally, we can note the particular targeting of women as beneficiaries who, as we know, constitute the majority of poor and vulnerable small producers. In fact, this segment of the population, which is experiencing a high rate of poverty, has always received very little support in terms of technical, material or financial resources for production activities that generate income and contribute to the fight against poverty.

In summary, there is indeed a clear and obvious alignment of the project with government priorities and with the needs of the producers, as the project has taken into account the socio-political context of the country and the socio-cultural context of the intervention area by adjusting activities as well as expected results. By way of illustration, we can cite relaxed conditions and criteria for producers to access subsidies for the purchase of equipment. This made it possible to include women who were almost excluded from the equipment grants awarded to farmers organized in groups. Women were therefore previously doubly penalized; not only could they not benefit equitably from the resources made available to groups, but they were also experiencing difficulties in accessing to the equipment within their own household. This led to the decision to reorient the project's intervention strategy to address gender inequalities by providing individualized support.

3.1.2. Alignment of the project with the cotton producers' and the cotton production sector's development strategies

One of the objectives of the RECOLTE project is to increase the agricultural productivity of organic cotton producers. Through this lever, the project aims to improve the income, economic prospects and food security of producers, particularly women and small producers, through a profitable and sustainable mode of production.

Thus, the impact sought through the implementation of the project is a 25% increase in agricultural yields in the organic cotton sub-sector and a 30% increase in the average income of the organic cotton producer, ensuring the production of UNPCB doubles to reach 4000 tons by 2018. This was to be achieved through accelerated and massive production and the application of techniques and technologies provided by the project.

To achieve these results, the project planned to work on improving the current state of the organic cotton sub-sector, which is relatively poor given i) insufficient seed multipliers and insufficient basic seeds, ii) the abandonment of old alternative seeds, iii) the lack of contamination control from conventional cotton, iv) the poor knowledge on improved organic farming practices, v) the lack of access to inputs and improved materials, vi) the lack of storage facilities; vii) the lack of visibility of the organic sub-sector in the cotton sector; and viii) the need to establish biological cotton processing infrastructure. Thus, the project oriented its intervention towards the development strategies of the organic cotton sub-sector and its actors by adopting several strategies during the design phase of the project, as well as the implementation phase.

This aligns with UNPCB's vision for its Organic and Equitable Cotton Program (*Programme coton biologique et équitable*), which is to have "a significant and growing number of producers in Burkina Faso with sustainably improved living conditions through the adoption of organic production and the marketing of their products via organic and equitable channels (www.unpcb.org). This vision has generated strategies to increase production, strengthen the skills of producers, allow for better quality management during production, harvest and post-harvest operations, and finally, reinforce the marketing network.

For example, the design phase put an emphasis on the choice and quality of partnerships for the project. UNPCB was selected as both a key partner and the entity in charge of activity implementation.

In order to use good and adequate seeds, two other strategic partners were involved in the implementation of the project: INERA in Burkina Faso and AgriLife Research at the University of Texas A&M in the USA. These two research institutes were responsible for technical assistance to produce quality organic cotton seeds. These strategic choices yielded significant results in organic seed cotton production, which peaked at 2,600 metric tons in 2015.

During the implementation phase, three seed farms were established to increase the quantity and ensure the quality of the seeds made available to producers. This was judged relevant by producers, "*It was a concern of ours, and when CRS came to us, we exposed the problem and the organization supported us with the acquisition of the farms, the tools and equipment such as sheds for oxen, offices, purchase of land, demarcation of land, a borehole, and storage silos."* (Excerpt from an interview with a seed farm manager).

The annual activity plan, coordination meetings and indicator monitoring meetings, in particular between UNPCB and CRS, to periodically evaluate progress, are relevant. Indeed, the data generated by the monitoring and evaluation system showed the need to involve another strategic partner, Green Cross, to i) strengthen activities to increase organic manure supply, ii) build capacity on soil fertility management in organic farms, and iii) provide composting techniques (the "Compost Plus" activator), while ensuring the capacity building of beneficiaries and UNPCB field agents. UNPCB was responsible for supporting the compost production activity, with the technical assistance of Green Cross. The project provided Green Cross with a grant to train area managers, field agents, and producer groups in order to promote the production of compost and its good use. All producers were trained in composting techniques. The project team recognizes that the level of knowledge is insufficient and there are gaps left to be filled. Producers face constraints which prevent them from producing compost in sufficient quantities, due to limited access to water, as well as insufficient technical proficiency; to improve productivity and increase the production of organic cotton without these specific techniques and technologies is difficult. (Interview with a project partner).

To better support UNPCB, which is the national governance structure for the cotton sector in Burkina Faso, didactic materials were produced. These documents relate to productivity and production and are at the root of the overall development strategy for organic cotton producers. These materials are: i) an organic cotton production manual, ii) a farm equipment strategy, iii) a training strategy and a set of illustrations on compost production. These documents are relevant for

the productivity and production of organic cotton. They were used in the field and regularly updated.

All of these strategic choices quickly showed their relevance and produced results in terms of developing organic cotton producers' skills and furthering the productivity and production of organic cotton.

In fact, according to government agricultural services agents, the transfer of these techniques to small groups of producers through practical demonstrations was appreciated as it encouraged their adoption by producers. Thus, 229 demonstration plots were used to further popularize the promoted and proven techniques that were put in place by the project. "*The project implementation strategy has helped to improve revenue. Indeed, the trainings explaining how to cultivate organic cotton, the techniques demonstrated, the equipment received and the follow-up by agents, have prompted an increase in production and income over time, from one year to the next*." (Excerpt from a focus group discussion with producers).

Monitoring and evaluation data indicate that around 8,500 people, including field agents and area managers, were trained on topics such as proper placement of organic fields, selection of plots and seed preparation, management of internal controls to ensure organic standards are met, composting, integrated pest management, as well as increased income through rotational crops other than cotton (8,425 people) and improved farm management practices (8,467 people).

Additionally, the project made new technologies available to producers, which were promoted by the technical services of the government. For example, equipment suppliers demonstrated the use of "*Compostaterre*" machines. These make it possible to grind branches up to 8 cm in diameter in order to produce organic manure. The project subsidized the acquisition of brush cutters, compost turners and compost spreaders to allow producers to produce quality compost in large quantities. The number of organic cotton producers using new technologies or management practices through USDA assistance therefore grew from 1,500 to 7,314 over the life of the project.

The strategy of providing agricultural equipment to producers was launched with the aim of increasing the factors of production. It initially targeted around 75 groups, who were provided with equipment kits. Producers contracted loans from banks and other financial institutions to buy equipment and other inputs for production activities. The truth is, however, that access to credit is particularly difficult for small producers as, while they generally do own their plot(s) of land, they do not have the property titles required by banks as a guarantee.

Land is managed under customary rules and laws. To mitigate these difficulties, the project worked through a partnership established between CRS, UNPCB and the Network of Credit Unions (*Réseau des caisses populaires*, RCP) in order to facilitate access to loans for producers, setting up a guarantee fund. Exchanges with UNPCB revealed that the strategy was reviewed on the basis of the agricultural equipment strategy document. Additional funds were negotiated and obtained in order to complete the operation. The table below gives an idea of the equipment made available to producers.

Table 2: Equipment made available to producers

Province / Equipment	Banfora	Fada	Ioba	Kossi	Nayala	Oubritenga	Tenkodogo	Ziro	Total
Cart	3	18	5	14	51	1	11	0	**103**
Ox/cows	0	143	144	0	20	24	67	73	**471**
Ox	83	100	37	26	142	13	271	64	**736**
Ridge-plough	20	53	27	13	62	5	71	4	**255**
Livestock pulled wagon	2	1	2	0	2	0	0	0	**7**
Plough	25	45	6	16	82	33	89	57	**353**
Dumper cart	5	21	15	0	28	26	80	33	**208**
Kits (axe, machete, hoe/short-handled hoe, wheelbarrow and pitchfork)	21	133	173	10	130	217	262	33	**979**
Back sprayer	18	39	37	14	67	1	76	37	**289**
Weeder	8	31	17	7	105	0	56	2	**226**
Sower	0	1	0	0	3	0	4	0	**8**
Donkey	11	30	10	19	88	36	114	55	**363**
Tractor	1	0	0	0	0	0	5	2	**8**
Horse	0	0	0	1	0	0	0	0	**1**

This analysis shows that through the implementation of these different strategies, the project successfully met the needs of the organic cotton sector and producers. Indeed, results on the ground, testimonies of producers, UNPCB and strategic partners, enthusiasm on the part of the government and local authorities, show that the productivity and production of organic and fair-trade cotton

experienced a boost. Better still, organic cotton is now valued in the cotton industry, and will be even more so with the upcoming launch of the organic cotton ginning plant.

Producers interviewed for this report described the relevance of the project in relation to the development strategies of organic cotton in Burkina Faso:

Thus, for some producers, "*in the field of agricultural productivity of organic cotton and rotational crops, the implementation strategies were very effective and relevant, because with the practical training on the use of compost in our fields, the production of organic cotton is increasing. Soils remain fertile and are favorable to good productivity for rotational crops such as corn, millet, sorghum, and that for three years*." (Excerpt from a focus group discussion with organic cotton producers).

Along the same lines, female farmers said that "*trainings help to better explain how to grow organic cotton, what techniques to use. The equipment received and the follow-up by agents have favored an increase in production and income over time. With the knowledge and lessons learned, we are seeing an increase in productivity: we can obtain 500kg over 1 hectare*". (Excerpt from a focus group discussion with organic cotton producers).

All recognize that the project is beneficial to the development of the organic cotton sector. "*With the RECOLTE project, we are seeing an increase in the agricultural production of cotton and rotational crops because of the acquisition of the given material which is very useful to us in the production of cotton and at the same time that of other crops*". (Excerpt from a focus group discussion with organic cotton producers).

3.1.3. RECOLTE project and government priorities: enthusiasm and commitment

Presented in the 2016-2020 National Plan for Economic and Social (PNDES), notably in its Strategic Axis 3, one of the government's priorities is to boost the growth of sectors enhancing the economy and employment. The specific objective 3.1. seeks to sustainably develop a productive and resilient agricultural sector, more market-oriented and based on the principles of sustainable development. Growing organic cotton is not only sustainable, but important for the country's economy because it is market-oriented. Organic cotton currently produced in Burkina Faso may present a potential market.

In the context of the RECOLTE project, the priority of the government is undoubtedly the creation of an environment favorable to growing organic cotton. Thus, promoting sustainable environmental management practices and developing a green economy in Burkina is a priority for the government. The development of the organic cotton sub-sector, which implies non-contamination by conventional cotton, will by extension allow good soil conservation and preservation of natural resources in rural areas.

In view of the changes induced in terms of sustainable management on the one hand, and the opportunity of consolidation of the rural economy, especially for the benefit of women and small producers, on the other hand, the stakeholders all noted a strong involvement of the government at the highest level.

This translates concretely into a sense of ownership by the Permanent Secretary for the Monitoring of the Liberalized Cotton Sector (*Secrétariat permanent de suivi de la filière coton libéralisée*, SP-SFCL) of the organic cotton project, which thus benefits from his support and facilitation in its implementation.

Furthermore, the MICA has taken ownership of the ongoing establishment of the ginning plant of organic cotton. Thus, the Agency for the Promotion of Investments in Burkina Faso (*Agence pour la promotion des investissements au Burkina Faso,* API-BF) and the Burkinabè Fund for Economic and Social Development (*Fonds burkinabè de développement économique et social*, FBDES) were key players in the process that led to the start of the work. In June 2017, the API-BF organized a round table for the validation of the technical and economic feasibility study, and the mobilization of funds to set up the plant. According to the government, "*organic cotton is mostly produced by women and young people, and we found that there was a decline in the amount produced, because once produced, there was no ginning plant to bring it to and this was hindering the momentum of those involved in the sector. Therefore, the establishment of a ginning plant became indispensable*". (Statement by the Minister of Trade, Industry and Handicrafts during a visit to the factory site. Source: the newspaper The Economist of Burkina Faso, 2019).

Furthermore, in the context of the promotion and validation of organic cotton in Burkina Faso, we may note that organic and fair-trade textiles were promoted during the International Show of Cotton and Textile (*Salon international du coton et du textile,* SICOT) organized by the government. It should be remembered that the idea of organizing such a fair was a proposal emanating from the RECOLTE project and supported by the government. As a member of the organizing committee of SICOT, the RECOLTE project proposed a set of actions as part of a methodological approach to mobilize sponsors and technical and financial partners, thus actively contributing to the work of the organizing committee.

The first SICOT was held in Koudougou from September 27th to 29th, 2018. The event focused on the theme of the transformation of the cotton sector and its role in creating jobs and income. This forum promoted Burkina Faso as a key country for the production of conventional and organic cotton, as well as for investment opportunities in cotton processing. The conference featured more than 800 participants from 31 countries in Africa, the Americas, Asia and Europe, as well as 82 experts from 12 countries. 60 business meetings were organized for companies and institutions in the cotton and textile sector. Conference participants included producers, input suppliers, yarn and fabric manufacturers, designers, distributors, traders, research institutes and universities, investors and apparel manufacturers.

The provision of agricultural equipment and microcredit for income generating activities are also ways of accelerating the mechanization of rural agriculture and strengthening the promotion of women's empowerment, which are both government priorities. The organic cotton sub-sector counts more than 8,000 small producers, including 58% women, which is one of the reasons why the government strongly urges the project to continue its agricultural equipment and income generating activities strategies. The government, in accordance with Burkina Faso's National Industrialization Strategy (*Stratégie nationale d'industrialisation du Burkina Faso,* SNI-BF 2019-2023), will provide the necessary support for the implementation of the producers' equipment policy and the national strategy that pertains to the provision of agricultural inputs and agricultural

equipment in Burkina Faso. These strategies are divided into 6 axes: i) strategic axis 1: development of the demand for agricultural inputs and equipment, ii) strategic axis 2: development of the supply of agricultural inputs and equipment, iii) strategic axis 3: improvement of the policy, legislative and regulatory environments for agricultural inputs and equipment, iv) strategic axis 4: improvement of the supply and distribution mechanisms for agricultural inputs and equipment, v) strategic axis 5: strengthening of the research capacity and link between research and development and vi) Strategic Area 6: steering and coordination of the strategy.

This enthusiasm is also perceptible at the local level through the agents of the decentralized technical services, as well as the nationally and locally elected representatives, some of whom have fully embraced organic cotton growing, "*Even after the project ends, the farms will remain in the organic sector, because the nationally elected officials got involved in the project and expressed their will to establish organic production. We also have the involvement of elected officials and even technicians, because in the different seed farms, the technicians have their own plots*." (Excerpt from an interview with a seed farm manager).

Finally, the question of the marketing of organic and fair-trade cotton represents economic opportunity for the sub-sector, which the government is aware of since it has included it in its agenda. Indeed, UNPCB officials confide that the regional and international sales of organic cotton from Burkina Faso depend mainly on fiber quality. The cotton is harvested by hand, in accordance with the standards of the European Commission, the organic farming standards in the United States (National Organic Program), and the Global Organic Textile Standard. With the support of the RECOLTE project, 200 silos were built for the benefit of the cooperative societies of organic cotton producers and harvest kits made it possible to improve the cotton quality. Thus, the results of the 2017-2018 and 2018-2019 seasons indicate that more than 93% of the organic cotton produced within the RECOLTE project is generally classified as higher grade.

3.1.4. Relevance of the project within the current economic, cultural and political context

Burkina Faso's economy is mainly based on agriculture, which contributes nearly 30% of the GDP. At the social level, gender inequalities persist. Indeed, Burkina is a poor country and this poverty is both rural and female. Women and young people are hardest hit by income insecurity, particularly in rural areas. Indeed, an analysis of poverty according to location (ECDPM, CEDRES, 2017) reveals that poverty is essentially rural. In fact, the poverty rate in rural areas reaches 50%, compared to only 7% in urban areas.

Besides, women have limited access to basic social services such as training, information, education and health. The country is marked by the rise of attacks largely due to the weakening of the state, which is the result of a particularly unstable political context since the beginning of the decade.

The country's economic and social development framework (PNDES) clearly indicates the government's willingness to progressively transform the economy through structural projects, particularly at the level of the productive sector, such as the agricultural primary industry. Overall, agricultural activities are dominated by subsistence farming at the level of small family farms.

Rural entrepreneurship is barely developed, reducing the possibilities of further improving the diversification and marketing of national products.

Aware that its efforts alone cannot lead to the transformation of the productive sector, in particular the primary sector, and conscious of the limits in the implementation of the PNDES over the period 2016-2020, the government seeks the help of partners. Indeed, it is imperative to improve the production environment and develop the factors of production, while strengthening the technical and operational capacities of the actors, with a focus on the rural environment, women and small producers. Any intervention that takes into account the four dimensions of production, the rural environment, women and young people is a good response to the country's cultural, economic and socio-political context.

A reminder of the objectives of the RECOLTE project makes it obvious that the project does take into account the dimensions mentioned above. Regarding the productive sector, the primary sector in particular, it is obvious that the RECOLTE project in its design and implementation is a relevant model in that it seeks to develop agricultural trade by increasing the added value of postharvest agricultural products. Also, it aims to increase market access for organic cotton production in response to strong demand and to improve transaction efficiency.

The relevant effects of the project and its contribution to the PNDES, include: i) the promotion of ecological practices, ii) the preservation of the environment, iii) the promotion of gender and specifically women's participation, iv) the reduction of poverty in rural areas.

As far as women's empowerment and their work time are concerned, the project initiated a cultural practice more adapted to the female population through the use of low persistence organic pesticides, thus lowering the risk of poisoning to the women producers and their children, while improving household income. Also, according to a study by the University of Bern on behalf of the NGO Helvetas, growing organic cotton would require 23% less field work hours than conventional cotton does. This allows producers to carry out other activities such as income generating activities financed by the RECOLTE project.

3.1.5. Analysis of the stakeholders' level of satisfaction

The benefits of growing organic cotton were unanimously mentioned by the stakeholders of the project and range from promoting ecological practices to promoting health through low persistence organic pesticides and the low risk of child poisoning. It also provides income and helps reduce poverty. "*Before, we would grow conventional cotton and that would generate more economic costs and loans. With the advice and information received on the benefits of organic cotton from agricultural extension agents, we have abandoned conventional cotton farming and opted for growing organic cotton*." (Excerpt from a focus group discussion with organic cotton producers).

These aforementioned positive aspects contribute to producers' satisfaction according to their own testimonies. This feeling is reinforced by the marketing approach of the project, "*Each year when we grow organic cotton, it is the project that seeks out the buyer, comes to weigh and pick up the cotton. We've never grown organic cotton for the project not to buy or to only buy half. Every year, the total quantity produced is gone, so I can say that the marketing strategy of the project is good*." (Excerpt from an interview with a relay producer).

The food security aspect guaranteed by rotational crops is also highlighted as a positive aspect of the project, noted by producers, "*Because of the rotation, the cotton fields which have received organic fertilizers are used the following years to grow other produce or crops. This is beneficial because it increases the yields of these crops such as corn, which helps us with food security*." (Excerpt from an interview with a relay producer).

Indeed, the impact of organic fertilizers on the yield of rotational crops is particularly appreciated, "*The organic fertilizers used for the culture of cotton are reused for the culture of other crops because of the rotation, resulting in a better yield of other cultures such as corn for example. Which helps us with food safety.*" (Excerpt from an interview with a relay producer).

Similarly, local authorities and locally elected representatives interviewed expressed their satisfaction with the project. According to a mayor whose locality benefits from the project, RECOLTE is "*an innovation that allows to revitalize the soil while using alternative methods of soil recovery*." It is supported by an administrative authority which considers that the project, "*contributes to local development and has promoted the increase of arable land for organic culture while improving household income*."

However, some producers expressed some dissatisfaction. Among the grievances mentioned is the insufficiency of agricultural equipment and microcredit loans: "*We are not totally satisfied; it is true that we received carts, wheelbarrows and* dabas[1] *which helped a lot with the production, however only half of the equipment promised was delivered. In addition, we did not receive the materials to build fences, nor the loans promised to us. These elements explain why we are not entirely satisfied with the project.*" (Excerpt from a focus group discussion with organic cotton producers). Two main reasons explain this situation:

• The equipment strategy, which is based on reinvestment of the funds recovered from the equipment loan, only served half the producers;

• Producers did not have access to credit through the guarantee fund set up by the project through the financial institution the Federation of Burkina Faso Caisses Populaires (CFC), one of the largest micro finance agencies in Burkina Faso, with significant means for resource mobilization. This element of the project did not come to fruition due to the lack of motivation by CFC, because of the relatively small amount of the fund and the necessary inputs they would need to invest to manage it: $100,000.

Based on the analysis of a consultant who conducted a diagnostic study of the guarantee fund in 2019, the RECOLTE project, in collaboration with UNPCB, revised the strategies of income-generating activities and equipment to accelerate turn-over and reach all producers. Thus, the balance of the guarantee fund was allocated to post production activities.

Beside issues related to agricultural equipment and microcredit loans, producers cited issues with payments and a lack of water in some localities as reasons for their dissatisfaction with the project. Overall, here are the major points of dissatisfaction that emerged during interviews with producers:

[1] Local agricultural tool.

Delayed payments: while the weighing was done in March, payments were made in May and June. Producers need to see that delay be reduced.

Lack of agricultural credit: groups need credit to be able to buy fertilizers or purchase the animals that will produce it.

Lack of equipment: producers need materials to build fences to protect their fields from animals.

Lack of water: certain localities are confronted with this problem. The solution would require drilling boreholes.

Not enough farm equipment.

In analyzing the level of satisfaction, it is noted that beyond the above-mentioned shortcomings, stakeholders are generally satisfied with the project, given the relevance of the activities and the outputs that are in line with the objectives of the project.

3.1.6. Compliance of the project with government policies and programs

The RECOLTE project is in line with current policies and programs in Burkina Faso, as highlighted earlier, particularly with regard to the PNDES development framework and its strategic axis 3. Furthermore, the project's objectives and its 10 axes of intervention are in agreement with the Rural Development Strategy (*Stratégie de développement rural*, SDR). In fact, the main objectives of the SDR are: i) to increase agricultural, pastoral, forestry, wildlife and fisheries' production through improved productivity; ii) to increase income through the diversification of economic activities in rural areas; iii) to increase market access and opportunities; iv) to ensure the sustainable management of natural resources; v) to improve the economic situation and social status of women and young people in rural areas; vi) to empower rural people as development actors.

Indeed, the project contributes considerably to the achievement of the country's agricultural strategy and specifically to the development strategy of the country's agricultural sector. This strategy draws its foundations from the SDR, in particular its axes 1, 2 and 6, and sets the strategic orientation in the context of the support to the Rural Sector National Program (*Programme national du secteur rural*), which is the operational framework of the SDR in relation to agricultural development.

Finally, the results obtained by the project are a true contribution to the Program for Economic Growth in the Agricultural Sector (*Programme de croissance économique du secteur agricole*, PCESA) for the 2013-2018 period. As a reminder, the PCESA has two components: support for entrepreneurship and the private agricultural sector, and support for improving the conditions of the agricultural sector. The latter in particular benefitted from the project, which helped to organize and structure the organic cotton sub-sector, as well as the technical and operational capacities of UNPCB. In fact, the goal of PCESA is to contribute to increased productivity, value-added and farm incomes in order to participate in national economic growth and poverty reduction. The PCESA promotes a value chain and sectoral approach and focuses on the development of priority sectors with growth potential.

3.1.7. Alignment of the project with other organic cotton projects and programs

The project's interventions are in continuity and complementarity with other organizations and programs. In addition to being in line with government policies and programs, the interventions are coherent and complement the interventions of other organizations.

This is the case with the Swiss organization Helvetas; together with its partners, it has been supporting a program to promote organic and fair-trade cotton in Burkina Faso since 2004. This program went through two phases, the first from 2004 to 2007 and the second from 2008 to 2011 and was piloted by UNPCB. The results generated through this partnership between Helvetas and UNPCB have inspired other organizations, including CRS and USAID's C-4 Cotton Partnership Project (C4CP). The International Fertilizer Development Center (IFDC) implements USAID's multi-year cotton program in four countries, including Burkina Faso. This program, which follows the previous six-year cotton program in the same four countries, draws on in-depth knowledge of the cotton value chain and practical experience, as well as a broad network of stakeholders in the cotton sector, including companies and research institutes in all four countries.

Thus, the RECOLTE project collaborated closely with USAID's C4CP, through a joint operational plan established by both structures. One of the activities consisted of the development of training modules for cotton production and processing. Five project staff members (2 from CRS and 3 from UNPCB) attended the IFDC workshops in Benin. The workshops brought together experts from the research and development departments of cotton companies and agricultural research institutes from the four project countries. The modules developed covered: i) seed production; ii) integrated soil fertility management; iii) integrated pest management; iv) organic cotton production; v) cotton fiber quality management; vi) cotton processing; and vii) storage and preservation. The C4CP focuses on 3 main areas: 1) support to agricultural production sustainability through regional and national partnerships; 2) strengthened partnerships to support the cotton sector; and 3) promotion of an enabling environment for women's economic and social development. UNCPB, which is the primary implementer of the RECOLTE project, benefited from technical support through the training of its personnel and cotton producers.

Furthermore, the results obtained on the ground by other actors inspired some initiatives of the RECOLTE project. This is the case of the "Compost Plus" activator, which was made available and promoted by several projects and programs before the launch of the RECOLTE project. The convincing results observed encouraged the RECOLTE project to choose Green Cross as a partner.

3.1.8. Government support and beneficiaries' ownership of the project

3.1.8.1. Government support

The RECOLTE project and the government of Burkina Faso established a partnership through the Ministry of Agriculture and Hydro-Agricultural Development (MAAHA) and the Ministry of Trade, Industry and Handicrafts (MICA). As such, the project has benefited from support and the involvement of the government in its implementation. The enthusiasm for the project's interventions and the involvement of the country's highest authorities were noticeable at key stages of the project and during implementation of crucial project activities.

Apart from the technical assistance provided throughout the project by INERA, which is a government research institute, the Burkina Faso President's Executive Office showed its interest in the project visiting the UNPCB organic seed farm in November 2016. This visit was chaired by the Special Advisor to the President in charge of agriculture and food security. The project gained valuable visibility through this visit.

The project also benefited from the support of the government through the MAAHA, which participated in the mission organized by the project to attend the Textile Exchange Conference in Washington, D.C. in 2017. Such events contribute to the diversification of the commercial partnerships and securing better sale prices for UNPCB's organic and fair-trade cotton. The mission was an opportunity for the General Director of the Agency for the Promotion of Investments in Burkina Faso (*API-BF*) to meet officials from the United States Department of Agriculture (USDA) on behalf of the Burkinabe government.

The Permanent Secretariat for the Monitoring of the Liberalized Cotton Sector (SP/SFCL), the Agency for the Promotion of Investments in Burkina Faso (API-BF) and the Burkina Faso Fund for Economic and Social Development (*Fonds burkinabé pour le développement économique et social*, FBDES) were key players in project implementation, especially in building the cotton ginning plant that will prioritize organic cotton and the promotion of organic cotton at the International Show of Cotton and Textile (*Salon international du coton et du textile,* SICOT). Facilitation by the SP/SFCL and overall government involvement have been instrumental in making the project's flagship activities possible.

3.1.8.2. Beneficiaries' and UNPCB's level of ownership

The various statements by beneficiaries indicate a good level of ownership of the RECOLTE project. Key factors were mentioned by the beneficiaries as motivators, among them are the comparative advantages of organic cotton culture over conventional cotton. All are unanimous in saying that the production of organic cotton does not require securing significant loans. Going into significant debt has always been a significant worry for producers, resulting in the abandonment of this cash crop. Another key factor is soil fertilization and increased yields of other rotational crops. Indeed, for organic cotton producers, production using the new techniques increases the harvest and soils remain fertile for rotational crops. Growing organic cotton is less tiring according to producers. In addition, income generating activities done by women through the microcredit loans granted and the agricultural equipment provided by the project have obviously made organic cotton more attractive to beneficiaries. All these elements contributed to the good level of ownership by producers even if certain issues should not be overlooked and ways to solve them should be sought (shorter payment delays, higher microcredit loans, additional equipment).

For some local authorities interviewed, the project contributed to the development of their municipality and the sustainable management of natural resources. Also, the training on financial education, complementary to the granting of microcredit loans, helped women to have economic activities to fulfill their basic needs.

After analyzing project intervention results, we can affirm that project ownership by beneficiaries is real. In fact, more than 91.4% of the producers surveyed believe that the activities initiated will be able to continue even at the end of the project and 81% declare that they will continue growing

organic cotton and other rotational crops. 87.4% of the producers surveyed agree that their groups are now better organized to continue project activities.

Regarding ownership and understanding of the techniques promoted by the project, 69.8% of the producers surveyed claimed to have applied at least one CES/DRS technique (stony cord, half moon, grass hedge) and 94.4% reported having used improved post-production practices for rotational crops. These results show an overall good level of ownership of techniques promoted by the project.

3.2. Household vulnerability and resilience to shocks

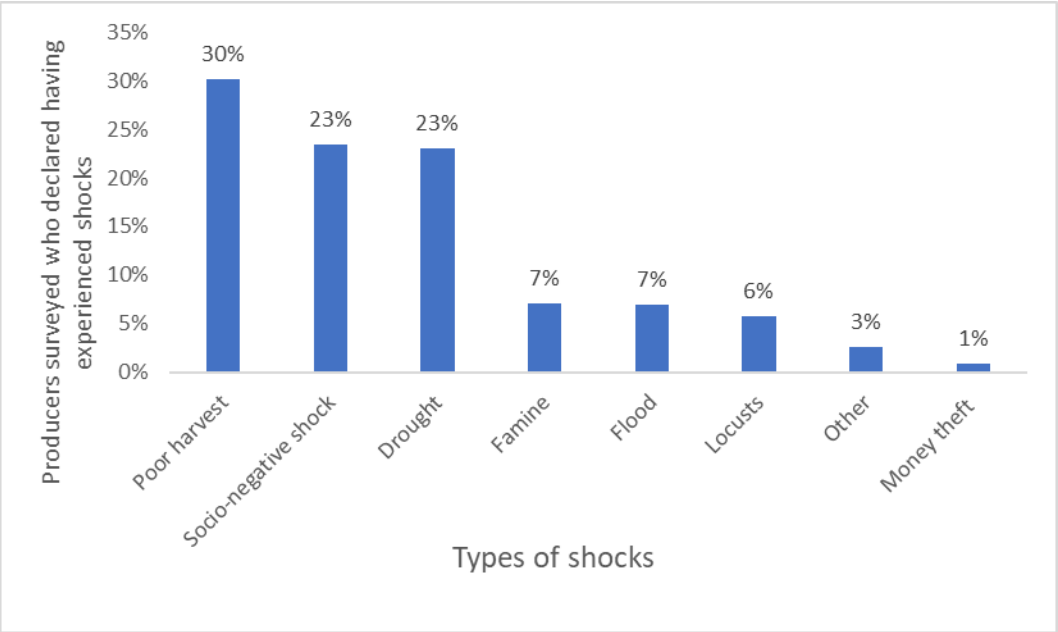
3.2.1. Types of shocks experienced by households

This final assessment aims to highlight the impact of the project on the livelihoods of beneficiary producers' households. To this end, an analysis of their exposure to shocks was made during the project implementation period (2013 to 2019). A shock is a sudden event that affects the vulnerability of a system and its components. The results of the final evaluation show that 58.8% of the organic cotton producers surveyed report that their households experienced shocks that are a sudden onset of factors affecting the individual, their family, their community and their country. These shocks are, for example, situations due to climatic hazards, environmental degradation, poor economic production, poor harvest, war, death, or disease. The types of shocks listed by respondents in this project include drought, flood, crop failure, hunger, socio-negative shocks, death, illness, money theft, locusts and other pests.

The analysis of respondents' exposure to shocks shows that households of female producers (61.1%) were more affected by shocks, compared to those of men who produce organic cotton (38.9%). Even though women are one and a half times more likely than men to have suffered shocks, the Chi-square test shows that this result is statistically significant (0.038). It can be deduced that the vulnerability of households to shocks depend on the producer’s gender.

Producers in cohort 1 (51.2%) were more affected by shocks than those in cohort 2 (27.6%) and cohort 3 (21.2%); The Chi-square test shows that this result is not statistically significant (0.153). This indicates that the shock exposure is not related to the cohort. In other words, cohort 1 producers were not more affected by shocks because they belong to this cohort.

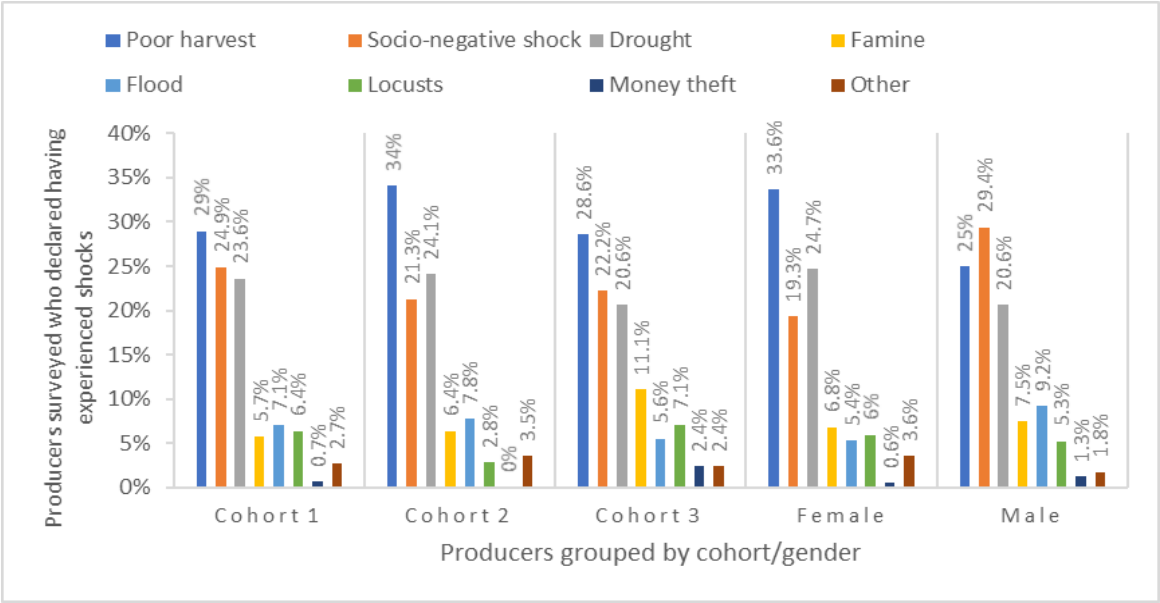
Different types of shocks affected the respondents, the three most important being poor harvest (30.1%), shocks related to social events such as death and illness (23.4%) and climatic shocks including drought (23%). Other shocks such as famine (7.1%), floods (6.9%), invasion of locusts and pests (5.7%) and loss of money (0.9%) are also cited as events that affected the well-being of respondents over the period 2013-2018. Other types of events (2.6%), such as high winds and political rivalries, also affected producers during the investigation period.



Graph 1: Types of shocks experienced by producers surveyed

The analysis of the types of shocks by cohort shows that poor harvest is the first shock that affected all the cohorts. Socio-negative shocks are ranked second for cohorts 1 (24.9%) and 3 (23%), while drought (24.1%) is cited as the second largest shocks for cohort 2. As for famine, it affected cohort 3 (11.1%) producers two times more than producers from cohorts 2 (6.4%) and 1 (5.7%).

In the case of women (33.6%), poor harvests affected their households more, while it was social events for men (29.4%). It should be noted that from 2016 to the present day, the most significant events were related to the prevailing insecurity in all provinces of Burkina Faso. The security situation has deteriorated significantly in 2018 and 2019 with numerous attacks resulting in deaths but also increasing displacements of people to other areas within and external to the country. As a result, many households have been affected given that poor harvests can be explained by poor rainfall (insufficient or poorly distributed), but also by the country's security vulnerability.

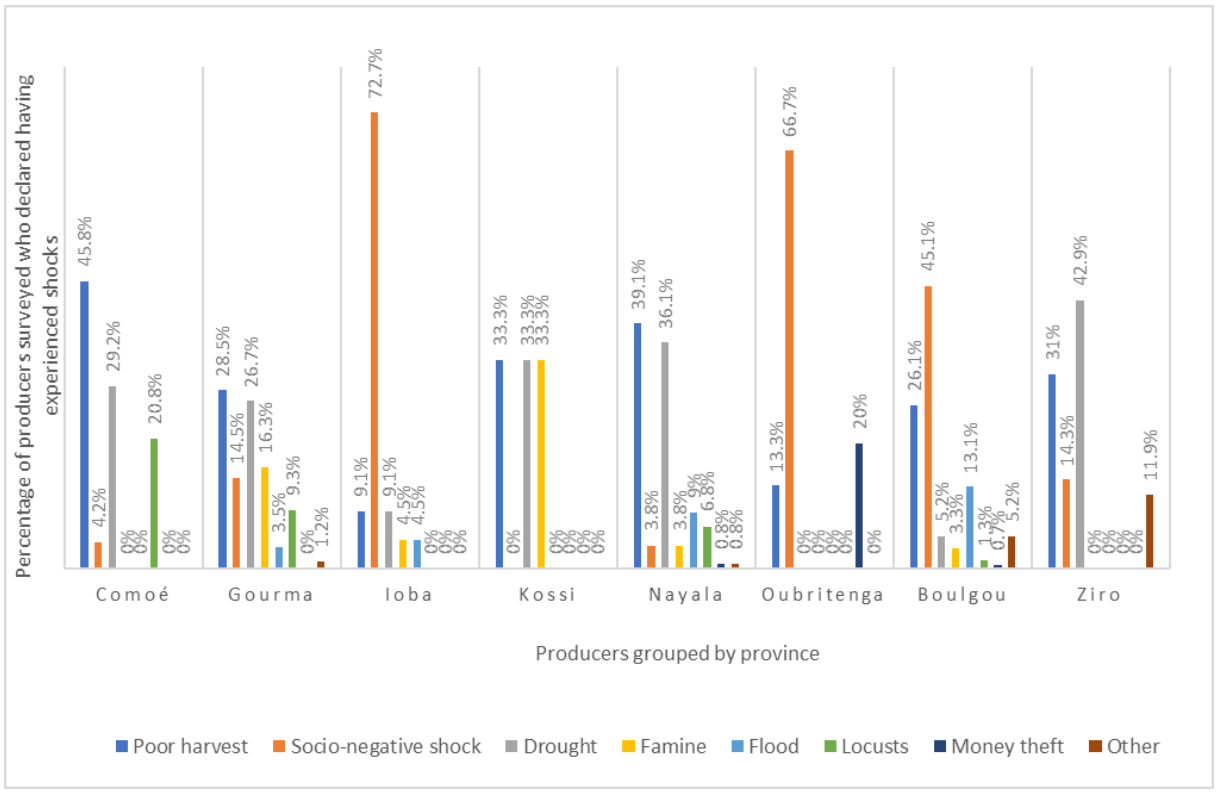


Graph 2: Types of shocks experienced by producers according to cohort and gender

When considering production area, poor harvest affected more producers in Comoé (45.8%), Nayala (39.1%) and Gourma (28.5%). The group interviews conducted with the group of women in Sababou Gnouman, and Nayala indicates poor rainfall during the 2015-2016 season, which was characterized by pockets of drought that led to lower harvest. The women of Fada in Gourma province mentioned that pockets of drought, floods and caterpillar attacks affected the crops. The Chi-square test analysis shows a very significant result (0.000) due to shock exposure and the producers' province of residence. This indicates that shock exposure is strongly related to the producer's province.

Socio-negative shocks mainly affected producers in the Ioba (72.7%), Oubritenga (66.7%) and Boulgou (45.1%) provinces. Interviews with producers did not specifically address the types of socio-negative events that are related to disease and death and their reasons.

It should be noted that shocks suffered by producers in the Gourma, Ioba, Nayala and Boulgou provinces are particularly varied compared to other production areas.



Graph 3: Types of shocks experienced by producers according to province

3.2.2. Household and community resilience competencies among RECOLTE beneficiaries

According to the United Nations Food and Agriculture Organization (FAO), resilience is the ability of people, communities or systems that face disasters or crises to resist and recover quickly from harm. As part of this assessment, information on household resilience capacity is captured in a declarative way based on the interview questionnaire, by asking about resilience strategies adopted in response to shocks.

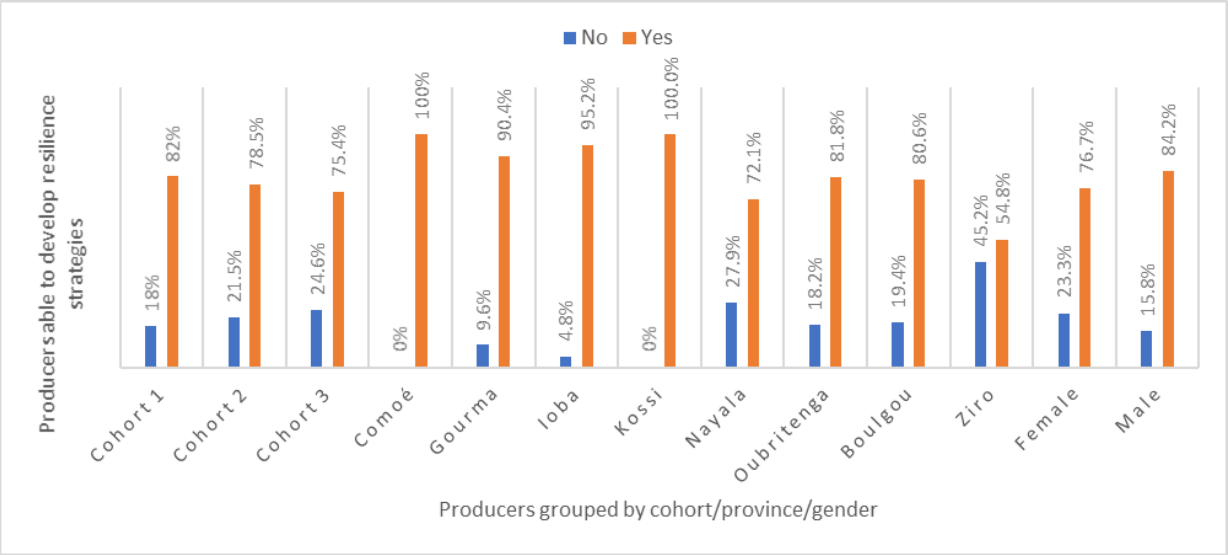
According to the survey, while 58.8% of all organic cotton producers said that their households have suffered shocks, the majority of these producers (87.9%) reported adopting strategies to deal with these shocks. This means that about nine out of ten producers who have already been hit by shocks have developed resilience to shocks. The qualitative data show the contributions of the project on producers' earnings. Indeed, one producer from the Oubritenga province, who earned her living thanks to the project, remarked that, "*If some producers could not have small ruminants before the project, it is thanks to the cotton money that these producers were able to acquire two or three goats that provide them with manure.*"

Cohort 1 (82%) producers are more likely than cohort 2 (78.5%) and cohort 3 (75.4%) to report having the capacity to withstand shocks. It could be deduced that the duration of producers' participation in organic cotton production increases earnings and hence their resilience. However, the Chi-square test between resilience capacity and the cohort shows that the result is not statistically significant (0.441). The resilience of households to shocks is therefore not related to the year of integration or length of time in the project. Although older cohorts are better informed and better equipped by the project and thus think they can better withstand shocks, the duration of

their participation is not a decisive element in their being able to cope with shocks. In short, one can be an “old” project beneficiary and less resistant to shock than a “new” project beneficiary.

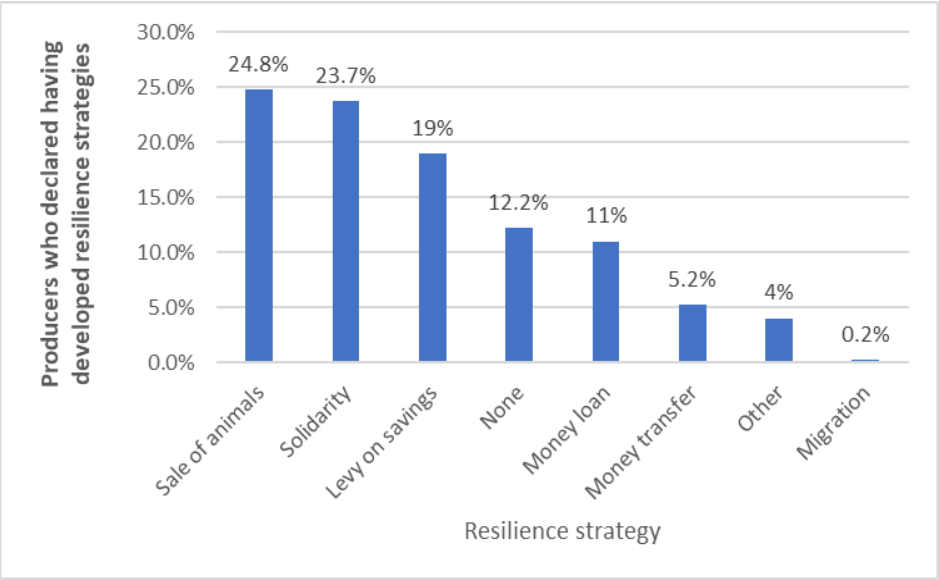
In the provinces of Comoé and Kossi, producers hit by shocks have been able to develop resilience strategies, whereas in the Ziro, Nayala and Tenkodogo provinces, organic cotton producers are highly vulnerable; 45.2%, 27 9%, 19.4% of those who suffered shocks say they have not been able to develop resilience strategies. This result remains statistically significant (0.000) because the Chi-square test shows that the proportion of producers who have been hit by shocks and developed resilience strategies depends on the province. We can then deduce that there is a link between a producer's resilience and their province of residence.

Producers in the Kossi and Comoé provinces are more resilient than in other provinces. This result could be explained by specific characteristics of these localities that increase the livelihoods of producers. For example, Kossi is one of the provinces of the country with a high production of cereals, with excess cereal production during the 2017-2018 season. As for the province of Comoé, it is located in the area of the country that receives the most rain, and the arboriculture (mango, cashew, orange) is more developed in this locality, providing income to producers. In addition, newly discovered mining sites helped increase the livelihoods of producers in this community.



Graph 4: Capacity of producers to develop resilience strategies

In terms of types of resilience strategies, it is noted that organic cotton producers having experienced shocks are developing positive strategies such as selling animals, calling for solidarity from family members, the community or informal savings groups and local cooperatives, through the levy of savings or the transfer of funds. Negative resilience strategies such as loans and migration are also adopted by producers affected by shocks. The results of the survey indicate that producers advocate positive resilience strategies, especially the sale of animals (24.8%), the call for solidarity, which is a financial and material support from family or community, (23.7%) and the levy of savings (19%). Nevertheless, some producers took out loans (11%) to cope with stressors.

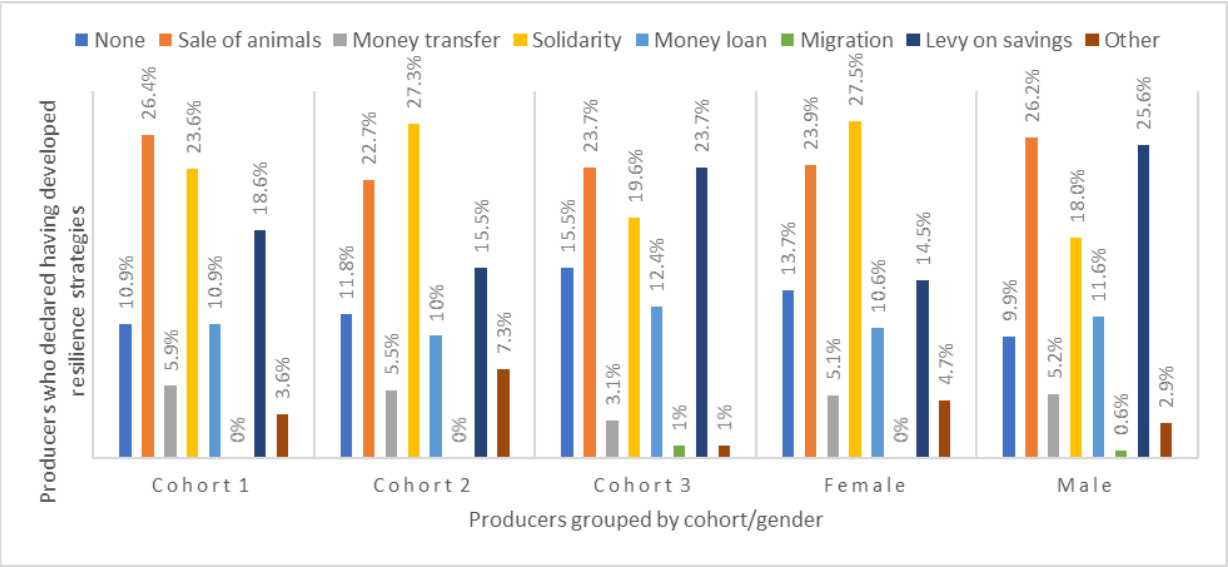


Graph 5: Resilience strategies used by producers affected by shocks

While the households of male producers of organic cotton resisted shocks through the sale of animals (26.2%) and accessing savings (25.6%), women first hoped for solidarity (27.5%) before considering selling their animals (23.9%).

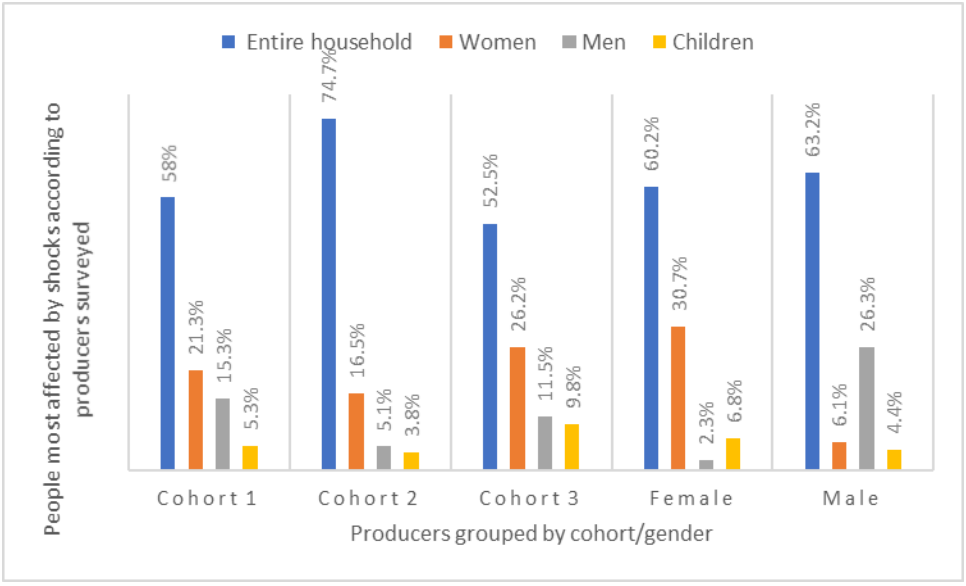
The Chi-square test is statistically very significant (0.01), showing that resilience to shocks through solidarity depends on the gender of the producer. From these results, it can be deduced that the recourse of women's households to community solidarity describes the weakness of their livelihoods compared to men. Men's control over household resources and the decision-making power they have over women can explain this. In addition, the results of this evaluation show that male producers have an income almost three times as high as that of female producers (117,426.62 FCFA compared to 41,633.93 FCFA).

Resilience to shocks using means such as the sale of animals was used more by producers from cohort 1 (26.4%) than producers from cohort 2 (22.7%) and cohort 3 (23.7%). However, the Chi-square test is not statistically significant [Lewis, Am2] (0.25). By analyzing the correlation between other coping strategies (solidarity, levy of savings, loans, fund transfers, migration) and cohorts, the Chi-square test is not statistically significant. As a result, the type of strategies adopted by producers does not depend on their year of integration into the project.



Graph 6: Coping strategies according to cohort and gender

The majority of the producers surveyed (61.4%) say that the shocks experienced by their households have affected the entire household. However, for 21% of respondents, women were more affected by shocks than men (11.7%) and children (5.9%). In all cohorts, it was mainly the entire household that was affected by shocks. Producers in cohort 3 think that women (26.2%) are more likely to be affected by shocks, compared to cohorts 1 (21.3%) and 2 (16.5%). The female producers of organic cotton surveyed (30.7%) believe that women in households were more affected by shocks than men. In contrast, men who produce organic cotton (26.3%) think that men in households were more affected by shocks than women. A proportion of 4.4% of men and 6.8% of women think that children were more affected. The Chi-square test shows that there is a very significant relationship between the person most affected in the household by the shocks and the gender of the respondent. Therefore, women may be more affected than men by the impact of shocks on children.



Graph 7: Perception of producers surveyed on the people most affected by shocks according to cohort and gender

At the community level, interviews with local authorities indicate that there is generally no relevant and effective system of protection against shocks at village and municipality level. There are, however, climate change mitigation measures, such as soil and water conservation techniques or soil protection and restoration.

Group discussions with producers indicate that some communities affiliated with the project have improved their resilience through the use of fair-trade premiums from the sale of organic cotton. This bonus is invested in development projects for the benefit of the entire community. This is the case of the Yenlema and Yancoari groups in Fada, which invest their premiums in borehole repairs and the construction of warehouses. Similarly, Kinkirsgogo producers used their fair-trade premium to build an infirmary as well as to support the medical expenses of community members in need.

The analysis of the resilience of project beneficiaries shows that the majority of producers affected by shocks display resilience capacity and a variety of coping strategies.

Whereas the occurrence of shocks does not depend on gender, the resilience to shocks depends on gender and the project's intervention area. Resilience, however, is not related to the duration of producers' participation in the project.

It can be emphasized that the project's support of the production of organic cotton has helped some producers to increase their income. For example, the provision of microcredit loans to women for income-generating activities has had an impact on the lives of some of them. Considerable efforts remain to be made for all beneficiary producers, as there are still some who lack sufficient means to withstand shocks. Similarly, the current solidarity-based women's resilience strategy shows that efforts need to be pursued to strengthen women's earnings in particular. Improving the decision-making power of women within their households could also help reduce their dependence on solidarity in the event of shocks through livelihood decisions.

3.3. Effectiveness

Effectiveness describes the achievement of objectives. This is the comparison between the objectives initially set and the results achieved. This assessment analyzes the effectiveness of project management by CRS and implementing partner UNPCB and the overall effectiveness of the project in achieving its objectives.

3.3.1. Effectiveness of CRS' project management

3.3.1.1. RECOLTE project staff capacity and coordination mechanisms

The analysis of the project management effectiveness by CRS consists of determining the capacity of the RECOLTE project team in terms of coordination and monitoring and evaluation mechanisms. Regarding coordination, the project benefited at its onset from a sufficient number of project management staff who displayed adequate technical, administrative and financial skills. The departure of some team members during project implementation left some positions temporarily vacant, such as the Chief of Party and the Monitoring and Evaluation Manager positions.

These departures led to a turnover that unavoidably affected the implementation of activities. The team was subsequently replenished so that activities could continue. The project team developed a successful partnership with UNPCB as the main implementing partner of the project. Similarly, the project coordination team had good collaborations with Texas A&M AgriLife Research, INERA and the Burkinabè government through the MAAHA and MICA to support the organic agriculture sector.

The project team also worked in concert with organic and fair-trade certification organizations (ECOCERT, GOTS and Fairtrade International), the SOFITEX cotton company, and USDA. The team was able to benefit from the experience of USAID's C4CP cotton project implemented by IFDC. Despite the multiplicity of actors, this evaluation notes that the project team succeeded in effectively coordinating the different partnerships and collaborations.

3.3.1.2. Project monitoring and evaluation mechanisms

UNPCB, as the primary entity in charge of the monitoring and evaluation strategy, was responsible for collecting and analyzing project data. CRS ensured coordination, data quality control and support to the UNPCB team in terms of capacity building and advice for the data collection and monitoring of activities.

Paper questionnaires for data collection were used at the beginning of the project. CRS identified a number of difficulties related not only to data quality, but also to the significant time required for data entry, given the large number of producers. To overcome these challenges, CRS opted for the use of a digital data collection tool and data management system, initially through the iForm Builder platform and recently changed to CommCare. UNPCB agents were trained and equipped with tablets for the collection of data. This tracking approach, using new technologies and electronic platforms, has improved data quality and data processing time significantly.

It should be noted that, in accordance with the monitoring strategy for the project, UNPCB prepared semi-annual reports about the progress of the project. CRS kept stakeholders informed, as well as involved them in the project implementation process through:

- Annual planning meetings bringing RECOLTE project team and UNPCB together at CRS' office in Burkina Faso to review all activities of the project plan and define deadlines, budgets and actors involved.
- Regular activity review meetings.
- Review workshops of all UNPCB meetings in all areas and centers.
- National stocktaking workshops bringing together all project stakeholders and partners as well as agro-dealers to take stock of all achievements. These meetings also served to identify shortcomings of each organic cotton production season and to correct and define prospects for the following season.

In addition to these monitoring and evaluation meetings, the presence of UNPCB's Agriculture and Marketing Program Manager and Certification and Microfinance Officer has been very beneficial to the project's monitoring mechanism. Their skills, made available to the UNPCB team at the beginning of the project, provided technical support as well as contributed to the monitoring of

project activities. However, only the Certification and Microfinance Officer was involved from 2017 onwards.

Overall, the monitoring approach adopted by UNPCB and CRS enabled the project team to make corrections and crucial adjustments. One example is the switch to an individual equipment strategy, in lieu of the group equipment strategy initially adopted. Another example is the decision to build the ginning plant for organic cotton.

The project team also coordinated the implementation of the complementary studies and the various evaluations planned in the monitoring and evaluation plan. In light of all its achievements, it is clear that the project monitoring system has been effective and enhances sustainability, in particular through the strengthening of UNPCB staff's capacity.

3.4. Effectiveness of UNPCB's project management

3.4.1. Effectiveness in project design and implementation

As a reminder, the RECOLTE project was funded by USDA for an initial period of 5 years, which was extended to 6 years, and aimed to improve the production of organic cotton, income, economic prospects and food security for producers, as well as the development of the organic cotton value chain. UNPCB is the main implementing partner for the project activities. It benefited from the technical assistance of INERA in Burkina Faso and AgriLife Research from the University of Texas for the supply of quality organic cotton seeds. Activities were created or strengthened and entrusted to UNPCB. These include:

- Support to the operation of 3 seed farms.
- Equipment provision to producers.
- Implementation of income generating activities.
- Construction of a cotton ginning plant that will prioritize organic cotton.
- Training material development and production.
- Producers and technician training in organic cotton farming.
- Organic cotton promotion through participation in international conferences and fairs.
- Management of fair-trade premiums.
- Study on the level of soil fertilization on organic farms.

Unfortunately, CRS was late in mobilizing resources through monetization to fund activities, due to the time it took to adapt to CRS procedures and the delay between the start of the project in 2013 and the effective mobilization of funds in 2014. In addition, the governance crisis at UNPCB in 2015 led to instability within the organization and negatively impacted the implementation and the monitoring of project activities. For example, the delayed availability of seeds and financial resources at the producer level led to a deterioration of the work environment and discouraged many producers.

Thus, after Limited Brands, one of the main buyers of organic cotton in the USA, withdrew its involvement through the termination of the contract for the purchase of organic cotton with UNPCB, the union was forced to make adjustments at the activity level. New partnerships were

sought to successfully transition to a new business model, different from what had been designed and validated at the beginning of the implementation of the project. UNPCB therefore had to identify new buyers and establish new contracts. Obviously, the initial business model was no longer appropriate and could not be replicated. This influenced the design of the project, its implementation and its assumptions. In order to cope with the changes made in the course of the implementation phase, the public-private partnership which was required for the creation of the ginning plant and the diversification of partnerships (Filature du Sahel Burkina Faso, Textile Exchange) were identified as the best strategies to fund activities.

In addition, the project team recruited human resources and made them available to UNPCB to carry out project activities as full-time staff responsible for the implementation of the project.

This led to the recruitment of three Project Managers, one person responsible for monitoring and evaluation, six zone leaders and 34 managers and their assistants. In addition, part-time staff were recruited: a Coordinator, a Technical Manager, a Head of Service for the agro-economy department and accounting and financial staff. In view of the nature of activities, the project team built the capacity of general services and procurement staff, as well as human resources and support staff.

UNPCB thus had staff with the expertise required to support the additional work to be done in relation to the organic cotton value chain. This was confirmed by a head of UNPCB, who stated that the project allowed, "*UNPCB to have a multidisciplinary team and sufficient staff*". (Excerpt from an interview with a UNPCB staff member).

CRS and UNPCB need to continue the discussions that led to the development of a roadmap outlining their partnership, as well as lay the groundwork for CRS' exit strategy. The strategy will be participatory and inclusive, so as not to disturb UNPCB's operating mode.

3.4.1.1. Additional funding needs for a smooth transition

USDA agreed to increase project funding by USD 1.3 million to contribute to the construction of a plant prioritizing organic cotton, total cost estimated at approximately $5 million in a feasibility study. The investment in this plant drew interest from all parts of the cotton value chain in Burkina Faso. Thus, the public-private partnership model was identified as the best way to proceed with this investment which will benefit all stakeholders. The partnership involved UNPCB, through the RECOLTE project, and SOFITEX, the largest cotton ginning company in the country.

In terms of funding and investments needed to enable a smooth transition, UNPCB sought and obtained additional resources from CRS, which allowed it to take over "*the management of the database, the management of the factory, the oversight of field staff, the marketing aspects and the development of microcredit activities for the benefit of the actors*." (Excerpt from an interview with a UNPCB official).

3.4.1.2. CRS' role in further supporting UNPCB

Exchanges with UNPCB and CRS highlighted that the RECOLTE project made strategic adjustments and developed activities taking into account the socio-economic, political and cultural context of Burkina Faso, in order to fit harmoniously into the country's economic and agricultural development policies, as well as align with projects and programs that target vulnerable rural households. CRS and UNPCB collaborated to find areas of adjustment likely to meet the needs of

beneficiaries. One example is the adoption of the group equipment approach, aiming to allow the equitable distribution of resources, as well as promote gender mainstreaming. Additionally, CRS and UNPCB worked together to ensure that the project would meet the challenges posed by the new adjustments made, including support to the development of the value chain concept and international marketing.

CRS can further support UNPCB by "*strengthening the achievements of the RECOLTE project in the field of organic fertilizer production and organic variety creation, as well as supporting fundraising, fiber processing and the value chain of organic and fair-trade cotton*". (Excerpt from an interview with a UNPCB official).

3.4.2. Effectiveness of implementation

3.4.2.1. Level of achievement of objectives and main project indicators

The level of achievement of project objectives was determined in order to answer the question of the effectiveness of project implementation. The level of achievement of each objective was analyzed through the level of achievement of the annual reference targets of the related indicators. First of all, and whenever possible, the results achieved were compared against the set targets over the five years of project implementation. Then, the data collected for each indicator during the final evaluation were analyzed, taking into account three variables: gender, cohort or integration period of the producer to the project, and the province of intervention. The same analytical approach has been used in this report thus far.

3.4.2.2. Level of achievement of the project's strategic objective: Increase agricultural production

Three key performance indicators were identified by the project to assess the level of achievement of the strategic objective: the average area planted with organic cotton per producer (hectare), the average yield (kg/hectare) of organic cotton and the value of production per hectare (FCFA/hectare).

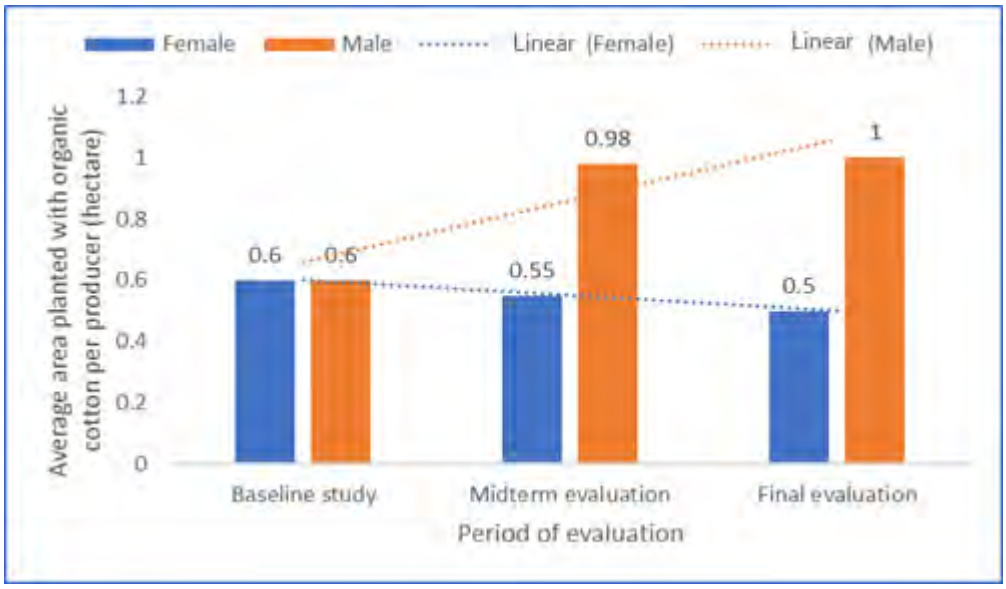
Average area planted with organic cotton per producer

The annual targets for this indicator and the results achieved each year over the life of the project are shown in Graph 8 below.

Graph 8: Level of achievement of targets for the average area planted with organic cotton by producer (hectare) over the course of the project

The sources of data shown in Graph 8 above include the project's baseline study (2014), regular project monitoring and evaluation, the midterm evaluation (2017) and the final evaluation (2018). The main finding is that the results achieved during the five years of implementation of the project in terms of the average area planted with organic cotton per producer remain below the projected targets, regardless of the year considered. The results achieved during the implementation of the project remain below the baseline value of this indicator, which was 0.67 hectare per producer.

Several factors may explain the non-achievement of the objectives for this indicator, from the beginning to the end of the project, notably the disparity between the beneficiaries of the project in terms of gender, duration of their participation in the project and intervention area. To verify this assumption, data on producers from the baseline study, midterm and final evaluations were disaggregated by gender (Graph 9).

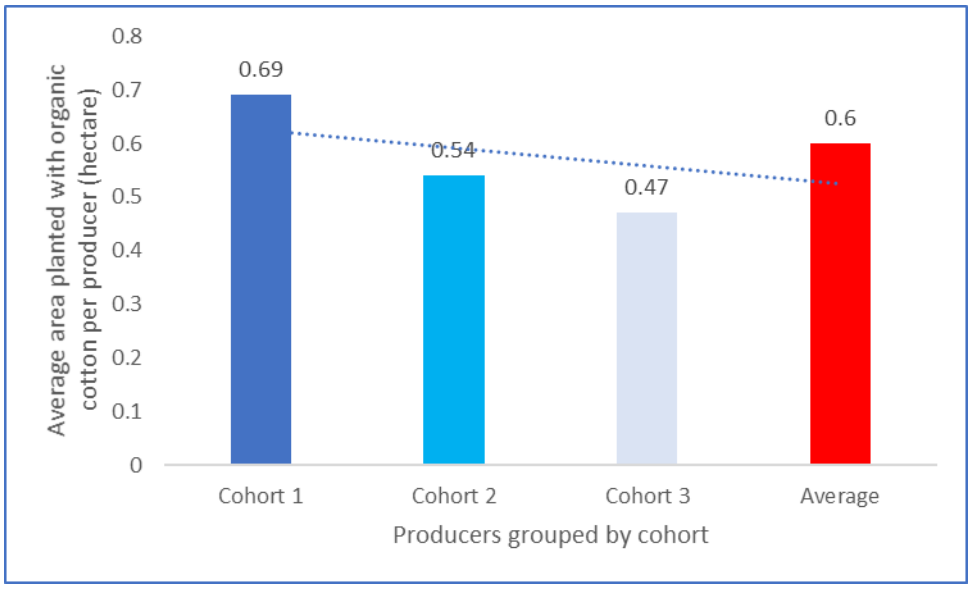


Graph 9: Evolution of the average area planted with organic cotton (hectare) by producer according to gender at the time of the baseline study, midterm and final evaluations

With an average value of 0.60 hectare in the baseline study, the average area sown with organic cotton per producer has evolved differently according to gender (Graph 9). In fact, this indicator shows a positive progression for men between the baseline study and the final evaluation, while the trend went down for women. The average for men is above the annual targets, while the average for women is not. The low level of achievement of this indicator over the years is mainly due to the poor yields produced by women producers.

Nevertheless, the linear regression between gender and the average area planted with organic cotton is not significant. It can be noted, however, that gender-specific targets could have enabled the comparison of levels attained by gender.

Among the reasons for the poorer yields achieved by female producers is the difficult access to land for women in rural communities. Generally, women in rural communities are granted only small portions of land to farm. These small plots are usually dedicated to growing vegetables used to cook at household level. Achieving a real impact for women would have required interventions facilitating women's access to land, which was not planned in the RECOLTE project activities.

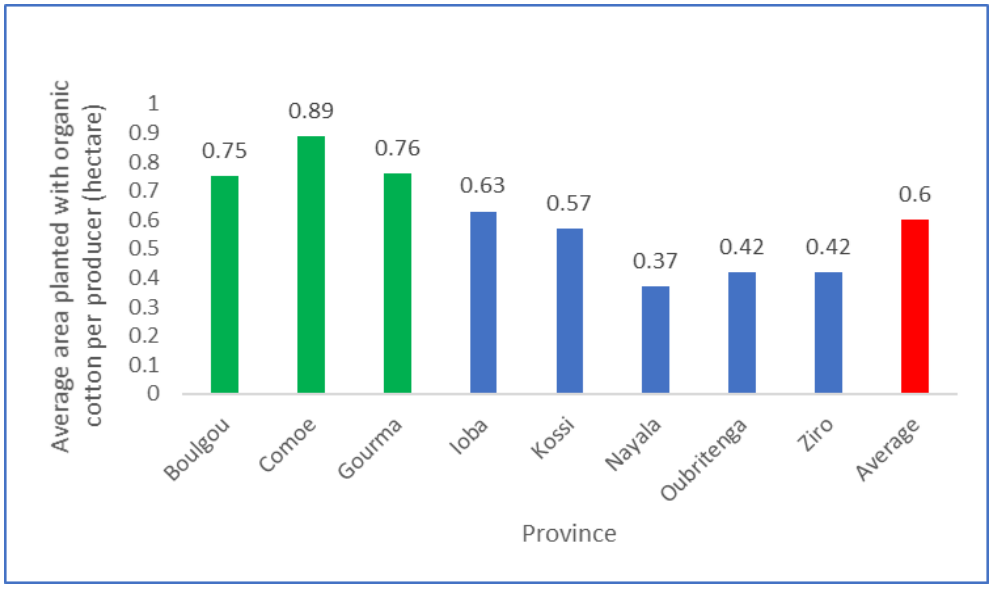


Graph 10: Average area planted with organic cotton (hectare) by producer during the 2018/2019 season according to cohort

Final evaluation data on average acreage of organic cotton planted by producer were examined according to cohort. Cohort differentiation is based on the period when producer groups started benefiting from the RECOLTE project support and producing organic cotton.

Cohort 1 concerns the producers who have been included in the project since 2014, cohort 2 the producers included in the project in 2015 and 2016 and cohort 3 the producers who joined the project in 2017. It appears from the data in Graph 10 that the average area planted with organic cotton varies from one cohort to another. The producers who grew organic cotton for the longest period of time have the largest average area. However, the differences observed between cohorts are less significant than those related to gender.

Finally, an analysis of the average area sown with organic cotton was done according by province (Graph 11).



Graph 11: Average area planted with organic cotton (hectare) by producer during the 2018/2019 season according to province

The analysis by province shows that the average planted area per producer is comparable to, or even higher than, the target for this indicator in 3 out of 8 provinces (Boulgou, Comoé and Gourma). The provinces with the lowest averages are Nayala, Oubritenga and Ziro. Several factors, such as the current availability of land, the perceived value of organic cotton culture, and the ratio of female and male producers, may explain the differences among provinces. Thus, the high average observed in the Comoé province could be an indication of the availability of land, while the low value recorded in the Nayala province could be a sign of scarcity of land to be cultivated.

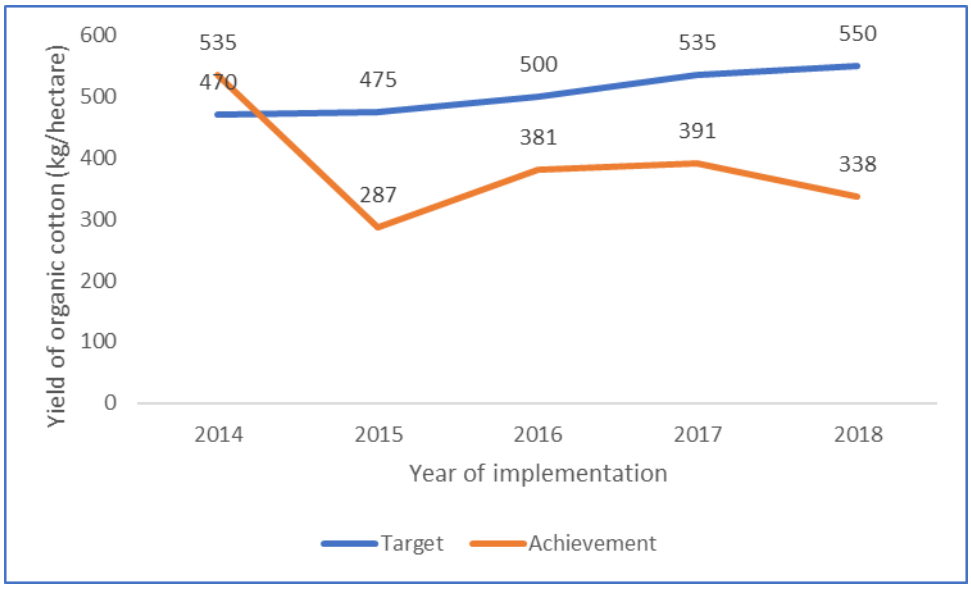
In the province of Ziro, the scarcity of land available to small producers is a phenomenon increasingly observed, with the rush of agricultural entrepreneurs (agribusiness men and women) in this area. Indeed, over the past decade, many communities in the province have given away or sold large estates to agricultural entrepreneurs, significantly reducing access to land for local producers.

The parameters that influenced the average area planted with organic cotton by producer during the implementation of the project are, in order of importance: gender, province and duration of participation to the project (or cohort).

As for rotational crops, data were only available at the time of evaluation. Thus, the average areas planted in hectare are for the following crops: sesame (0.146), soybean (0.009), corn (0.082) and peanut (0.09). These values are far below the average values obtained for organic cotton. This could be explained by several hypotheses, the most plausible of which are: i) in a rotation year, several rotational crops are produced on the previous year's organic cotton plot; ii) crop rotation is effective only on a small portion of the previous year's organic cotton plot; iii) only a small proportion of organic cotton producers actually practice crop rotation as promoted by the project.

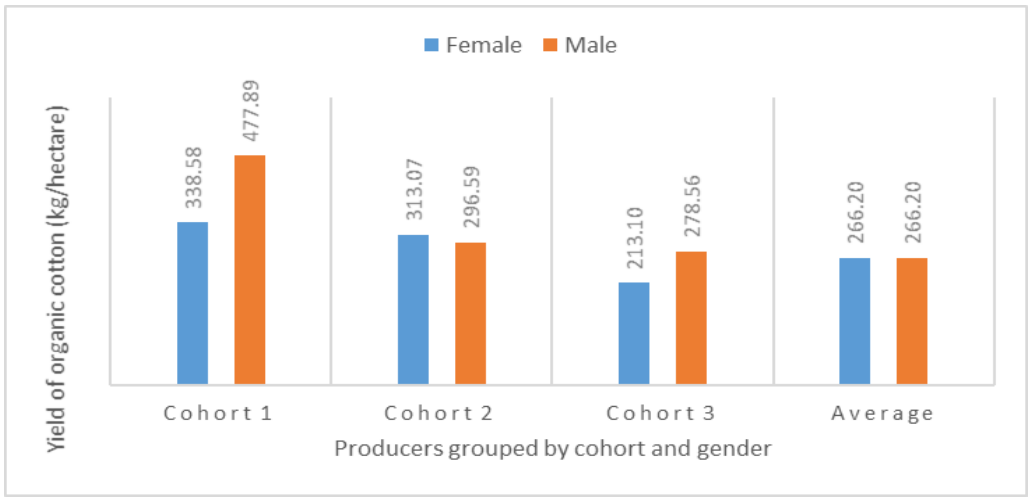
Average yield of organic cotton per hectare

The average yield of organic cotton per hectare is analyzed by examining the level of achievement of the annual targets for this indicator (Graph 12) on the one hand, and by looking at gender differentiation variables (gender), cohorts and the province of intervention of the project on the other hand. These differentiated analyzes are shown in Graphs 12, 13 and 14.



Graph 12: Level of achievement of targets for the yield of organic cotton per hectare over the course of the project

The data in Graph 12 shows that the results achieved in terms of yield of organic cotton per hectare exceeded the targets in the first year of project implementation only (2014), while a drastic decrease was observed in 2015. From 2016 onwards, the results achieved were rather stable but have always been lower than the targets. Moreover, the value obtained for this indicator during the final evaluation remains comparable to the 2018 value obtained through regular monitoring and evaluation of the project. However, the average yield at the final evaluation, as well as the values obtained from the regular monitoring and evaluation between 2015 and 2018, are lower than the value recorded during the baseline study (2014).



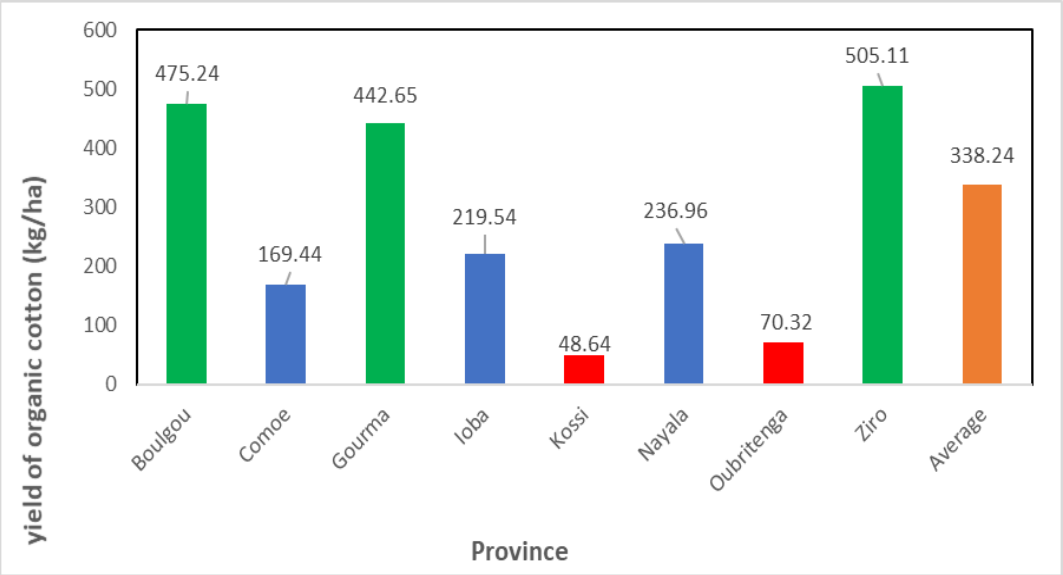
Graph 13: Organic cotton yield per hectare during the 2018/2019 season according to gender and cohort

The gender disaggregation of this indicator shows a yield for males nearly 150 kg higher than that of females in cohort 1, but such difference was not observed in cohorts 2 and 3 (Graph 13). Globally, the impact of the producer's gender on yield remains relatively low compared to the influence of gender on the average area planted with organic cotton per producer. Several reasons could explain the low performance of women. The first is the relatively late sowing. In general, women plant later than men because it takes them longer to find land or because they must first

help men to sow their seedlings before their own. The other plausible reason is that women do not have access to fertile land to grow organic cotton.

As for the cohort analysis (Graph 13), it shows that the performance of cohort 1 producers is higher than that of cohorts 2 and 3, whatever the gender considered. It seems that the more seniority in organic cotton culture, the better the yield. This is understood as a positive effect of training and equipment, which producers benefit from according to their duration of integration into the project.

Yield performance evaluation data by province revealed that yields were above 400kg in three provinces (Boulgou, Gourma and Ziro) out of the eight intervention provinces. In contrast to these three provinces, two provinces (Kossi and Oubritenga) had particularly low yields, which were less than 75 kg per hectare. Several reasons could explain these large differences between provinces. Favorable factors include rainfall and/or soil fertility in the provinces of Boulgou, Gourma and Ziro. Another explanation could be the difference in interest in organic cotton culture from one province to another. Indeed, the fact that Oubritenga is a vegetable production area and Kossi a large conventional cotton production area can lead producers in these two provinces to give little time and attention to the production of organic cotton. These factors are likely to have a negative impact on the maintenance of organic cotton fields, and therefore on the yield per hectare.



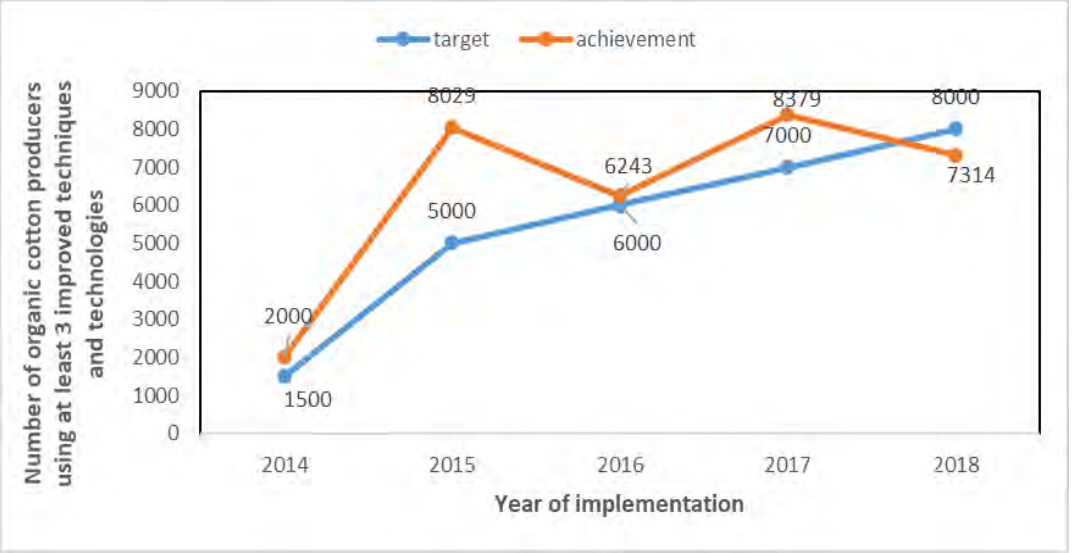
Graph 14: Average yield of organic cotton per hectare during the 2018/2019 season according to province

Unfortunately, the project failed to improve this major indicator of agricultural productivity for organic cotton, which is the yield per hectare. Only in two provinces (Boulgou and Ziro) out of the eight was the yield per hectare at the time of final evaluation higher than the value obtained in the baseline study. The insufficient yield has undoubtedly had a negative impact on the total number of organic cotton producers in the project area, as well as on the income producers have been able to obtain from organic cotton production.

With respect to rotational crops promoted by the project, the average yield of 338kg per hectare of organic cotton is higher than the estimated yields for sesame and soybean (respectively 265 and 235kg/ha), while it is far below the estimated yields for peanuts and corn (respectively 676 and

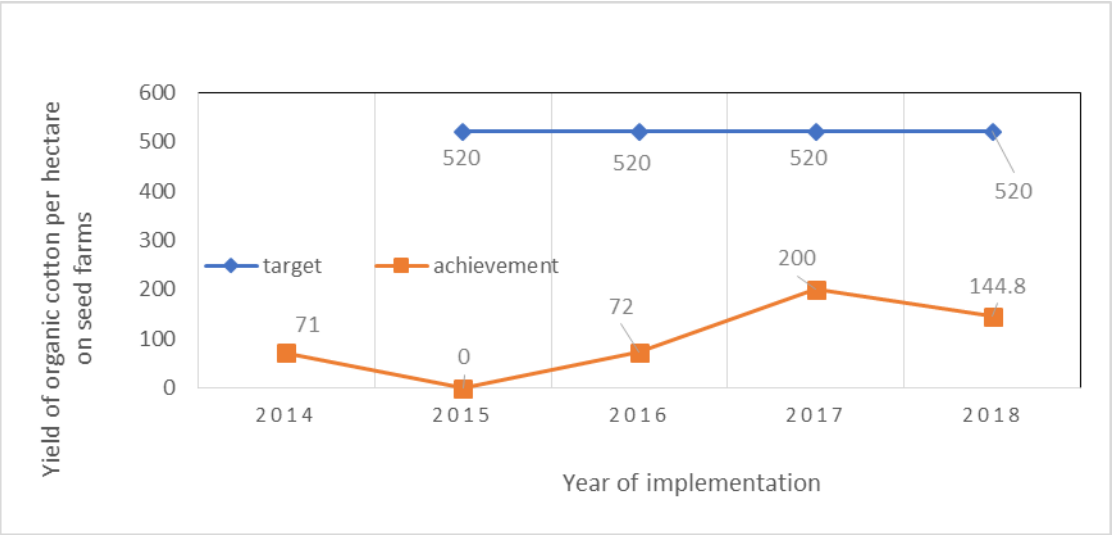
795kg/ha). Due to lack of data, it was not possible to follow the evolution of rotational crop yield over time.

The results achieved in terms of number of producers using at least three improved techniques and technologies acquired through the project (Graph 15) are above target. Since the baseline study was done in 2014, the value obtained in this study is considered the target of 2015.



Graph 15: Level of achievement of targets for the number of organic cotton producers using at least three improved techniques and technologies over the course of the project

Although the results achieved are below target for yield per hectare, the results obtained in terms of the number of organic cotton producers using at least three improved technologies and technologies over the five years of implementation of the project remained above annual targets, except in 2018. This suggests that the techniques and technologies used by producers do not necessarily have a positive impact on the yield of organic cotton. However, further analysis shows that there has been a gradual improvement in yield per hectare among male producers between 2014 and 2018, which is not the case for female producers. The low yields of the latter, given their large proportion (59%) among project beneficiaries, have lowered the average yield per producer below targets over the years.

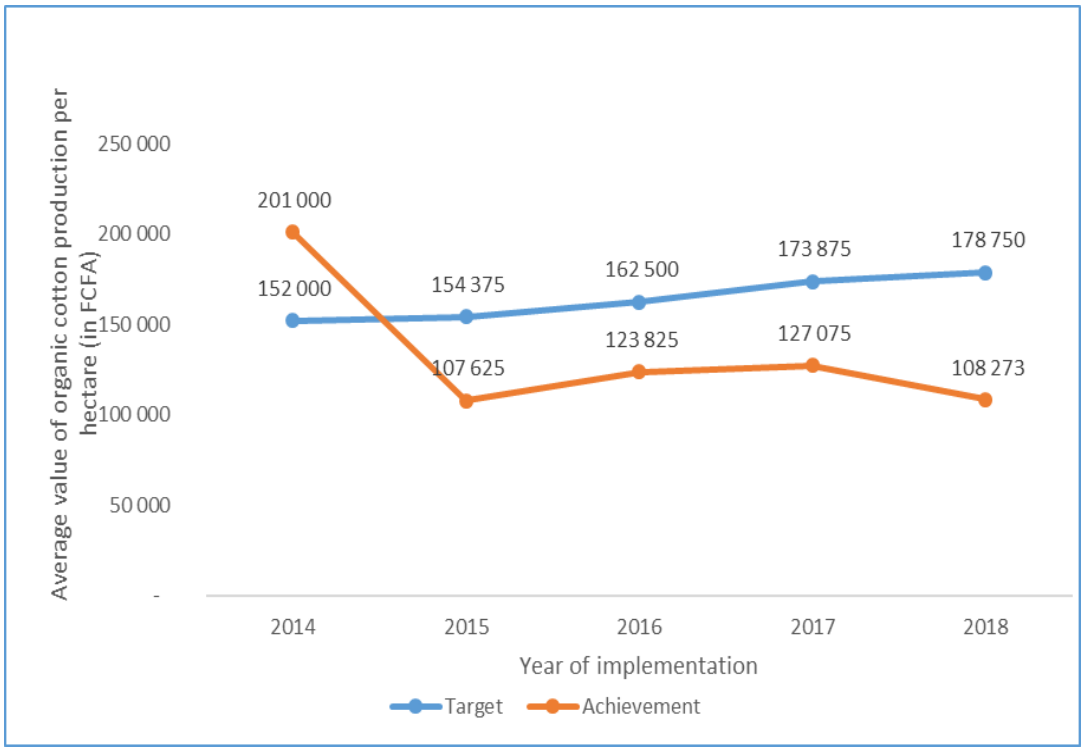


Graph 16: Level of achievement of targets for the yield of organic cotton on seed farms over the course of the project

Worse than the average yield per hectare in producers' fields, the yield per hectare of organic cotton on seed farms was far below the set target during the five years of project implementation. With an annual target of 520kg per hectare, the best yield obtained on seed farms was 200kg per hectare (in 2017). It was almost zero in 2015, despite the fact that these farms are equipped with water points and small equipment. The explanation for the underperformance of seed farm yields seems to lie in their mode of exploitation. Indeed, the strategy adopted for seed production is based on the voluntary work of producers from neighboring villages, to whom areas are allocated on the farm for seed production. The producers do not, however, seem eager to come and produce the seeds at the right time, and the attention paid to the seed production plots is far from satisfactory. Thus, late planting and inadequate maintenance of production plots are largely responsible for the low yield of organic cotton seed production on seed farms. Despite the low level of achievement of organic cotton seed production targets, the equipped seed farms remain among the most appreciated elements of the project by both UNPCB and the producers. These actors are convinced that producers' independence in terms of access to basic seeds and certified seeds will require better exploitation of these seed farms. This constitutes an essential aspect of sustainability of organic cotton production in Burkina Faso.

Average value of organic cotton production per hectare

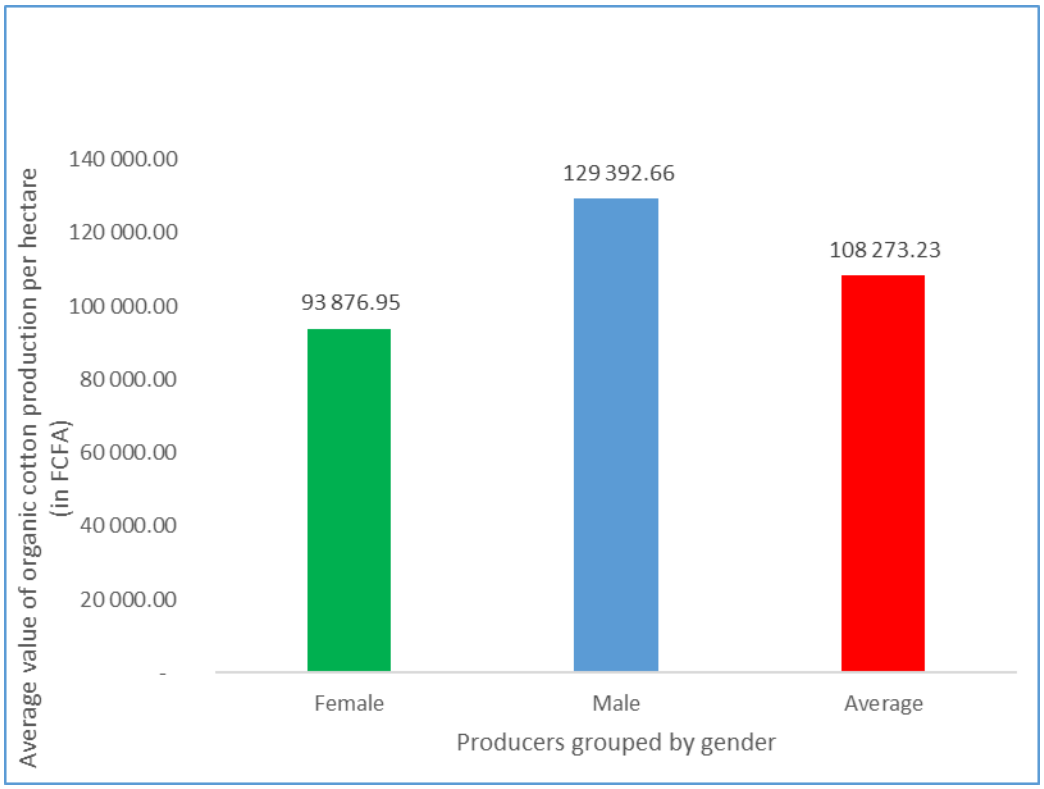
In direct relation to the yield per hectare, the average value of organic cotton production per hectare is one of the performance indicators of the project. The achievement levels of the annual targets for this indicator are illustrated in Graph 17.



Graph 17: Level of achievement of targets for the average value of organic cotton production per hectare over the course of the project

From Graph 17, it appears that the target for the average value of organic cotton production was reached only in the first year of the project. With regular programming on the rise from year to year, we witnessed a drastic drop in the value of this indicator in the second year, followed by a slight improvement, while the results were still not reaching the targets.

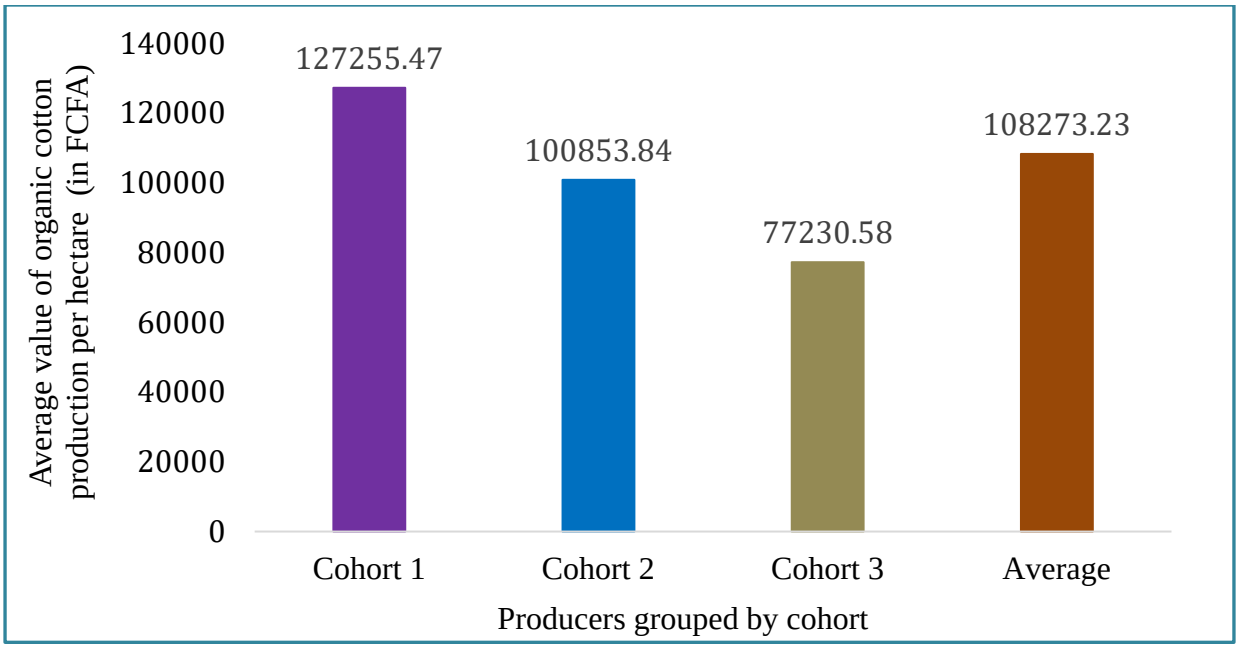
The disaggregation by gender of the data obtained for this indicator at the final evaluation is shown in Graph 18 below.



Graph 18: Average value of organic cotton production per hectare in the 2018/2019 season according to gender

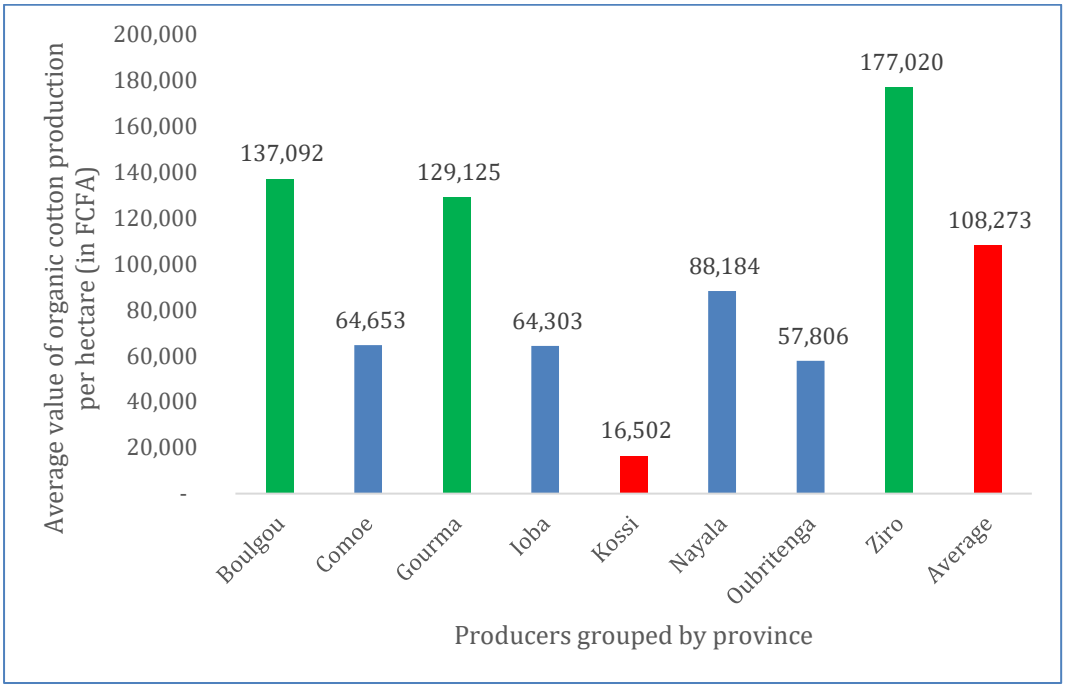
Gender appears to influence the average value of organic cotton production per hectare, with men earning more. Since sales prices remain the same for both men and women, the additional gain of men over women is due to the difference in return between these two types of beneficiaries.

As observed in terms of yield per hectare, when producers are grouped by cohort, it is clear that the longer a producer has been producing organic cotton, the higher the monetary value of their production (Graph 19).



Graph 19: Average value of organic cotton production per hectare in the 2018/2019 season according to cohort

As for the analysis of the average monetary value of organic cotton production by intervention area, the results are presented in Graph 20.



Graph 20: Average value of organic cotton production per hectare in the 2018/2019 season according to province

Disaggregation by province shows that only the province of Ziro has an average value of organic cotton production that is greater than the value of this indicator obtained at baseline, although it still remains slightly below the target for 2018.

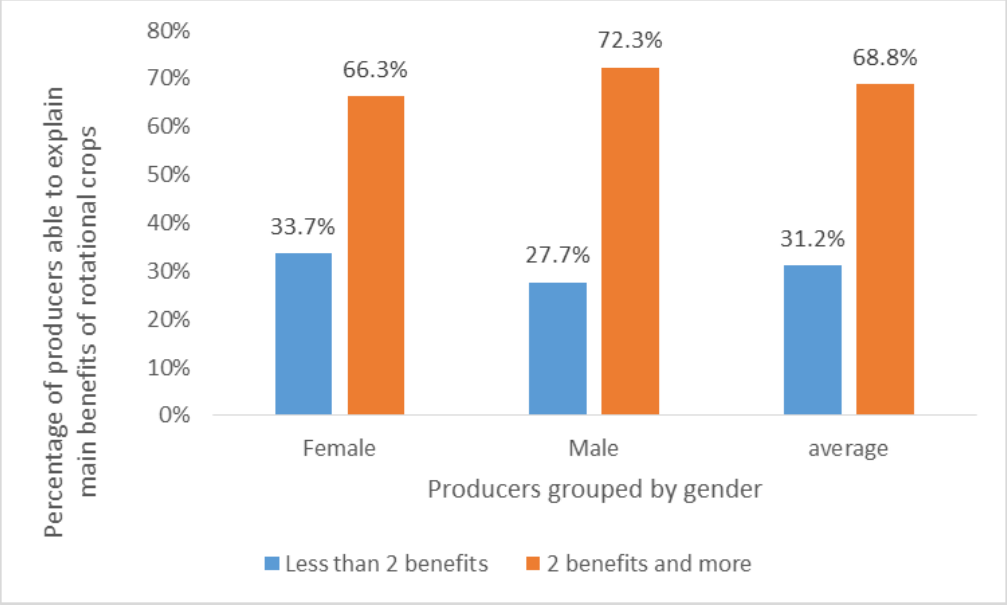
In addition to the fall in yield per hectare, which may explain this decline in the value of production, the final evaluation notes that the beginning of the downward trend in this indicator also corresponds to the withdrawal period of one of the project's key partners, Limited Brands. In fact,

through its own mechanisms, this partner guaranteed producers the relatively attractive price of 375 FCFA per kg for the purchase of their organic cotton. After its withdrawal, the price of organic cotton fell back to 325 FCFA per kg, which most likely contributed to the decline in the value of production in addition to the decline in yield.

The same assessment made for rotational crops shows that only sesame has a higher value of production per hectare than organic cotton, at 183,000 FCFA. For other crops such as peanuts, corn and soybeans, the value of production per hectare is between 79,000 FCFA and 104,000 FCFA. These values are comparable to those obtained for organic cotton in the different provinces. Data were not collected in other years; which does not allow a comparison of these variables over time.

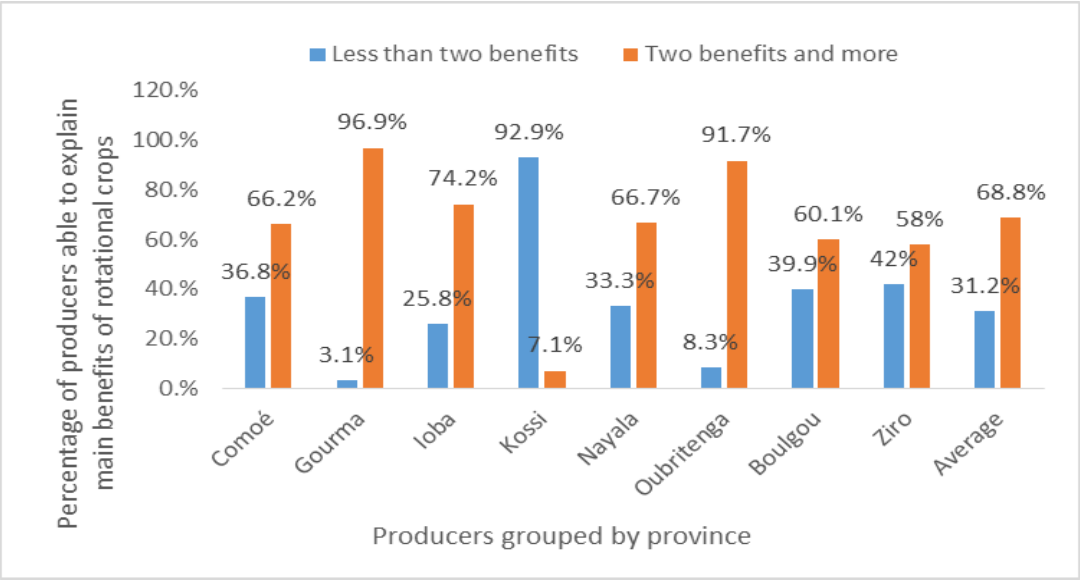
Percentage of producers in the target area who can explain the main benefits of the new crop rotation technique

The final evaluation measured the percentage of producers in the target area who can explain the main benefits of the new crop rotation technique. The results indicate that 69% were able to explain two or more advantages while 31% of producers could explain fewer than two benefits. Slightly more men (72.3%) can explain two or more advantages of the new crop rotation technique compared to women (66.3%). Women understand the new crop rotation technique less than men, as 33.7% reported fewer benefits, compared to 27.7% for men (Graph 21).



Graph 21: Percentage of producers in the target area who can explain the main benefits of the new crop rotation technique by gender

Results from the analysis by province show that, outside of the Kossi province where very few producers (7%) could explain the benefits of the new rotation technique, between 58% and 92% of interviewees were able to explain the main benefits of the new crop rotation technique in the other seven provinces (Graph 22).

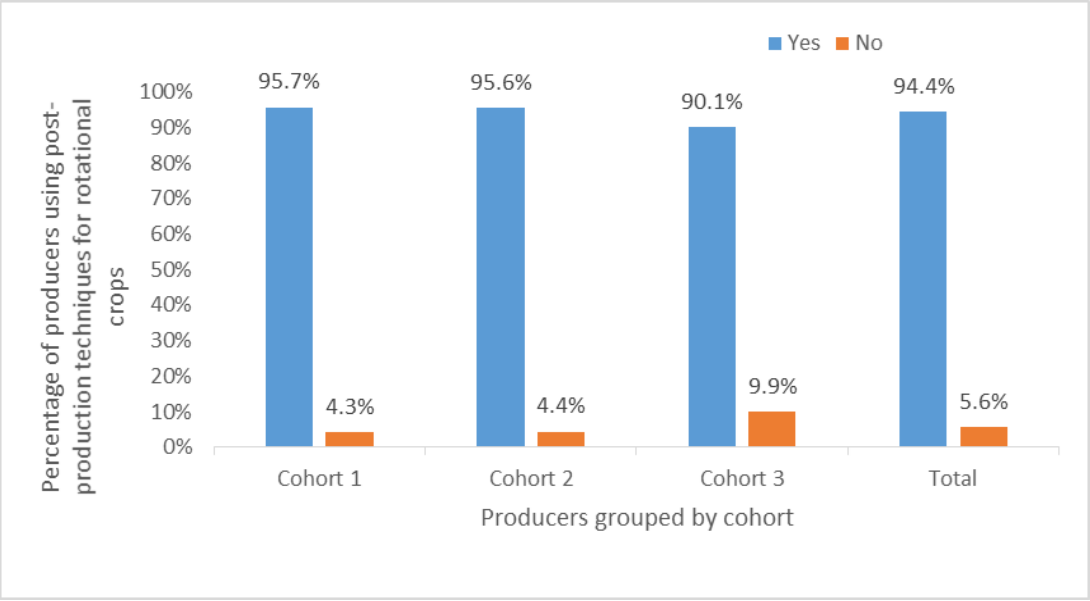


Graph 22: Percentage of producers in the target area who can explain the main benefits of the new crop rotation technique by province

Percentage of producers surveyed who say they have used improved post-production techniques for rotational crops

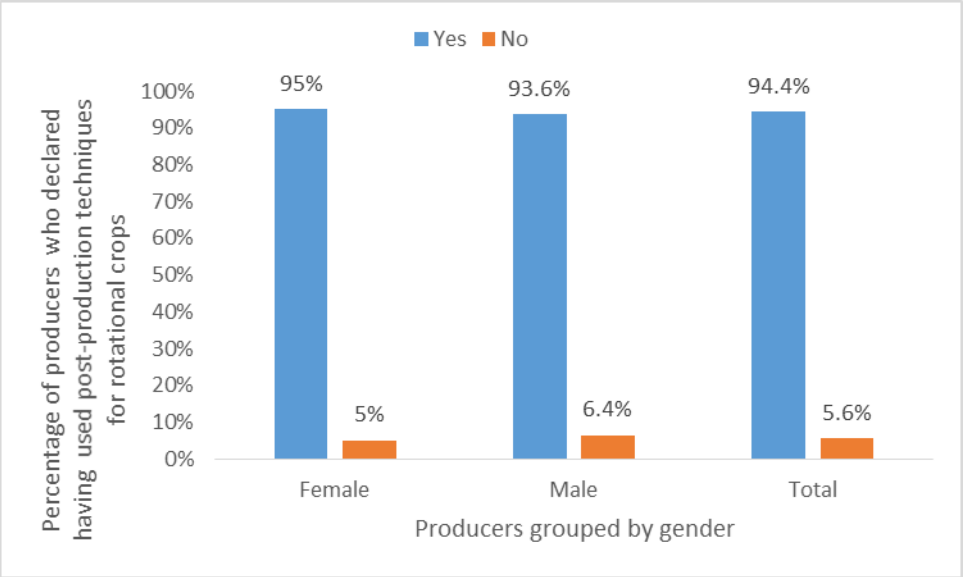
One of the key aspects of the grain production chain is postharvest management. The final evaluation therefore looked at the percentage of producers who say they have used improved post-production techniques for rotational crops. Improved post-production practices include cleaning, drying and appropriate storage.

The overall level of achievement of this indicator is 94.4%, which is a positive sign in terms of achievements of the project in post-harvest practices. In cohorts 1 (95.7%) and 2 (95.6%), producers are more likely to use improved post-production techniques for rotational crops than in cohort 3 (90.1%) (Graph 23).



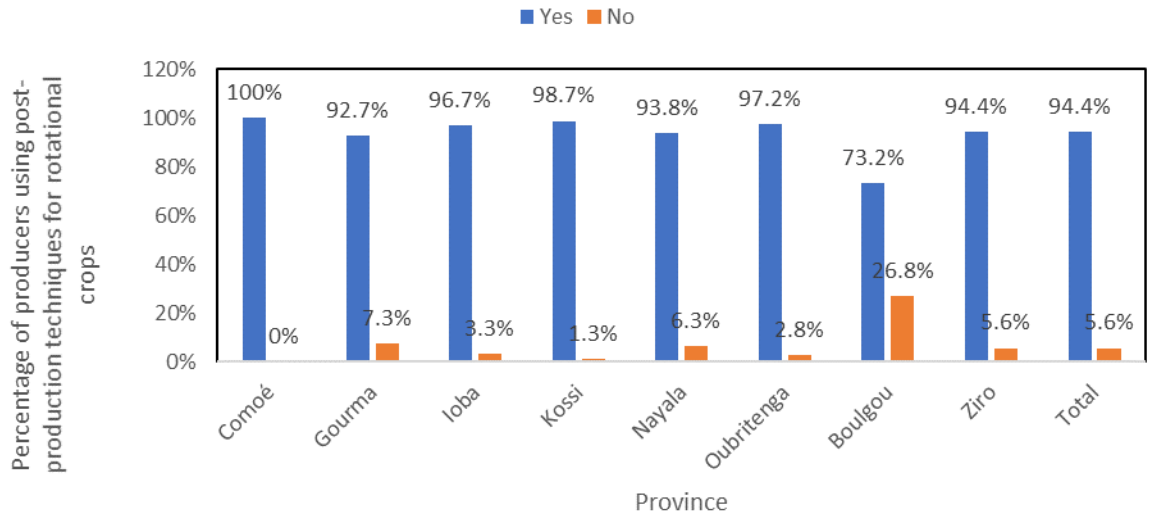
Graph 23: Percentage of producers surveyed who say they have used improved post-production techniques for rotational crops

As shown in Graph 24 below, the analysis of the use of improved post-production practices by gender shows that women (95%) used improved post-production techniques slightly more than men (93.6%).



Graph 24: Percentage of producers surveyed who say they have used improved post-production techniques for rotational crops by gender

Considering the provinces, Boulgou (26.8%) is where producers practice less improved post-production techniques for rotational crops.

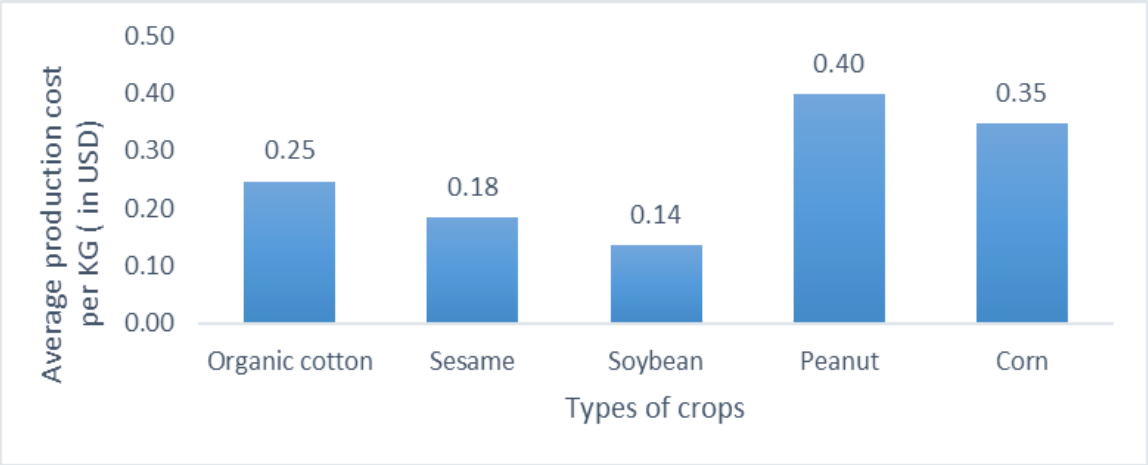


Graph 25: Percentage of producers surveyed who say they have used improved post-production techniques for rotational crops by province

Average cost of production of selected agricultural products per kg

In order to better assess the profitability of the various agricultural yields, one of the performance indicators taken into account in the project is the average cost of production of selected agricultural products per kg (the cost of production is the sum of the costs incurred by the purchase of inputs).

During the final evaluation, this indicator was measured for organic cotton as well as the four rotational crops associated with it. The results obtained are illustrated in the following graph (Graph 26).

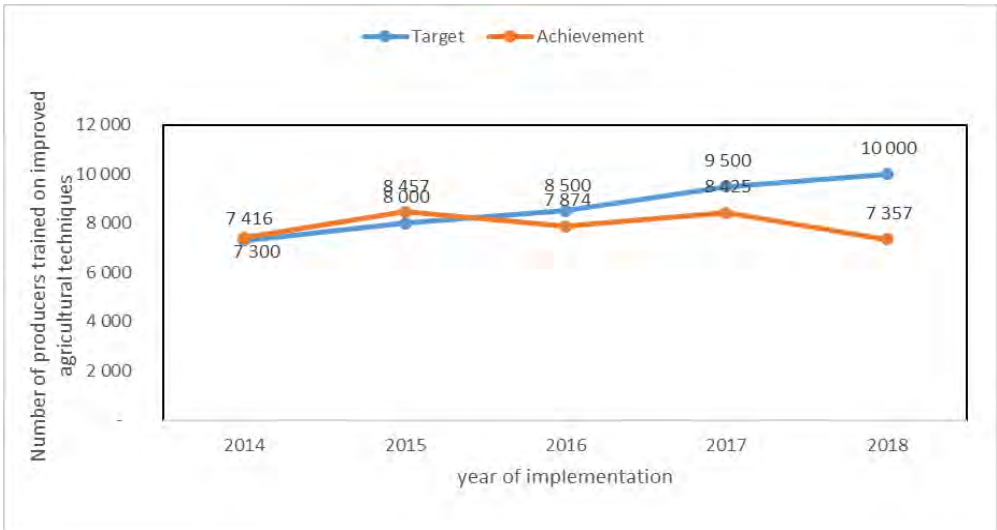


Graph 26: Average cost of production of selected agricultural products per kg

The data obtained for this indicator (Graph 26) show that the average cost per kg of producing organic cotton is in the same ranges as those of rotational crops associated with it. If this cost is higher than sesame and soy, it remains lower than the production costs of peanut and corn. The distribution of the cost of production per kg for the crops considered seems to be closely related to their yield per hectare.

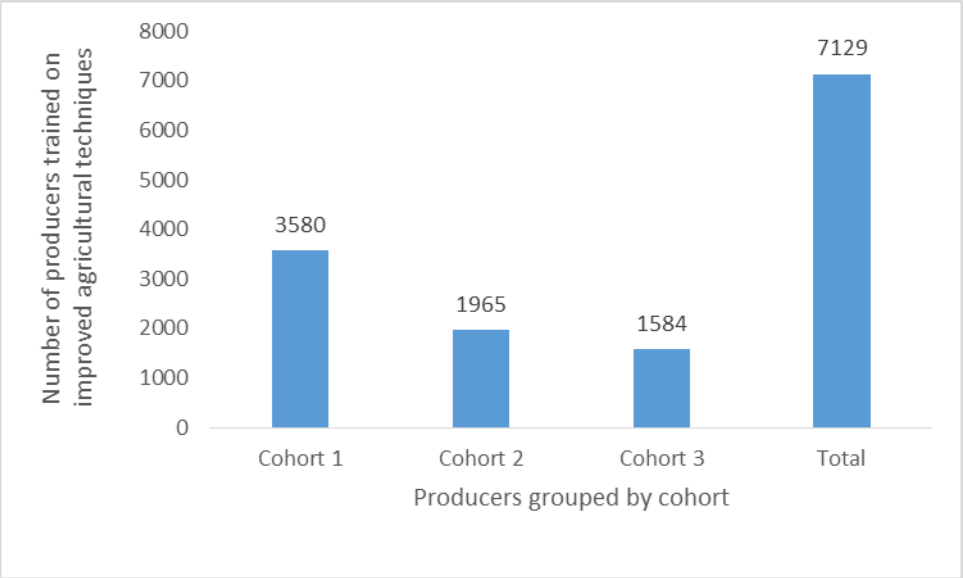
Training of producers

In order to provide sustainable support to the production of organic cotton, the project included training of producers. An intermediate outcome of the project was an increased knowledge of improved agricultural technologies for producers. To evaluate the level of achievement of training activities, we used several sources of data, namely regular project monitoring and evaluation data and final evaluation data. Graph 27 below was done using regular project monitoring and evaluation data on the number of participants to trainings on improved agricultural techniques and technologies.



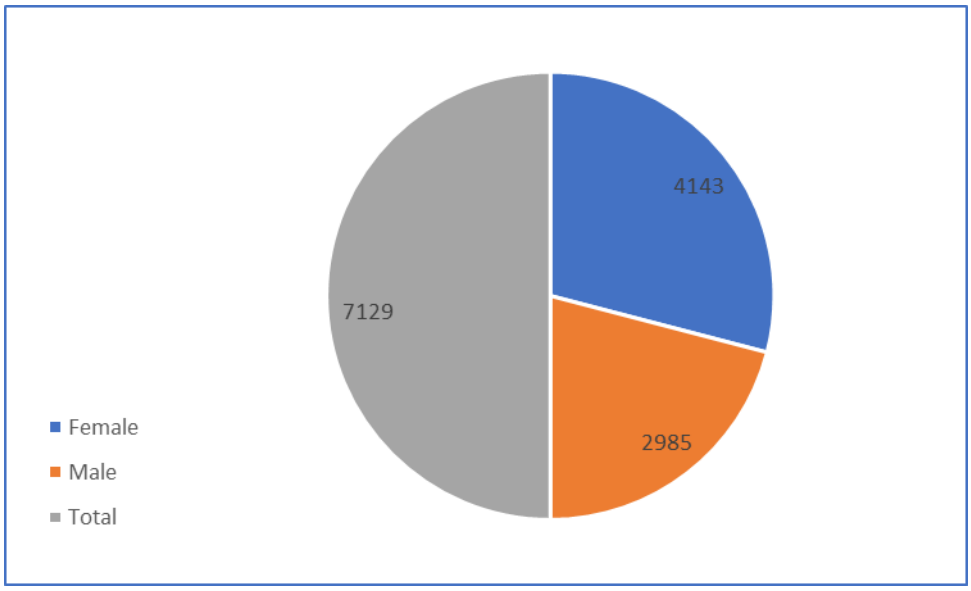
Graph 27: Level of achievement of targets for the number of producers trained on improved agricultural techniques and technologies

The yearly target numbers of producers to be trained on improved agricultural techniques and technologies were planned with an annual increase over the course of the project, rising from 7,300 in 2014 to 10,000 in 2018. As for the implementation of these training courses, Graph 27 shows that training targets were achieved only in the first two years of implementation. From the third year until the end of the project, targets were not reached. There is even a steady decline in the level of achievement of training targets. Thus, the achievement rate has decreased from 93% in 2016 to 74% in 2018. Several reasons may explain this decline: decline in the population's enthusiasm for the production of organic cotton, especially in the Boucle du Mouhoun region, which is the country's largest conventional cotton production area; the producers' lack of motivation to participate in trainings; or the great distances for the producers to reach selected training sites. This failure to achieve training objectives may have had a negative impact on the yield per hectare of organic cotton production and, indirectly, on the value of production of organic cotton per hectare.



Graph 28: Number of producers trained on improved agricultural techniques and technologies by cohort

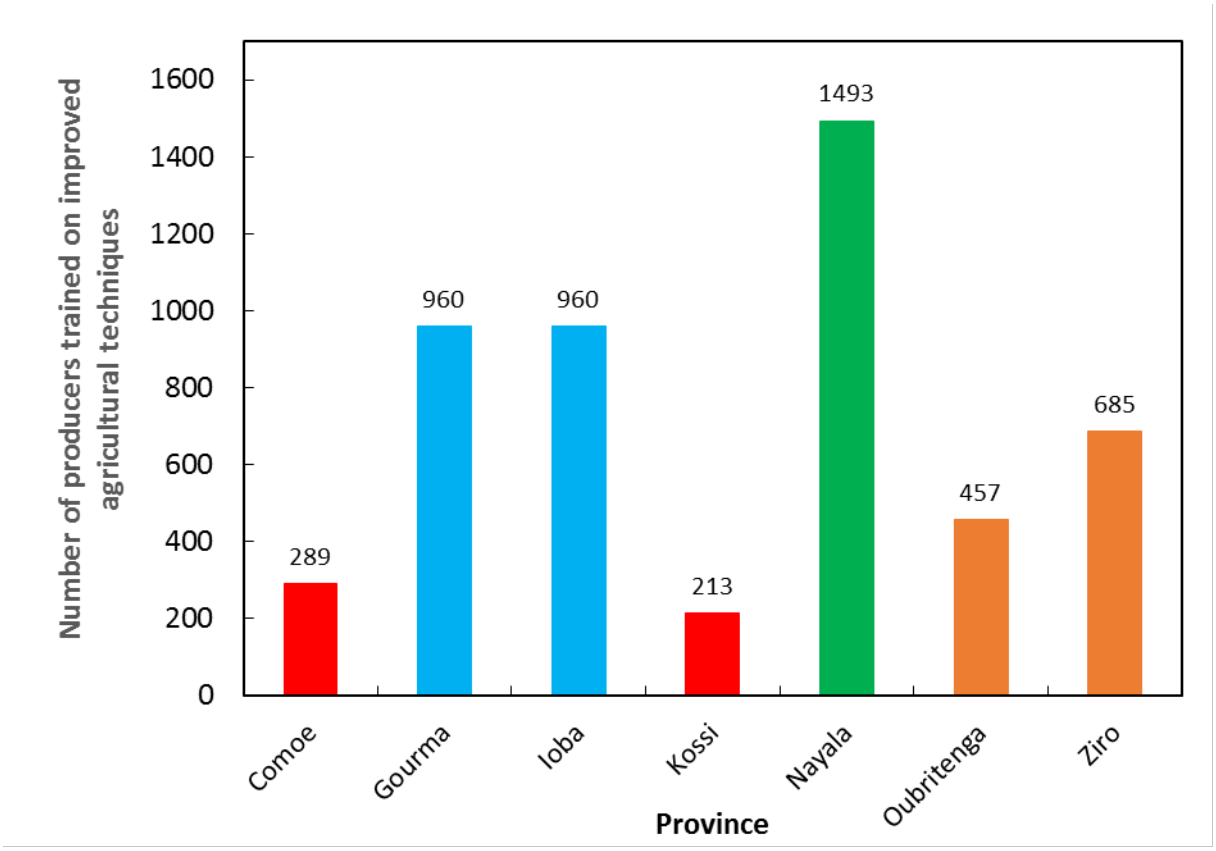
Based on the data collected during the final evaluation, the number of producers who received training on improved agricultural technologies and technologies was estimated at 7,129. This figure is not very far from the value from the continuous monitoring and evaluation of the project for the year 2018 (7,357 people trained). The distribution of producers trained according to cohorts, based on the findings of the final evaluation, gives proportions of 50%, 30% and 20% respectively for cohorts 1, 2 and 3. As for the distribution of producers trained according to gender, it is captured in Graph 29 below.



Graph 29: Number of producers trained on improved agricultural techniques and technologies by gender

The data in Graph 29 indicates that there were more women (58%) than men (42%) trained on improved agricultural techniques and technologies. Paradoxically, the greater number of women trained is not felt at the level of key productivity indicators such as the average area planted with organic cotton, the yield per hectare and the value of organic cotton production per hectare. As previously explained, productivity indicators have not been directly impacted by women's training for reasons related to difficult access to land, as well as other socio-cultural reasons. According to household economic practices in rural areas, women must first participate in the household production that takes place on male family members' plots. It is only after having contributed to these food crops or cash crops that they dedicate themselves to their own crops. Thus, the small areas of land at their disposal and the limited time they can devote to working on them can only result in low values for the indicators on the area planted, the yield per hectare and the production values.

The distribution of trained producers by province is illustrated in Graph 30 below. In terms of importance, Nayala is the province where the largest number of organic cotton producers were trained, with a total of 1,493 people, or nearly 20% of the total number of producers trained by the project.

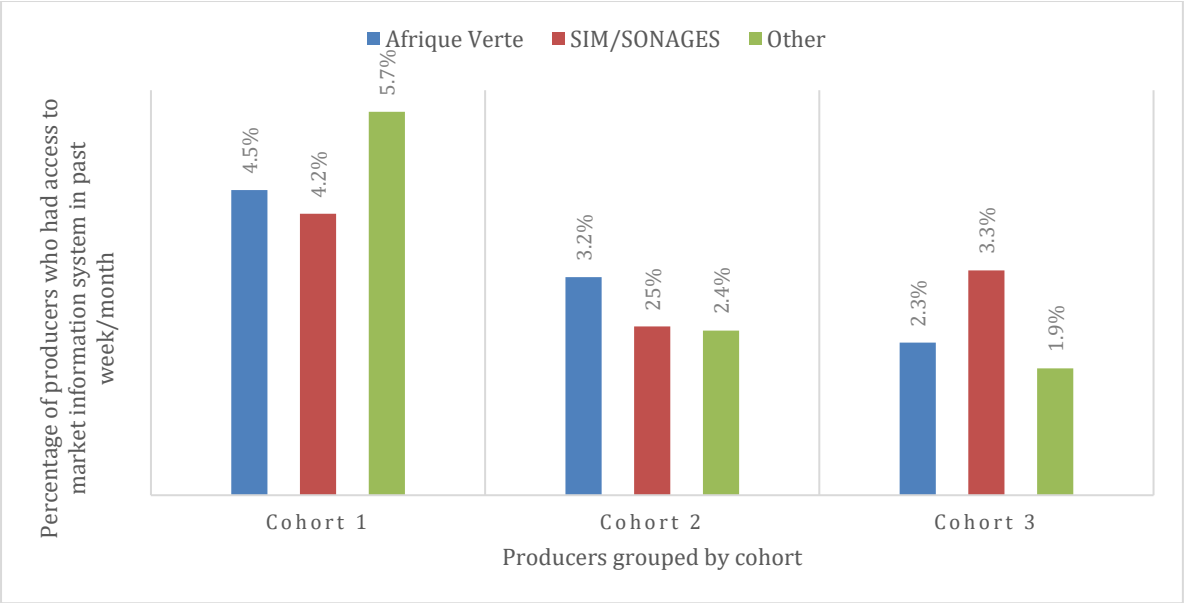


Graph 30: Number of producers trained on improved agricultural techniques and technologies by province

The other highlight of this distribution is that the poor performance of Kossi producers (average yield per hectare of organic cotton, average value of organic cotton production per hectare and percentage of producers with the ability to explain main advantages of the new crop rotation techniques) seems to be partly explained by the lack of training of producers in this province. With regard to the Kossi province, several reasons may explain the small number of producers trained. These include a possible decline in the interest in the production of organic cotton or the great distances for the producers to reach selected training sites. The statistics for the province of Comoé stand out as well. In fact, this province has the highest average area planted with organic cotton per producer but ranks among the last when it comes to performance in terms of average yield and the average value of production per hectare.

Percentage of producers who had access to a market information system in the previous week or month

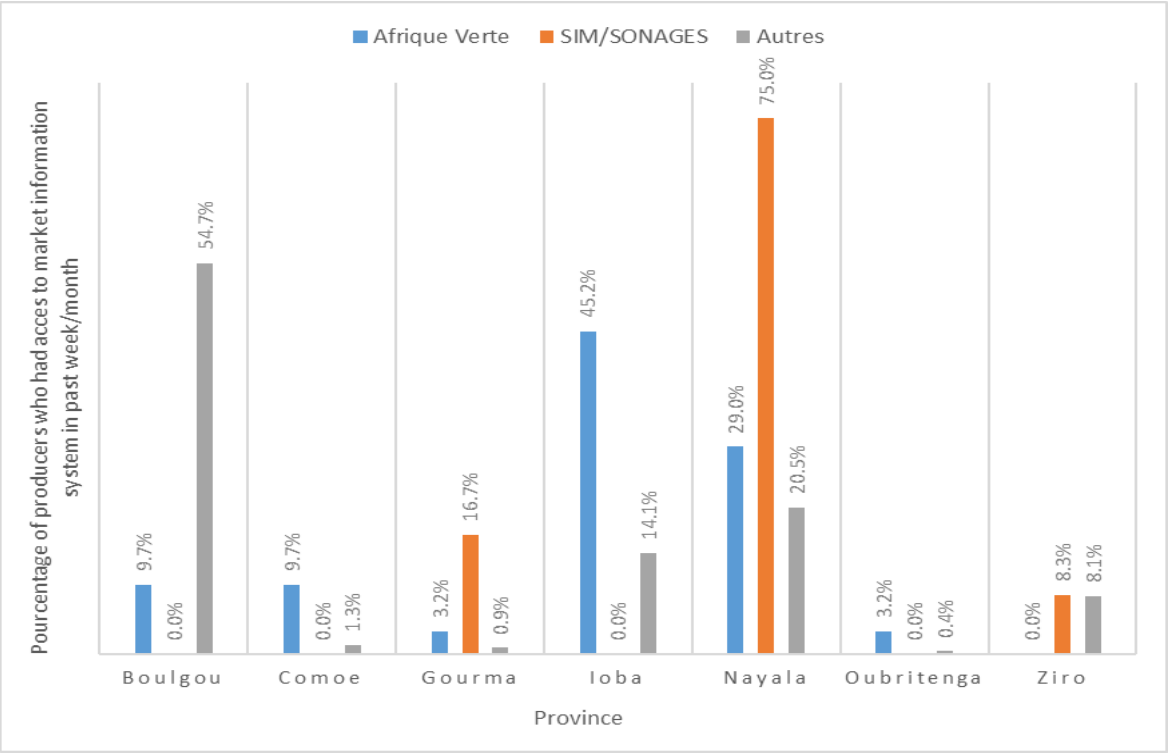
In addition to production, one of the important links in the agricultural production chain is marketing. Commercialization is a consequence of the level of market access. Therefore, information remains key for effective access to the market. This is why the project included the percentage of producers who had access to a market information system in the previous week or month as a performance indicator. The data obtained at the final evaluation stage for this indicator are illustrated in Graphs 31 and 32.



Graph 31: Distribution by source of producers who had access to a market information system in the previous week or month according to cohort

Graph 31 shows the proportions of producers who had access to a market information system in the previous week or month. Cohort 1 producers had more access to market information systems than cohorts 2 and 3. This can be explained by the seniority of cohort 1 producers, who presumably have more experience and technical capabilities than producers having joined the project more recently. This idea of seniority or experience is supported by the proportion (57%) of producers in this cohort who had access to sources or information systems in the market, other than the information systems promoted by the project, namely the Green Africa System (*Système d'Afrique verte*) and SIM/SONAGES. At the level of cohorts 2 and 3, in addition to the relatively low percentages of producers who had access to a market information system in the previous week or month, it should be noted that the main sources are the Green Africa System and SIM/SONAGES. These low levels of access to market information have probably had a negative impact on the marketing of the various agricultural products and thus on the income that producers have derived from the sale of their products.

The analysis of the access to information in the eight provinces of intervention of the project (Graph 32) reveals that the Nayala province has the highest proportion of producers who had access to a market information system in the previous week or month, and the main source of information (75%) is SIM/SONAGES. However, the most common source of market information in the overall project area is the Green Africa System, which is found in six of the eight provinces covered by the project.



Graph 32: Distribution by source of producers who had access to a market information system in the previous week or month according to province

Producers used SIM/SONAGES only in three provinces (Gourma, Nayala, Ziro) out of the eight provinces in the project area. In the province of Boulgou, producers obtained most of their market information through information systems other than Green Africa System and SIM/SONAGES.

3.4.2.3. Effect of the implementation strategies on the increase of income and the improvement of economic prospects, for women in particular

The level of effectiveness of the implementation strategies of the project is appreciated in different ways by the various stakeholders. Depending on the type of data used (quantitative or qualitative), interpretations and conclusions may differ. Indeed, if we refer to the achievement levels of the project performance indicators, very few of the indicators' targets were reached at the end of project implementation. This failure to achieve quantitative objectives can be interpreted as a lack of effectiveness of the project implementation strategies. However, producers praised the project for the improvements it brought to their respective communities, in particular during the different focus group discussions. Many producers who benefited from the project stated that their production had increased, together with their income, thanks to the improvement of soil fertility in their fields and the use of organic fertilizer (compost).

According to a participant in one of the focus group discussions: "*In terms of agricultural productivity of organic cotton and rotational crops, the implementation strategies have been very effective, because with training on the use of compost in our fields, the production of organic cotton is increasing. Soils remain fertile and promote good productivity for rotational crops such as corn, millet, sorghum, and this up to three years after the use of organic manure.*"

The use of organic pesticides is also one of the technologies considered effective by the beneficiaries of the project. The following was mentioned in several municipalities: "*On land where organic cotton is grown, we notice that, with organic pesticides, soils are more fertile, and this increases the productivity of agricultural production and thus the income.*"

To give an idea of the magnitude of the increase in productivity of organic cotton thanks to the interventions of the project, some beneficiary producers gave the following example: "*In the 2010s, we would cultivate on one hectare, without getting 200kg. Now, with the new techniques and trainings, and with our practices on the ground, with understanding and control of the production cycle and also the manure resulting from composting, which helps to maintain soils fertile and increase productivity, we can nowadays produce up to 500kg on one hectare*."

Regarding women-specific activities, the microcredit loans granted by the project for income generating activities were very well appreciated. We heard in several municipalities, in relation to this strategy, that thanks to the support of the project women have become independent, they can contribute to paying school fees for children and taking care of the well-being of their families. Some beneficiaries mentioned that women can say a lot regarding the income gained through the culture of organic cotton. Indeed, these women used to walk from place to place, but with the income earned from the sale of the organic cotton they produced, they were able to buy bicycles for themselves.

A female beneficiary said: "*Before, our children used to leave school for lack of means. Today, we help our husbands to put our children in school. Moreover, we do not have high schools in our municipality, and our children have to go elsewhere to continue their studies. So, with the income we get from the sale of organic cotton and the small business done through microcredit loans, we even buy bicycles for our children to facilitate their movement. To say that the project was not beneficial to us would be a lie.*" The increase in income among women has been a source of motivation for many women to produce organic cotton, once reserved for men. "*At first it was my husband who grew organic cotton and I helped him. Over time, and thanks to the income that came from growing organic cotton, I decided to take more information from the agricultural technician and this year I produced on my own plot*," said a woman.

Material support with the provision of equipment is another approach that was found to be effective in almost all villages benefiting from the project. According to the beneficiaries, the equipment obtained makes it possible to increase the agricultural productivity of organic cotton and rotational crops. On this subject, a woman stated, "*In the past, it was difficult for us women to get carts to transport manure into our fields. But with the project, women's access to carts has increased and this allows us to fertilize our land and at the same time increase our yield*."

The establishment of three well-equipped seed farms gave UNPCB some autonomy in the production of organic cotton seeds, one of the actions well appreciated by the different actors involved in the implementation of the project.

The general tendency to express the effectiveness of the implementation strategies in increasing productivity and producers' income does not seem to apply to sales. The project and its implementing partner UNPCB were criticized for the delay in payment and the low purchase price of organic cotton, which hampered the production of organic cotton. In this regard, a producer from

Kinkirsgogo, in the province of Ziro, said: "*It takes them a lot of time to buy organic cotton, while we have storage problems, so when they buy, the money does not come quickly and the purchase price of cotton does not motivate producers*."

3.4.2.4. Main limitations of the project

A number of factors limited the achievement of the objectives of the project:

- The insufficient agricultural equipment, which means that women cannot produce organic cotton in a timely manner: men plow their fields first, therefore women have to wait to access agricultural tools. On this subject, a producer said, "*There are 36 of us in our group, and we have received only five carts for the whole group*."
- The low purchase price of organic cotton and the delay in payment, which do not encourage producers to engage in growing organic cotton.
- Delayed delivery of treatment products such as Batik (organic pesticide) and their inaccessibility.
- The lack of microcredit loans for organic cotton producers.
- The frequent change of staff (turnover) at the project level.
- The withdrawal of Limited Brands, who was a key partner for the purchase of the fair trade organic cotton.
- The seed farm management which was not sufficiently participatory and suffered from differences of view between CRS and UNPCB. For example, managerial changes were made by UNPCB at the seed farm level without informing CRS.
- The rigidity of the conditions of access to fair-trade premiums.
- The comingling of conventional cotton producers using chemical pesticides was a challenge, particularly for organic certification.

3.5. Efficiency

The efficiency analysis examines the relationship between costs invested and benefits or outputs obtained, in order to determine whether material, human and financial resources have been mobilized in a timely manner, used well, and at the least cost. In addition, efficiency looks at whether the results achieved are commensurate with the amounts spent.

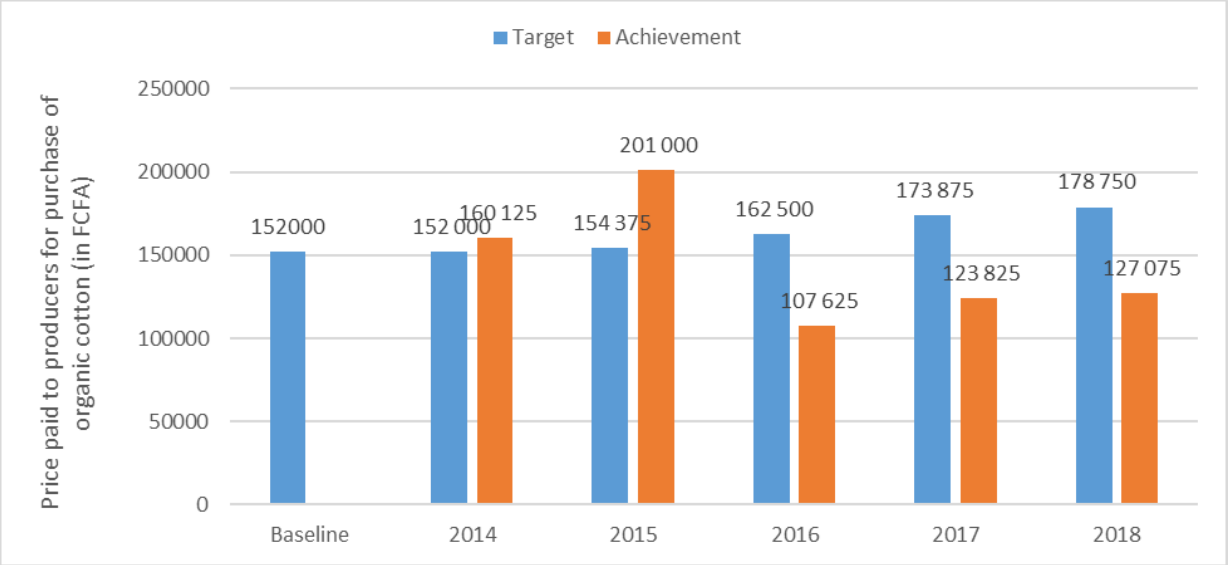
The efficiency analysis in this report consists in documenting the results obtained at the end of the implementation of the project, questioning the interventions carried out and the difficulties encountered in order to draw lessons. Furthermore, inputs, activities and results obtained will be analyzed in order to answer the following evaluation questions: Were the activities profitable? Have the objectives been achieved in time? Was the project implemented in the most efficient way with respect to alternatives? What risks did the project face and what was done to mitigate their impact in the management of resources?

3.5.1. Profitability of activities

The profitability analysis is done in the form of comparisons of the amounts invested in the activities and their return on investment. The project invested in the organic cotton production

chain, upgrading the organic cotton value chain, supporting market research and marketing. However, the baseline study assumed that organic cotton would be sold at the price of 152,000 FCFA per hectare for the first year of implementation of the project (2013-2014). When we look at the sales figures obtained from 2013 to 2018, we notice that they have evolved, from one year to the next, in a jagged pattern. Indeed, we realize that only in the 2014-2015 season did the value of production per hectare increase significantly, reaching 201,000 FCFA per hectare. The 2015-2016 season saw a decrease (107,625 FCFA per hectare), followed by slight increases in 2016-2017 and 2017-2018 (respectively 123,825 and 127,075 FCFA). Globally, only in the first two seasons (2013-2014 and 2014-2015) were the forecasts reached, resulting in an overall rate of achievement of the projected objectives of 87.6%.

The analysis of profitability in the form of comparisons of the amounts invested in the activities and their return on investment indicates that the production activity did not yield producers the income they had hoped for. This situation could be explained by the cancellation in 2015, by the principal buyer Limited Brands, of the purchase agreement concluded with UNPCB. This caused significant inconvenience to cotton producers, since the price of organic seed cotton paid to producers declined from 375 FCFA per kg to 325 FCFA per kg. The price of organic seed cotton was no longer interesting for producers following the termination of the purchase contract with the UNPCB. This led to a decline in the number of producers, and in some cases to the total abandonment of organic cotton culture by producers. The graph below (source: RECOLTE project activity reports) is a good illustration of the evolution of the price paid to producers for organic cotton between 2014 and 2018.



Graph 33: Evolution of the price paid to producers for the purchase of organic cotton (2014 to 2018)

The analysis of the results obtained with regard to the investments made indicate mixed results. However, there are qualitative areas that need to qualify the project's mixed efficiency, for instance, the active participation of the project in the organization of the SICOT, which has positioned Burkina Faso as a key country for the production of conventional and organic cotton, as well as for investment opportunities in cotton processing. The activities carried out in this context are: the participation of a delegation to the Textile Exchange Conference in Washington D.C. (USA), the Regional Organic Cotton Round Table in West Africa, the Market Opportunity Scoping Project,

the video series of interviews with African opinion leaders on the theme of sustainability in organic cotton farming. The total cost of these activities is 46,248,460 FCFA. It should be noted that the second edition of the SICOT will be held on January 30th and 31st, 2020 on the theme "Production and processing of cotton: engines of industrialization and economic growth for African states," thanks to the RECOLTE project. The SICOT is a profitable initiative because of its attractiveness for the many participants from African, Asian and Western countries. Moreover, it is an initiative that tends to become institutionalized, making Burkina Faso the showcase of cotton and textiles in the same way as certain events such as the SIAO or the internationally recognized FESPACO.

Indeed, some key factors motivate the beneficiaries to invest and hope for a comparative advantage of their personal investment in organic cotton growing. These are the comparative advantages of organic cotton with conventional cotton. While the indebtedness of conventional cotton producers has traditionally deterred producers from undertaking the culture of this cash crop, all agree that growing organic cotton does not require heavy initial investment. Moreover, soil fertilization thanks to the use of new techniques have resulted in soils remaining fertile longer and increased yields of other rotational crops. According to producers, growing organic cotton is less physically taxing than other crops. Furthermore, income generating activities undertaken by women thanks to microcredit loans granted and agricultural equipment provided through the project, have made the practice of this crop more attractive to beneficiaries. These various factors explain the effect of ownership by producers, even if certain challenging issues remain to be considered and reviewed.

For some local authority representatives interviewed, the project contributed to the development of their municipality and the sustainable management of natural resources. The training on financial education and the project support to income generating activities through microcredit loans helped women empower themselves. It can be noted that the objectives for these specific activities were exceeded: facilitation of the producers' access to financial services (167%) and access to credit (378%).

3.5.2. Achievement of objectives

The analysis of the achievement of the objectives of the project is conducted using the theory of change. The theory of change analysis is a method of analysis that aims to explain how a given intervention, or a set of interventions, intended to lead to a specific change made change possible through a causal link analysis based on evidence. We will focus our analysis on the changes that have been made at the level of the different actors.

First of all, it is important to recall the three main constraints faced by producers: i) the use of agricultural production techniques and technologies; ii) the availability of improved seeds and compost; and iii) gender.

The objective of the project was formulated in relation to the problems faced by the producers and aims at strengthening the organic cotton value chain and improving the production of rotational crops in Burkina Faso such as soybean, sesame, corn and peanuts to benefit more than 10,000 small producers in eight cotton producing areas including the Banfora, Fada, Ioba Kossi, Ziro, Nayala, Oubritenga and Tenkodogo communes.

Based on the defined objectives, a package of activities was developed and aimed at achieving two strategic objectives in the organic cotton sector: 1) to increase agricultural production and 2) to expand trade in agricultural products with the aim of enabling producers to fight poverty, strengthen their position and have better control over their lives. The package of activities developed and implemented includes a dozen activities for the development of agricultural production, together with private sector actors and government entities, such as the Ministry of Agriculture and Hydro-Agricultural Development (MAAHA) and the Ministry of Trade, Industry and Handicrafts (MICA).

The analysis of the changes induced by the project has revealed that some expected results were not achieved. One of the main reasons for this failure is the delay in the implementation of monetization activities. As the project's funding was based on the monetization plan, CRS drew up its implementation plan and set December 2013 as a start date. Unfortunately, the sales contract was only signed in May 2014, which constitutes a 6-months delay. Subsequently, CRS received a first check USD 372,000 from the purchaser Groupe Velegda SARL and a second one in the amount of USD 31,640 in June 2014. Thus, the delay affecting the monetization process did not allow for the timely start of key production activities, which were initiated up to nine months late, such as the establishment of the seed farms. The delay in the availability of funds at the level of CRS also had a negative impact on the deadlines for the technical capacity building activities for producers and UNPCB agents, which implementation was scheduled to happen over the first two years of the project.

3.6. Sustainability

The analysis of sustainability seeks to assess whether the effects of a project will continue after its end. Sustainability is determined by the maintenance of the benefits of an activity after funding has been interrupted, as well as by the degree of development of local ownership and lasting partnerships by the project. As part of this final evaluation, the sustainability analysis will determine the following aspects: the level of ownership of the project by UNPCB; the likeliness that project activities will be sustained; the level of ownership of the producers; and the factors that may affect the sustainability of the project intervention.

3.6.1. Level of ownership of the project by UNPCB and project activities likely to continue

CRS's participatory approach which was used in the context of the RECOLTE project has been instrumental in the transfer of skills. UNPCB, as the implementer of the project, has benefited from capacity building in all areas of the organic cotton sector: seed production, cotton production, certification process for organic cotton and fair-trade, post-production, processing and handling.

UNPCB’s Senior Technical Advisor on Activities Management and Cooperative Management was made available to the project and considerably strengthened the management, funding and operating systems of the Burkina Faso Organic Cotton Producers Organic Program management team. With regard to monitoring and evaluation of activities, UNPCB’s capacity was strengthened on electronic data collection and database management through the use of the CommCare platform, and they gained experience in producing periodic reports. Based on these observations, it is obvious

that UNPCB has taken ownership of the various project activities and is now able to extend such expertise to its other data collection and processing activities.

As part of the implementation of the project, 10 major interventions or activities were developed and carried out. The analysis of these activities indicates that all of them can be maintained after the end of the project, thanks to the appropriation of these activities by UNPCB. These are the main achievements of these activities, among others:

- 7,129 people were trained, with 58% women, in organic cotton production and improved farm management practices
- 229 demonstration plots were created
- 3 organic cotton seed multiplication farms were set up
- 209 people were trained in ginning techniques
- 2,272 microcredit loans, worth a total of 77 million FCFA, were granted between February 2017 and February 2018, allowing 3,079 producers to initiate income generating activities
- UNPCB went from a single client in 2014, to an average of four clients per season at the end of the project (client diversification)

A review of these achievements indicates that UNPCB has a solid base of extension agents and trained producers, as well as infrastructure such as seed farms, a ginning plant, farm-level boreholes and silos, etc.

Didactic documents created in the context of the project contribute to sustainability efforts, as they can motivate and support UNPCB in the continuation of activities. These are, for example:

- The organic production manual
- The guide against child labor on organic farms
- The agricultural equipment strategy, income generating activity strategy and training strategy documents
- The five-year marketing strategy for UNPCB, which contributed to the diversification of its partners. "*Let's acknowledge that, at the beginning of the project, the strategy was to work to satisfy the unique privileged partner Limited Brands with organic cotton of quality and quantity. This strategy has evolved following the departure of the partner in 2015. The business plan has been updated and a marketing strategy has been developed with a focus on customer diversification.*" (Excerpt from an interview with a UNPCB official).
- Illustrated flipbook guides for compost production

The importance of learning and capacity building, in addition to the availability of didactic tools, justify the continuation of the activities. However, factors such as the insufficiency of financial resources and the difficult access to the market for organic and fair-trade fiber can influence the sustainability of the intervention of the project.

The construction of a cotton ginning plant, with a processing capacity of 15,000 tons per year, will provide ginning services for cotton companies (SOFITEX, SOCOMA, Faso Coton). The financial

resources derived from organic cotton ginning (2000 megatons) will generate financial resources that will be injected into the organic cotton value chain.

UNPCB, in its mission of promoting cotton growing, has positioned staff at the field level, including technical agents and area managers. This initiative has been reinforced in the context of the project to support organic cotton producers. Thus, although the project is completed, the production of organic cotton continues with the support of UNPCB. For example, for the current 2019-2020 season, UNPCB has increased its field support to producers, using its own resources. However, interviews with UNPCB staff reveals that additional funding is needed to ensure the transition after the project has ended (field staff salaries, marketing aspects, ginning plant management, etc.).

3.6.2. Level of ownership of the achievements by the stakeholders

Assessing the level of ownership of the project will consist of determining to what extent the producers involved in the project will adopt, use and reproduce the activities and techniques learned during the project. A proportion of 91.4% of the surveyed producers, including as many women as men, think that project activities will continue after the end of the project. The results of the final evaluation revealed that all producers wish to continue at least one activity on their own after the project has ended.

The percentage of producers wishing to continue given activities appears to be high for the following activities: production of organic cotton (81%), practice of rotational crop production (78.6%) and grouping activities (80.4%). The high percentages of producers who will continue organic cotton production and the practice of rotational crop production after the project ends reveal a good level of ownership of organic production techniques by the project beneficiaries.

"*Yes, the use and practice of training has fertilized soils and increased cotton production. Even after the harvests, the soils are very rich and rotational crops also produce well.*" (Excerpt from an individual interview with a producer of organic cotton).

"*Also, we have learned that we can even manufacture our pesticide for phytosanitary treatments; organic manure through composting pits or piles.*" (Excerpt from a focus group discussion with organic cotton producers).

Regarding the advantages of group activities, the excerpt from the focus group discussion below indicates that, in addition to providing a forum for meetings and exchanges for women, group activities also encourage the birth of initiatives for their development.

"*Thanks to the grouping, we set up a savings group where the contribution is weekly and other women from the village even joined us. We meet once a week and each woman brings a given amount of money according to her ability to deposit in the cash box. At the end of the year, each woman receives the money saved to support herself. This group is really beneficial to us.*" (Excerpt from a focus group discussion with organic cotton producers).

From all these analyses, it appears that sustainable agricultural techniques and grouping activities could be replicated by producers after the end of the project, since they are beneficial to them. The

application of the farming techniques results in higher yields both for cotton and rotational crop productions. "*We will continue to use the knowledge in the context of our agricultural production activities, because what we have learned must serve to improve our lives, and not be limited to the life of the project.*" (Excerpt from an interview with a relay producer).

When asked which activities they will pursue independently after the end of the project, only 45.6% of the producers surveyed mentioned the use of organic manure. This relatively small proportion can be explained by the difficulties encountered by producers in obtaining or producing organic manure. In fact, more than half of the organic cotton producers surveyed (54.4%) report being faced with a shortage of organic matter, 39% are faced with the difficulties of making a manure pit and 30.50% with challenges in transporting organic manure. To overcome these difficulties, it is important to promote livestock integration in the design of organic production projects, so as to facilitate the acquisition of animals by producers. In addition, improving the accessibility of producers to water and agricultural equipment (especially carts) would encourage producers to use organic manure.

3.6.3. Main factors likely to impact sustainability

The good yields observed as a result of to the application of improved techniques, as well as the facilitation of the commercialization of organic cotton thanks to UNPCB and its partners, will have a long-lasting impact on certain results obtained by the project. However, in the long run, many factors could negatively impact the sustainability of the project intervention. For instance, some producers may be discouraged to grow organic cotton because of the decline in the price of this fiber observed since 2015 and the non-collection of fair-trade premiums. The lack of buyers for fair-trade organic cotton could also be a major handicap for the sustainability of the project. "*In the absence of the project, we will be able to continue to produce organic cotton, but it is the absence of buyers that is likely to affect the sustainability*". (Excerpt from an interview with an organic cotton producer).

Interviews conducted at the level of UNPCB reveal that the structure was consistently able to achieve its goal of selling the whole annual production. Although the lack of buyers for organic cotton may appear to be a factor influencing the sustainability of the project, the structure does not claim to be currently facing this problem.

The difficulty of producing organic fertilizer could also in the long term be detrimental to the achievements of the project. Indeed, some producers, for lack of animals or equipment, cannot produce their own and are forced to buy organic manure at a price that keeps increasing every year. "*The fact that growing organic cotton requires the use of manure, when we do not have animals, is a problem. We are obligated to buy manure at a rising price each year: from 1,500 FCFA to 2,000 FCFA per cart, and we need at least 6 carts*." (Excerpt from a focus group discussion with organic cotton producers).

3.6.4. Sustainable strategies for communities and central government support

Support to income generating activities through the revolving fund for women is one of the strategies used by the project, which promotes sustainable community support and enhances sustainable community mobilization.

At the central government level, the involvement of political authorities, in particular the Permanent Secretariat for the Monitoring of the Liberalized Cotton Sector (SP/SFCL), was crucial in the management of the organic cotton program. The successful mobilization of the Agency for the Promotion of Investments in Burkina Faso (API-BF) and the Office of the President of Burkina Faso resulted in these entities becoming key actors in the process of building the ginning plant and promoting organic cotton during SICOT.

The involvement of locally elected representatives and decentralized services in project activities is a pledge of support at the decentralized level. In addition, the involvement of delegates of the organic cotton groups in the activities of the program also contributed to the dynamic of sustainable support, as well as to the continuation of the agricultural equipment strategy for the benefit of producers.

3.6.5. Use of fair-trade premiums

Fair-trade premiums depend on the quantities of fiber sold within the organic and fair-trade system. For example, more than 22 million FCFA were transferred to organic cooperatives in the Tenkodogo area in February 2019. These premiums are used according to the needs of the cooperatives and the communities, for the construction of basic social infrastructure or to strengthen the operational capacities of cooperatives. Thus, we note these different achievements completed or in progress with the premiums collected in the context of the project:

- The construction of warehouses for the separated storage of organic inputs in Diébougou, Boulgou and Banfora.
- The construction of a room that could be used as a meeting room for the producers as well as for the storage of organic cotton in Bargo.
- The construction of school canteens in the localities of Nayala, precisely Yé and Boulgou.
- Borehole repairs in the city of Fada.

3.7. Impact

Measuring the impact, according to the criteria of the OECD's Development Assistance Committee (*Comité d'aide au développement*, CAD), consists in assessing the impact of an action in the medium and long terms and forming an appreciation of all the effects of the project on its environment, positive as well as negative, planned or unplanned, economic, social, political or ecological. It is the set of significant and lasting changes in the life and environment of individuals and groups having a direct or indirect causal link with the project.

3.7.1. Changes attributable to the project

3.7.1.1. What are the main changes attributable to the project in terms of management and production of cotton by UNPCB?

Change is a process that occurs as the result of an action, of which the initial intention was the materialization of said change. The aim of the project was to achieve a set of changes in the organic cotton sub-sector. The analysis of impact will start from the problems identified in the design phase of the project, in order to determine the first changes induced by the project. Then, unforeseen changes will be reviewed and possible explanatory factors will be provided to support the analysis.

The availability and quality of seeds. Before the project, the organic cotton sub-sector was characterized by a virtual absence of seed multipliers and basic seeds, hence the use of old alternative seeds by producers. This had a negative impact on production and especially on yield. This production was not profitable nor competitive because of its low quality. A change attributable to the project is the availability of seeds in sufficient quantity and adequate quality, enabling the production of organic cotton of superior quality. The availability in quantity and quality of organic seeds presents enormous opportunities for UNPCB, as they could sell them to interested neighboring countries or countries in the sub-region.

The post-production of organic cotton. The lack of storage facilities for organic cotton was a problem identified before the project. This caused post-production losses and reduced the quality of the cotton. The silos produced by the project have led to better conditions for the conservation and securing of production. Post-production storage has been secured, which is a change attributable to the project.

The ownership of the sustainable management of natural resources. The project identified the producers' limited knowledge of improved farming practices as a difficulty. The package of trainings and the demonstration fields incurred a change in the management of natural resources. "*With this project, we learned new natural methods with regard to the production of cotton, and we notice a change on the performance of our land. We would never have thought that fertilizer could be as effective in terms of profitability*." (Excerpt from an interview with a relay producer).

The increasing demand for organic cotton grown in Burkina Faso and diversification of UNPCB's network of buyers. The project aimed at opening up the market and developing the partnership with UNPCB. UNPCB worked to obtain a better quality of organic cotton and carried out missions and organized workshops to attract new buyers. The CE, NOP, GOTS and Equitable labels now attest of the improved quality of organic cotton made in Burkina Faso. Two changes are attributable to the project: a growing demand for organic cotton grown in Burkina Faso at national and international levels and the diversification and enlargement of the buyer network. From one buyer at the beginning of the project, UNPCB currently has four buyers per season.

The facilitation of market access and the new sales practices. Traditional sales practices have given way to a more organized, more profitable and fairer sale system: "*Currently, there is no need to go to the market to find potential buyers. It is now UNPCB that does it for us. We just need to produce*." (Excerpt from a focus group discussion with organic cotton producers). Here, the change attributable to the project is the facilitation of market access for producers, thanks to better management of sales by UNPCB.

3.7.1.2. How do these changes impact the well-being of the project participants and their families?

Well-being is a state linked to different factors considered separately or jointly: health, social or economic success, pleasure, self-realization, harmony with oneself and with others. The analysis made here is based on this definition of well-being and looks at the well-being induced for beneficiaries as a consequence to the changes made by the project.

At the health level. The practice of organic farming presents less health risks than conventional farming. The producer, in particular the organic cotton producer, their babies and children, are not exposed to allergies, rashes, and respiratory problems. In addition, the consumption of organic products preserves the health of the consumer, as well as that of animals, and the quality of soil and water. Besides, the project brought added value to the communities by supporting agricultural cooperatives and associations in the protection against malaria through better knowledge and use of organic products. Two changes are attributable to the project: the reduction of contamination risks and the improvement of producers' and their families' health, resulting in decreased health-related expenses.

At the social level. "*Before, we grew conventional cotton and it generated more economic costs and need for credit*." (Excerpt from a focus group discussion with organic cotton producers). In fact, conventional cotton farming requires producers to get into debt in order to purchase seeds and inputs before they start planting. This is not the case with organic cotton production. The reduction in stress levels of producers, free from credit and debt, is a change attributable to the project. Organic cotton producers keep the entire income obtained through their production, in addition to the fair-trade premiums.

At the economic level. The project grants microcredit loans to women for income generating activities via a revolving fund. In addition to their agricultural production, they are able to carry out income generating activities that strengthen their family's and community's economy. "*Today, we help our husbands to put our children in school. With the income we get from the sale of cotton and the small business done through the microcredit, we even buy bicycles for our children to facilitate their travel*." (Excerpt from a focus group discussion with organic cotton producers). The economic growth of female organic cotton producers is a change attributable to the project.

At the cultural level. Organic cotton, in some countries like Burkina Faso, has been dubbed "women's cotton." This can be explained by the fact that in Burkina Faso, for example, the project has a greater focus on women (58.8% of participants are women). Their participation in the production of organic cotton is becoming increasingly important because its culture is less dangerous for their health and that of their children, thanks to the use of organic inputs. Moreover, growing organic cotton does not require a large initial financial investment, compared to producing conventional cotton. Two changes are attributable to the project at the cultural level. The social status of women is enhanced: they can now own a farm just like men and have their own income.

At the environmental level. Organic cotton is grown without using genetically modified organisms (GMO), pesticides or chemical fertilizers and results in reduced water consumption. Agricultural insecticides are being replaced with bio-pesticides and chemical fertilizers with compost, which keeps the soil healthy and productive. Organic cotton thus optimizes the use of

natural resources, perpetuates them and preserves drinking water. The techniques used allow an increase in agricultural production of organic cotton and other rotational crops. A change attributable to the project on the environmental level is the progressive implementation of good environmental preservation practices in the project areas.

3.7.2. Changes likely to persist after the end of the project

The analysis of the characteristics of changes made at various levels allows us to think that a number of changes will survive the project. These changes are:

The production of high-quality cotton. This change is likely to survive the project, given the actors in charge of this aspect. INERA will continue to test new seeds and seed farms that belong to UNPCB will ensure their multiplication. UNPCB will be able to continue providing training thanks to the transfer of skills it benefited from during the project.

The storage for post-production. The storage infrastructure built is a long-term investment. However, if the production of organic cotton keeps increasing, the capacity of the infrastructure will have to be increased as well.

The growing demand at the national and international levels, the expansion of the buyer network and the facilitation of market access by producers. These three changes will survive the project as long as production standards are respected. Demand will grow as long as UNPCB keeps its international certification labels. It is, however, the responsibility of UNPCB to maintain and improve the current level of organization and mobilization of organic cotton producers.

The reduction of the risks of contamination of organic cotton. The appropriation of techniques and technology by the producers guarantees the survival of this change attributable to the project. This achievement will be doubly reinforced by the securing of the storage component and by the ginning plant under construction.

The improvement of the health of the producers and the reduction of health care expenses. This change is sustainable insofar as the methods related to organic farming continue to be applied by producers.

The reduction of stress related to the acquisition of inputs. This change is guaranteed as long as producers opt for organic farming.

The economic growth and enhancement of the status of female organic cotton producers. Apart from the income related to the production of organic cotton, which can maintain these two changes, they are not guaranteed after the end of the project, as they also depend on two additional factors. The first factor is related to the access to microcredit loans guaranteed by the project, the second is the weight of hindering socio-cultural factors. Indeed, some men do not accept the financial independence of their wives for fear of losing their authority over them.

The involvement of women in community governance issues. This change can survive the project as long as UNPCB plays its part in promoting the culture of organic cotton and, most importantly, the management of women's Organic Cotton Growers' groups (GPCBs).

The progressive implementation of good environmental preservation practices in the project areas. In view of climate change issues and the policies and programs promoted by the government and other partners, this change is likely to continue and to become increasingly popular.

3.7.3. Changes in the revenue of beneficiaries and their access to market

The analysis of the change in beneficiary revenue and market access, as requested by the donor, is not available due to lack of data in the final evaluation database. The midterm evaluation report does not provide any information on the issue either.

The analysis done here presents the net average incomes of producers by cohort, gender and province.

We note that, overall, the average income obtained by producers through the production and sale of organic cotton is 72,860.51 FCFA. According to the cohort, this average income is 89,470.27 FCFA for cohort 1, 64,276.27 FCFA for cohort 2 and finally 49,065.74 FCFA for cohort 3. Therefore, we can deduce that the older the cohort, the higher the income obtained through organic cotton production.

According to gender, it appears that male producers have an income almost three times as high as that of female producers (on average 117,426.62 FCFA for men against 41,633.93 FCFA for women). This is explained by the fact that, with equal techniques applied, producers with larger acreage naturally have larger outputs and therefore higher earnings.

An analysis according to production area, or province, places the provinces of Boulgou, Ziro, and Gourma at the top in terms of income, with respective average revenues of 105,896.57 FCFA, 100,025 FCFA and 99,795.78 FCFA. On the contrary, producers in the other five provinces have incomes lower than the average income of all producers surveyed, i.e. 72,860.51 FCFA.

3.7.4. Changes in the food security situation of target areas

The analysis of the change in food security by cohort or overall in the target areas, as requested by the donor, is not available for lack of data in the database of the final evaluation (no variable). Thus, the analysis will be based on the statements made by beneficiaries during the individual interviews and focus group discussions.

The qualitative data collected shows that the producers, thanks to the rotational crops in particular, are able to ensure their households' food security: "*Because of the rotation, the cotton fields which have received organic fertilizers are used the following years to grow other cultures. This is beneficial because it increases the yields of these crops such as corn, which helps us with food security*." (Excerpt from an interview with a relay producer).

In fact, the fertilization practices required by the culture of organic cotton guarantee good yields at the level of rotational crops and consequently impacts the food security of the producers' households: "*Soils remain fertile and promote good productivity for rotational crops such as corn, millet, sorghum, and this up to three years after the use of organic manure.*" (Excerpt from a focus group discussion with organic cotton producers).

It is obvious that the project has impacted the level of food security of the beneficiaries and therefore thousands of households in the different target areas.

3.8. Lessons learned and recommendations

3.8.1. Lessons learned

A number of lessons can be learned following the implementation of the project, in particular the activities that have yielded the most satisfactory results. The main lessons learned are:

1. The longer the duration of beneficiaries' participation in the project, the greater their results in surface area farmed using improved techniques and technologies, production and productivity of organic cotton fields.

2. The provision of microcredit loans for income generating activities, coupled with the production of organic cotton, enhances the resilience of female beneficiaries.

3. The training, provided to more women than men, is not sufficient to increase the area of land planted with organic cotton or to increase their yields and, consequently, the value of their production. A gender lens must be applied, through advocating with traditional leaders and opinion leaders so that the mentalities of men and their communities evolve towards greater accessibility of girls and women to quality land. This could be done by granting common fields to women grouped in associations or organic cotton production cooperatives within localities benefiting from this type of project. Such experiences of facilitating women's access to land have broken down gender inequalities in some communities, as was the case with the Savings for Change approach developed by the Stromme Foundation in the Tahoua region of Niger.

4. The conditions for success of projects based on support to a local partner for the implementation of activities is a good strategic option, since the activities initiated under the project will continue on the ground thanks to the support of the local partner, whose capacity has been strengthened. However, to successfully implement a project based on the local partner approach, as is the case with the RECOLTE project, it would have been necessary to observe a number of prerequisites such as the prior organizational and institutional audit of the partner organization in order to have a clear picture of the capacities and competences as well as the insufficiencies and needs of the structure in terms of capacity building.

5. It is crucial to combine value chain and rotational crop concepts in the context of cash crop promotion projects for the fight against poverty. Indeed, it is risky to support producers in cash crop production, such as cotton, as most of them depend on subsistence farming, or food crop production. It was therefore essential to introduce the producers to the concepts of the value chain of cotton production, as well as to the production of rotational crops such as soybean, corn, sesame, peanut, etc. This approach aimed at preventing producers from falling into the vicious cycle of poverty.

6. The intervention strategy based on the combination of individual and collective support to cotton producers has helped to meet the individual needs of some producers as well as the needs of producer groups or cooperatives.

7. The use of fair-trade premiums for community achievements has contributed to strengthening social cohesion in some villages, giving a sense of pride to the producers of organic cotton in these localities.

8. To improve the productivity of organic cotton in a significant way, it is essential to provide producers with mass-produced organic fertilizer and credits for production, as is the case with conventional cotton producers, who benefit from equipment from SOFITEX and some advanced loans from national and international banks to the ease access to fertilizer and equipment.

9. Given the importance of organic manure in organic production, training producers on the production techniques of quality manure is insufficient. Therefore, the design of organic production projects must include a livestock component to facilitate the acquisition of animals for the production of organic manure.

10. The main reason causing producers to stop growing organic cotton is the lack of market opportunities or buyers; neither the delay in the payment of cotton purchase, nor its price, let alone the end of the RECOLTE project, constitute a sufficient reason for the abandonment of the production of organic cotton in the localities of intervention of the project.

11. The flexibility of the project has allowed the adoption of initiatives such as the International Show of Cotton and Textile (*Salon international du coton et du textile*, SICOT), which will become one of the sustainable products of the project. Indeed, the SICOT can be institutionalized like the other major economic and cultural events of Burkina Faso, such as the SAMAO, the SIAO and the FESPACO. The second edition of the SICOT is scheduled to happen in 2020.

3.8.2. Recommendations

In view of the observed results and lessons learned from the implementation of the project, the evaluation team would like to make the following recommendations:

To USDA and CRS

- Provide all the necessary technical and financial support required by UNPCB for the construction of the ginning plant, to ensure the reach of one of the key objectives of the project, which is to expand the trade of agricultural products by a) increasing value added to post-production agricultural products.
- Establish a single market access information system by experimenting with a system using functional telephone networks in Burkina Faso to make price information on organic cotton products and production available.
- Integrate a sensitive gender dimension into the project through advocacy with community leaders in beneficiary areas to facilitate access to land for female producers' cooperatives (cotton or sesame) through the provision of common fields, ranging from 10 to 15 hectares on average.
- Strengthen the partnership and work in synergy with the various stakeholders such as UNPCB, research institutes such as INERA, the MAAHA and the MCIA.

To UNPCB

- Ensure greater involvement in negotiations with the various partners and service providers for a better follow-up of the execution of activities entrusted to them.
- Develop seed farm management and monitoring mechanisms in order to ensure the sustainability of these sources of good seeds for organic cotton production, and to maintain the modernization process initiated by the project.
- Oversee the implementation of the income generating activities, trainings, equipment and marketing strategies already developed.
- Include the management of the ginning plant in the roadmap outlining the partnership with CRS. The strategy will be participatory and inclusive, so as not to disturb UNPCB's operating mode.
- Strengthen the partnership with Textile Exchange so as to ensure the continued visibility of organic cotton at SICOT.

To the government of Burkina Faso and its centralized and decentralized structures

- Consolidate the government's efforts to promote an inclusive, diversified, value-added, and job-rich national industry, by putting in place the ginning plant. The plant would be a model of industrial development focusing on the creation of income and jobs, and therefore instrumental in the fight against unemployment and the individuals' and households' vulnerability to poverty, the marketing of cotton under the best conditions, the improvement of relationships between producers and cotton buyers, reducing the time required to certify and sell organic cotton, as well as the time for seed distribution to producers by helping UNPCB to make seeds available as quickly as possible.

To organic cotton producers

- Whether as individuals or organized in groups, assume ownership of the project and actively participate in the implementation of activities, despite the difficulties and risks associated to them. This is one of the conditions to improve the well-being of beneficiaries, as the project aims at creating jobs and increasing revenue, and therefore fighting against poverty.

CONCLUSION

The RECOLTE project is significant both in terms of coverage area and projected targets. Scheduled to be implemented over a five-year period, the project aimed at reaching 10,000 producers located in the cotton producing areas of Burkina Faso, such as the Comoé, Ioba, Ziro, Boulgou and Nayala, Oubritenga, Kossi and Gourma provinces. The project sought to increase the areas planted with organic cotton, yields per hectare, value of production per hectare and improve the marketing of organic cotton. In short, the project was intended to help small producers in rural areas, women in particular, to improve their well-being through income, increasing their resilience to shocks. CRS worked in synergy with several partners for the implementation of the project, including UNPCB, Texas A&M AgriLife Research, INERA, MAAHA and MICA.

The implementation of the project experienced some difficulties both institutionally and operationally. At the institutional level, the project's beginning coincided with the 2014 popular uprising and the failed coup d'état of 2015 in Burkina Faso, which resulted in the instability of the institutions responsible for approving and validating the project document and its implementation budget. At the operational level, UNPCB experienced some internal turmoil which contributed to delaying the implementation of activities in the field.

Notwithstanding the difficulties encountered, activities were implemented and focused on strengthening 255 farmer groups and well as the management capacity of UNPCB and building linkages between UNPCB and the international market for increased organic cotton trade opportunities. A total of a dozen activities listed in the project document were implemented.

The quantitative objectives of the project in terms of number of producers to enroll, surface of areas farmed using improved techniques and technologies, rates of improved production and productivity of organic cotton fields have not been achieved. However, through the focus groups discussions and the interviews of producers, stakeholders stated that the project was satisfactory in regards to their continuing to participate in organic cotton production and their wish to continue in the future if the difficulties linked to the payment and the organic cotton ginning are solved.

Reasons behind stakeholders satisfaction include the creation of the 3 seed farms, the provision of producers in agricultural equipment, the setup of income generating activities, the construction of a ginning plant for organic cotton, the production of training materials, the training of producers and technicians in the production of organic cotton and soil fertilization in organic farms, the promotion of organic cotton through participation in fairs, and the management of fair-trade premiums.

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ANNEXES

Annex 1: Terms of reference for the final evaluation of the RECOLTE project

INTRODUCTION

The USDA-funded Food for Progress *Revenue through Cotton Livelihoods, Trade and Equity* (RECOLTE) project works to upgrade the organic cotton value chain and improve the livelihoods of vulnerable smallholder producers in Burkina Faso. Organic and fair-trade cotton commercialization represents a niche market for smallholder producers, especially women. RECOLTE targets all cotton production zones in the country in the regions of Comoe, Ioba, Ziro, Boulgou, Nayala, Oubritenga, Kossi, and Gourma. CRS has led project implementation since April 2014 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.

The RECOLTE project is valued at USD 11.8 million and seeks to benefit 10,000 producers. CRS has monetized 16,600 MT of milled rice valued at USD 9.4 million. The proceeds are used to implement the program. Additionally, CRS has used approximately USD 2 million to administer and monitor the program.

RECOLTE works with UNPCB to increase production of organic cotton in response to high demand through two Strategic Objectives (SO).

1. 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) by improving farm management.
2. 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.

Project activities focused on strengthening 255 farmer groups, increasing organic cotton production, and increasing the capacity of the National Cotton Producer's Union of Burkina in management and linking the union to the international market for increased organic cotton trade. As the organic cotton production involves rotation crops, CRS has also been promoting soy, sesame, peanut, and shea production. CRS has been linking these producers with service providers to provide intensive training and advisory support for organic cotton production. The program offers microloans to women for income-generating activities via a revolving fund. Implementing partners, the Ministry of Agriculture, and technical partners provided extension support through demonstration plots and structures, and input supply networks. A detailed activity description is in section 1.C.

The Results Framework in Annex 1 presents RECOLTE's objectives, results streams, intermediate results, and related activities.

1.A. Final Evaluation Overview

The final evaluation data collection was completed from January – March 2019. Per USDA regulations, a final evaluation report must be completed by late August 2019.

The purpose of this final evaluation is to ***assess and capture outcomes of RECOLTE project strategies and interventions and document best practices to inform future programming and wider learning***. Specific evaluation questions are presented in Section 3. EVALUATION QUESTIONS/OBJECTIVES below**.**

The data collection was performed using industry standard mixed-methods of both quantitative and qualitative data collections, including: quantitative beneficiary household survey; document review; interviews, discussions and post-evaluation workshop; and field observations. The evaluation report will use pre-post performance evaluation design, and will employ the data collected, including document review.

The evaluation report will be led by an international consultant as explained in section 5. EVALUATION TEAM.

The USDA approved and complete version of the Performance Management Plan, Baseline study, Midterm Evaluation, and Evaluation Plan will be provided to the selected evaluator. They will also receive the quantitative and qualitative final evaluation raw datasets, as well as a drafted evaluation document that will inform the final evaluation.

1.B. Background: CRS and Implementing Partners

CRS works in partnership with the National Union of Burkina Faso Cotton Producers (UNPCB) as the main implementing partner for activities. The University of Texas A&M AgriLife Research Center and the Cotton Research Program of the Institute of Environmental and Agricultural Research (INERA) provide technical support on a contractual basis to assist RECOLTE and UNPCB on the seed systems component of the project.

USDA Food for Progress is the funder of the evaluation, and will review, provide comment, and approve the final report.

Other key stakeholders RECOLTE worked with include the Ministry of Agriculture and The Permanent Secretariat for the Monitoring of the Cotton Value Chain of the Ministry of Commerce and Trade, Organic and Fairtrade certification organizations (ECOCERT, GOTS, and Fairtrade International), the SOFITEX cotton company, and USDA. CRS also maintained a strong relationship with the USAID C-4 cotton project implemented by IFDC. Final evaluation information from the C-4 project will be among the resources provided for document review.

In addition to organic cotton farmers, the above-mentioned entities are the main stakeholders the evaluation team will consider as key informants at this final evaluation, especially for the qualitative portion of the study, process and context analysis. The evaluator will review interviews with these entities, as they will be instrumental in assessing the outcomes of the RECOLTE intervention as well as potential sustainability with respect to the strength of local ownership and sustainable partnerships.

1.C. Background: Project Activities

The project has ten interventions/activities:

1. **Provide training on production of organic cotton for extension agents and producers**

CRS has worked to improve and increase the production of organic cotton by developing and conducting trainings of producers in organic cotton production. These trainings have touched 8,425 people and include topics such as the proper placement of organic fields, including the importance of maintaining the required distance from conventional or Bacillus Thuringiensis (Bt) fields; plot selection and seed preparation; managing internal controls to ensure organic standards are upheld;

composting; integrated pest management; and income diversion through rotational crops other than cotton.

CRS has set up 229 demonstration field plots throughout the project zone to reinforce these trainings. CRS selected lead producers and has arranged for them to host training visits for new producers of organic cotton and follow-up training for existing producers, showing best practices in organic production. CRS has recruited additional zone managers and field agents in order to mobilize and train new producers in the organic program.

2. **Provide training on improved organic cotton farm management for extension agents and producers**

CRS has trained 8,467 individuals in improved farm management practices, counting field agents and zone managers, who have then trained producers, in improved farm management practices. These trainings include the collection and management of production data, such as cotton and rotational crop production, yield, area planted, and global positioning system (GPS) usage. The trainings also include instruction on how to report the data required for organic and Fair-Trade certification.

3. **Facilitate organic and Fair-Trade cotton certification process for UNPCB**

CRS has trained its staff and the organic cotton producers in topics such as the organic and Fair-Trade certification process, rotational crop standards to maintain the organic cotton certification, Global Organic Textile Standards, and best practices. At project initiation, CRS provided organic cotton certifiers, such as EcoCert, with a list of new and existing organic cotton fields in the project area to establish a schedule for production and processing inspections. CRS has also assisted the producers in preparing and maintaining the internal control documents that are necessary for certification. CRS has trained agents in each project zone in the proper procedures for conducting the Quick Test for Bt at the point of cotton collection and weighing before the cotton is shipped to the gin.

4. **Develop cooperative business capacity for UNPCB, extension agents, and producers**

CRS hired a Senior Business and Cooperative Management Technical Advisor, who was be based in Bobo-Dioulasso, for the first three years of the project. This advisor strengthened the management, finance and operations systems of the National Union of Burkina Faso Cotton Producers' Organic Program Management Team, as well as developed a new five-year business plan for increased programming investments during the project and beyond. Over the course of the project, 42 management staff have received training in management, finance, and operations.

5. **Develop business services providers for UNPCB, extension agents, and producers**

CRS has strengthened the input supply for organic seeds by working closely with seed farms and seed input providers. CRS has established three organic cotton seed multiplication farms, in the regions around Banfora, Fada, and Ziro, that plant cotton and rotational crops. The farms are owned and managed by the National Union of Burkina Faso Cotton Producers (UNPCB). CRS has provided funds for required inputs for the farms, including one borehole per site, and have used GPS mapping to ensure that the seed farms adhere to organic farm zoning regulations. CRS has also provided technical guidance for the seed farms and trained the seed farm managers in organic cotton seed multiplication systems, seed farm management, and testing to detect and prevent genetic drift.

CRS is working with the Institute of Environmental and Agricultural Research (INERA) to establish a test plot and laboratory to multiply organic cotton foundation seed in order to ensure an adequate supply of certified seed annually. CRS has facilitated organic certification of seed farms through EcoCert and trained seed farm staff regarding the internal controls necessary to ensure organic certification of the seed farms. CRS has linked cotton producers to organic cotton seed producers each season and supply seed for rotational crops, which include ground nuts, sesame, and a cereal, typically sorghum, maize, or

millet.

6. **Improve post-production, processing, and handling for UNPCB, extension agents, and producers**

Under this activity, CRS will procure and install a dedicated organic cotton gin, which will facilitate processing of organic cotton in a timely fashion. CRS has trained field agents and zone managers, who will then train producers, in improved post-production processing and handling for rotational crops. CRS has trained 209 people involved in ginning, such as: the head of the Sofitex cotton ginning factory, shift managers, and workers. The themes focused on improved cotton ginning and storage standards and provide them with updated Sustainable Compliance Initiative tools as they become available and as new standards take effect. CRS has created a standards team within Sofitex to ensure that the standards are followed throughout the entire ginning process. CRS has also provided the gin with the locally-produced FASOPLAST bags for the cotton bales. In addition, CRS has selected rotational crops for promotion after considering their contribution to soil quality, cultural acceptability, and hardiness against pests, and the participation of women in their cultivation.

7. **Financial services: facilitate agricultural lending for UNPCB and producers**

CRS has established a loan guarantee fund with an anticipated average of $250 per loan to facilitate producers' access to micro-finance services. CRS works with the National Professional Association of Decentralized Financial Systems of Burkina Faso to identify a financial institution to manage the fund.

CRS works with this institution to establish training on administration of the new fund and management parameters for new agricultural loan products; to determine how to manage the application and assessment process; and to facilitate linkages with micro-finance institutions (MFI)s with branches in the target zones. CRS continues to assist producers' groups with loan applications, and the MFIs in the loan assessment process, throughout the life of the project.

CRS developed improved agricultural loan products by working with MFIs to assess current financial products and design appropriate financial products for organic cotton farmers, both as individuals and as cooperative groups. CRS emphasizes the importance of savings as part of an organized financial approach, followed by appropriately sized loan principals, reasonable loan terms, documentation and collateral, and installment payment requirements that match the cash flow of the investment. CRS has also trained MFI staff regarding the products and customer service practices specific to the needs of organic cotton producers. CRS links producers to existing micro-insurance options.

Additionally, the Columbus Foundation has contributed $140k to a revolving fund that is available to women organic cotton producers. For purposes of fund management, women's associations have been created out of organic cotton producer groups that have more than 10 women participating, resulting in 115 women's associations. There are 2,272 loans currently, at a value of 77 million FCFA, the average loan is 33,890 FCFA, or about $64. The fund is earmarked relative to the

number of women in each association to ensure equitable access. The loans are granted after a participating woman successfully completes an application process facilitated by UNPCB and CRS.

8. **Improve market linkage for increased trade in organic cotton for UNPCB**

CRS works to ensure that producers are aware of available systems for obtaining market information and will encourage producers to access and use this information. These include established internet information and Information and Communication Technology (ICT) platforms, such as the Global Organic Cotton Community of Practice and the government food security information system. CRS has informed the producers that these systems are able to receive requests for market information from beneficiary producers in all project zones and respond to them by SMS and voice messaging in the local language.

9. **Facilitate policy and regulatory dialogue on organic cotton for UNPCB, government of Burkina Faso, private cotton sector**

CRS works to facilitate and participate in national and regional policy dialogues among producers, CRS staff, and government officials regarding organic agriculture and fair trade, focused on promoting the sector and gaining government recognition. The dialogues will include subjects such as genetically modified organism (GMO) contamination and zoning; sector promotion, both internally and externally; certification options and cost efficiency of the current structure; land tenure and use; pricing transparency; scientific research; soil fertility; and land and water quality. CRS has organized four one day roundtable sessions to facilitate discussion and strategic planning on how to contribute to positive policy outcomes for the organic cotton sector. The round tables have facilitated discussion on soil fertility, research findings on organic cotton production, certification, and local cotton processing.

10. **Gender and child labor prevention awareness for UNPCB, extension agents, and producers**

CRS has conducted a three-day training session to promote increased women's participation in the organic cotton sector. The training included discussion of barriers to women's participation, household decision-making, and access to and control of household resources. In addition, CRS will review and update existing training materials on prevention of child labor and then train zone managers, field agents and farmers on this topic.

1.D. Background: Monitoring, Evaluation, Accountability and Learning (MEAL) and Evaluation Plan

For the *RECOLTE* Project, CRS established a MEAL system that yields timely information on implementation progress against annual work plans, progress towards achieving performance indicators' results targets, changes in program opportunities and risks, and on the impact of program activities on farmers' groups and entrepreneurial women's status and success. It was also used for communicating and reporting progress to USDA and Global Organic Textile Standards (GOTS) as appropriate.

Through the *RECOLTE* Evaluation Plan, CRS conducted baseline and annual outcome surveys. An independent evaluator conducted the midterm evaluation, and the final evaluation will follow suit. Special studies such as a soil analysis at baseline, and a cost-efficiency and political feasibility study on a small organic gin were conducted.

Project monitoring included collecting data on USDA-required standardized indicators. Data collected on defined indicators tracked progress towards achieving final results and strategic objectives to determine the effectiveness of program activities.

1.E. Background: Context and implementation-related issues

Major issues that influence project implementation and have occurred after the start of the project (overall political situation, management issues and changes in UNPCB's business model) will require specific attention in this evaluation.

Timeline of RECOLTE Challenges

Although the RECOLTE agreement was officially signed on September 27, 2013, actual implementation started April/May 2014, after negotiations on the monetization plan were completed. This effectively cut seven to eight months out of the project's first fiscal year.

In October of that same year (2014), a popular uprising resulted in the resignation of the President, followed by a transitional government. An attempted coup d'etat the following September was thwarted, and the transitional government reinstated, but not before several weeks of civil disobedience, limited civilian movements, and a general strike. Peaceful presidential and parliamentary elections were held in November 2015 and the newly elected President took office at the end of December 2015. Two weeks later, Burkina Faso experienced its first major terrorist incident in the capital city, accompanied by the kidnapping of two foreigners in the north of the country and a strike on a border patrol. All of these events have impacted the operational environment for CRS and its partners at various points.

Following the former President's resignation in October 2014, workers in several state-owned companies started protesting to request the removal of the leaders, accusing them of mismanagement or being too close to the former regime. The UNPCB did not come away unscathed from this development and saw a number of internal protests.

Critical Assumptions to Consider for Final Evaluation

It is important that this study carry out a thorough context analysis to assess how many of the project's critical assumptions have been called into question, and what the potential impact may be on the project.

Although the hypothesis used during project design supposed that farmers enrolling in the organic program will permanently stay, it appears that this is not the case, but rather farmers decide whether to produce organic cotton and engage in the project or not on an annual basis, meaning that in any given year there have been farmers joining, leaving, or returning to the program. This hypothesis shaped the design of service delivery (number of trainings planned, distribution of equipment). This situation also impacts project targets in terms of the number of farmers who will be ultimately reached, and for how long. The final evaluation will assess and determine the effects of this important change in farmers' enrollment on project implementation and relevant services. This will be part of the process analysis.

Another important assumption was that new farmers enrolling in the project will create new groups that will stand alone and work on their own. Standalone groups of new farmers are important for the cohort study that are part of the RECOLTE evaluation methodology. The evaluation team will not only assess the effect of this assumption on service delivery but will take it into account in their methodology for this evaluation.

Additional Questions to Consider

The final evaluation will need to take certain questions related to UNPCB's situation in 2014 into account, for example: How was UNPCB's overall management affected? Where does the issue stand; has it been resolved or is it still ongoing? Was the RECOLTE project affected, and if so, to what extent?

Another important question that will stand out in this evaluation is the transition to a different business model that UNPCB started during the 2016 planting season. After losing its sole buyer for organic cotton, UNPCB must now attract new buyers and secure new deals. It has been clear that the previous arrangement is unlikely to be replicated, which raises additional questions concerning the sustainability of the project with fewer buyers and a lower price.

Feedback on the mid-term evaluation requested that the final evaluation evaluate the use of FairTrade premiums by producer groups. As a rule, FairTrade premiums must be reinvested into community development, and each group receives an amount relative to their production. If possible, it would be interesting to systematically document and report on these community benefits across the project area.

2. PURPOSE OF THE EVALUATION

2.A. Purpose of the Evaluation

The overall purpose of the final evaluation is to ***assess and capture outcomes of RECOLTE project strategies and interventions and document best practices to inform future programming and wider learning***. It will assess whether the project has achieved the expected results as outlined in the results framework. **The final evaluation will assess areas of project design, implementation, management, and lessons learned. It will provide lessons learned and recommendations for program participants,** USDA and other key stakeholders for future programs. The final evaluation will focus on relevance, effectiveness, efficiency, impact and sustainability.

2.B. Key Audiences and Uses

CRS will ensure that key stakeholders who have interests in the project are involved in the evaluation process. They will also participate in the discussions related to corrective actions to be taken to address evaluation findings and recommendations.

Stakeholder Interest Interviewed for Final Evaluation

1. Government of Burkina Faso- Ministry of Agriculture and Water, Ministry of Commerce and Trade

Contribution of the project towards the government's priority to increase the volume of export cotton products

Yes

2. INERA

Contribution of the project towards increasing expertise in seed production and multiplication, and capacity to test organic products

Yes

3. UNPCB

Contribution of the project towards strengthening managerial and financial capacity, and their members' production capacities

Yes

4. Producers

Contribution of the project in increasing their revenue

Yes

USDA

Major accomplishments and challenges; accountability to US Government and American people

No – needs to be interviewed

USAID

Accomplishments and challenges, lesson learning, coordination with USG investments

No

United States Department of Labor (USDOL)

Findings relating to child labor issues

No

5. Texas A&M AgriLife Research

Experience sharing and learning

Yes

CRS

Appreciating accomplishments and challenges; learning lessons; improving linkages with the Government of Burkina Faso and relevant Ministries; compliance to USDA reporting and accountability requirements

No – needs to be interviewed

3. EVALUATION QUESTIONS

Broader evaluation questions approved by USDA under the Evaluation Plan are:

This evaluation will measure progress against stated goals, objectives and targets against baseline values following these criteria: 1) the relevance of all interventions, 2) the effectiveness of implementation strategies and activities, 3) the efficiency of the project and, 4) the likely sustainability of project outcomes and 5) the impact (induced effects) of initiated actions.

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. Key questions to be addressed are the following:

- Are the activities and outputs of the project consistent with the overall goals and the attainment of its objective?
- Are the activities and outputs of the project consistent with the intended impacts and effects?

- Does RECOLTE meet the organic cotton producers' and Burkina Faso's organic cotton sector development strategies' and government priorities?
- Is the RECOLTE project relevant as is given the current economic, cultural and political context?
- Are stakeholders (organic cotton producers, local authorities) satisfied with their participation in the project? Why or why not?
- Does the project align with government policies and programs (local, national)? Does the project align and complement other donor, other NGO and/or local organization-managed programs?
- How have the management structure and buyer transitions for UNPCB affected the RECOLTE project design, implementation and assumptions? What are the additional activities that would need to be created/strengthened to support this transition? Is UNPCB is staffed to take care of the additional work they have to in the organic cotton supply chain? What are the needs in terms of additional funding/investment to allow for smooth transition? What role can the RECOLTE project play to further support UNPCB?

Effectiveness is determined by the extent to which the project has achieved its objectives. Key questions to be addressed are the following:

- To what extent were the objectives of the project and the yearly benchmark indicators achieved/are likely to be achieved? (the table listing all of the questions related to project indicators is attached to the TOR in Annex 3)
- Were the implementation strategies effective enough to improve income, economic prospects, especially for women, increase agriculture productivity and expand trade of agriculture products?
- What are the project's major limitations?
- Is the staffing structure and capacity sufficient and appropriate? Is the coordination mechanism effective?
- Has program implementation been effectively monitored? How well did the monitoring and evaluation mechanism in place help the implementation of the project?

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. Key questions to be addressed are the following:

- Were activities cost efficient?
- Were objectives achieved on time?
- Was the project implemented in the most efficient way compared to alternatives (Value for Money)?
- What risks has the project faced and what has been done to mitigate their impact?

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. Key questions to be addressed are the following:

- What activities and/or outcomes (both expected and unexpected) of the program are likely to be sustained? What evidence is there to suggest this?

- What is the level of ownership acquired by the stakeholders? Is it conducive to proper project implementation? Are the benefits likely to be sustained after the end of the intervention?
- What are the major factors that can influence the sustainability of the project intervention?
- What strategies used will obtain long-lasting support from communities and local/central administration that goes beyond the duration of the project?
- How have producers used their Fair-Trade premiums to invest in community development?
- What are the relevant systems at the village and commune levels for protecting against catastrophic events? How functional are they?

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. Key questions to be addressed are the following:

- What are the major changes attributable to the RECOLTE project in terms of UNPCB's management and cotton production?
- How are these changes affecting the well-being of the project participants and their families?
- Are these changes likely to last after the end of the RECOLTE project?

An assessment of events and coping strategies related to disaster risk reduction is also included as follow-up to data collected at the baseline. This is to determine CRS's contribution to resilience initiatives in the Sahel:

- What are the natural, political and climactic events that have impacted the well-being of households and communities? (How long ago, what was the impact?)
- What are the current resilience capacities of RECOLTE households and communities (in terms of existing protections and buffers against shocks, including mitigations and adaptive strategies) (by cohort)?
- How did the household cope, how well did the household recover, who in the household was most affected (by cohort)?

Based on the findings of the midterm evaluation, the consultant and CRS will validate or modify the above questions to ensure the most relevant questions are evaluated. Additional questions that may be included are:

- What is the change in beneficiary revenues and in their access to markets (by cohort)?
- What is the change in food security (by cohort) in target areas?
- What was the government's support to the project?
- What is the degree of ownership by the project's beneficiaries and by UNPCB?

Draft topical questions specific to project objectives and results are presented in Annex 3, which would be discussed and finalized with selected external consultant and approved by USDA.

4. EVALUATION METHODOLOGY

4.A. Approach for the evaluation report conception and analysis

USDA and CRS have been looking a international firm for the final evaluation report; As clearly mentioned in the ToR, The final evaluation report will need to use quantitative and qualitative data

analysis to report on the outcomes and lessons learned for the RECOLTE project. For this, the evaluator will use mixed quantitative and qualitative data to assess the RECOLTE project relevance, effectiveness, efficiency, sustainability and impact. The evaluation report should take into account both type of evaluation which are summative and formative. This means the report should Both provides information on the implementation of the project and also show up the effects of the intervention, with a view to deciding whether to maintain, to transform or to stop such as project. In clear the report should raise up some information and learning lessons about the project. The report should consist measuring the performance of the project throughout three types of comparative analysis.

- by stage between the results generated by the project at the final evaluation compared to the baseline results
- By gender with the desegregation of data between women and men on the one hand, and between adults and youth on the other hand
- By cohort as the project beneficiaries were involved by cohort, the evaluation should show clearly how the project impacted each cohort at what level regarding the time allocated to each cohort. The Cohort comparison will allow a coherent analysis of results between the first cohort (farmers enrolled at baseline), the second cohort (farmers enrolled after baseline), the third cohort (farmers enrolled after midterm) in alignment with the monitoring process of the project and performance evaluation.

The final evaluation report will also use the descriptive statistical analysis. However, to sustain the analysis of the different criteria of evaluation, which are requested, the evaluator should will exploit the qualitative data from the key informant interviews and the focus groups discussion. The quantitative data shall be cleaned before the use. As far as the qualitative data is concerned, it will be anonymous: no sign or no indication will be mentioned in the report that can help identifying the targets and the source of the declaration or the witness.

The report will be made up with tables and graphics but also with verbatims.

Overall the summative approach for the final evaluation will allow to seize the performance by stage, gender and cohort. The changes will confirm the performance or not of the project especially through its impact, effectiveness and efficiency. The performance evaluation analysis will allow to appreciate the project performance among similar groups of farmers, such as the rate of changing production, the revenue, the adoption of new techniques and technologies, the amount of cotton yielded.

For the formative aspect, the evaluator will put up all the information and data related to the project implementation, the context and the social, economic and security environment and how the context and the environment affected the project outcomes in terms of quality of services and accessibility of these services to project beneficiaries. This includes project efficiency and challenges in delivering these services. The context analysis will capture changes in the project environment (political, organizational, and socioeconomic) and their effect on project outcomes. As indicated in the ToR, most of this information is available in the raw qualitative data that will be provided to the selected consultant.

The data cleaning and analysis before tables and graphics production

As mentioned, the quantitative end line data that will be provided by USDA and CRS; The data will be provided in raw format. The data will be cleaned after their exportation on SPSS 24. The data cleaning will be consisted in verifying the filling of questionnaire to detect some errors or

aberrant data in the database. The data cleaning is prior to any use or production of tables and graphics. The cleaning will be proceeding by 4 steps. The first level of cleaning will be to identify the missing data or Information in the surveys filling. The second level of the cleaning is to notice or detect the inconsistent data or aberrant data in the database. This level is required to be sure that the indicators that are produced will be reflecting the reality and can be compared with the different data or indicators produced at the different evaluation stages of the project (baseline, midline and end line).

At the end of data cleaning, the statistician will start producing the codebook and all the syntaxes that will be programmed for the tables and graphics production for the use of the analysis

About the key informant interviews, and focus group discussions, including implementing partner staff should specifically include women, youths, the elderly and people with disabilities. The evaluator will take the measures to ensure that the key informant interviews and focus groups discussions respect this criterium.

The evaluator will also conduct some complementary qualitative data collection with relevant CRS and USDA staff to complete the qualitative data collection for this evaluation.

The use of the qualitative data will be made through the triangulation with the qualitative data and the quantitative data collected. The triangulation of data will help in the analysis to get or to better master some findings noted through the quantitative data.

4.B. Evaluation Report

Report shall be presented in the following template maximum in 40 pages, excluding appendices.

- A title page
- A list of acronyms and abbreviations
- A table of contents, including a list of annexes
- An executive summary
- An introduction describing the program's background and context
- A description of the program, including the results framework or theory of change
- A statement of the purpose of the evaluation
- Key evaluation questions or objectives and a statement of the scope of the evaluation, with information on limitations and delimitations
- An overview of the evaluation approach and methodology, including evaluation design limitations, and data sources
- A description of the evaluation findings
- Recommendations based on the evaluation findings
- Lessons learned and good practices based on the evaluation findings
- Appendices

Additionally, the report will be made public, per USDA's M&E policy. The selected evaluator is required to provide a version of the report that is free from personal identifying information.

4.C. Dissemination Plan

STAKEHOLDER

KEY FINDINGS

CHANNEL(S) OF COMMUNICATION

PRODUCT(S) TO SHARE

USDA

· Quality of service

· Project outcomes

· Sustainability

· Lessons learned

· FE report

· FE Report

· PowerPoint slide

· 3 to 4 page summary

USAID

· Project outcomes

· Sustainability

· Lessons learned

· FE report

· Abstract

USDOL

· Lessons learned on child labor

· FE report

· PowerPoint slide

RECOLTE implementing partners

· Quality of service

· Project outcomes

· Sustainability

· Lessons learned

• Dissemination meeting

· FE report

· PowerPoint slide

· Abstract

· 3 to 4-page summary

Government of Burkina Faso, private sectors, Ministry of Agriculture and Water, Ministry of Commerce and Trade, Financial Institutions

· Quality of service

· Project outcomes

· Sustainability

· Lessons learned

· Dissemination meeting

· FE Report

· Abstract

· PowerPoint slide

· 3 to 4-page summary

Communities/main beneficiaries

· Quality of service

· Project outcomes

· Sustainability

· FE Report

· Abstract

· PowerPoint slide

5. DELIVERABLES AND TIMELINE

The Final Evaluation draft is scheduled to take place from June to August 2019. The following table indicates deliverables and indicative timeline that will be finalized with the selected consultant.

FINAL EVALUATION DELIVERABLES

TIMELINE

PAYMENT SCHEDULE

Draft of ToR for FE

June

Hiring of Consultant

June/July

PowerPoint, Abstract, Analysis and Draft Report

August

TBD

Dissemination

September

Final Report

End of August

TBD

The following table outlines details to the deliverables and estimated time for consultants to provide specific dates to complete the deliverables as per the above overall timeframe of the final evaluation.

DELIVERABLES

ESTIMATED NUMBER OF DAYS NEEDED TO COMPLETE

TARGET DATES TO COMPLETE

Document review completed

3 days

June

Data analysis plan for both quantitative and qualitative studies submitted and revised

3 days

June

Data analyzed

7 days

June/July

Draft report completed

10 days

Early August

Draft review by CRS

10 days

August

Final report completed with 3 to 4-page non-technical summary and submitted to USDA

10 days

End of August

Results dissemination meeting with stakeholders

1 day

September

Datasets, codebooks, syntax or do files and recordings and transcripts/notes submitted

Same day as results dissemination

September

TBD: Detailed timeline of activities shall be worked out with the consulting firm before signing the agreement.

6.ETHICAL CONSIDERATIONS

The evaluator is expected to follow American Evaluation Association's Guiding Principles for Evaluators (http://www.eval.org/p/cm/ld/fid=51). In addition,

- **Dependent upon participants in the evaluation, consultant should specify steps that will be taken to ensure informed consent, confidentiality, and protection of minors.**
- Consultant should specify steps taken to safeguard data collected and data management procedures to be used in the evaluation.
- Final reports must not contain any propriety or personally identifiable information (PII). PII is any information that directly or indirectly identifies an individual. This information can be used on its own or with other information to identify, contact or locate a single person, or to identify an individual in a specific situation. This may include, for example, a name, national ID number, address, birthplace, etc. PII includes both direct and indirect identifiers that, when taken together, could allow for identification of an individual (such as a village name, gender, age, name, and/ or facial image)."
- In addition, final reports should not allow for the identification of individual schools or communities. Any list of schools or communities provided should be included as in the report annex, so that it can be easily removed before submitting to USDA for external sharing.
- Consultant(s) should obtain permission from CRS before sharing the final evaluation report with any external party, including posting it to their organization's website.

7.PROPOSAL SUBMISSION

Each proposal must include technical proposal and financial offer to be considered.

Technical proposal should include:

- A note acknowledging understanding of the TOR and any proposed amendments to the TOR;
- Proposed methodology to be used to undertake the final evaluation that describes data analysis;
- Detailed tentative work plan with a description of the roles and responsibilities of each team member of the consulting team;
- Current detailed resumes of consultants that will be involved in this evaluation;
- Three references of current or recent clients including telephone number and email addresses of clients' point persons;
- Copies of references (if available) demonstrating good execution and /or services in similar evaluations;

- Valid administrative identification for the consultants or office (with complete address) (State registration/ fiscal situation) for official registered companies;

Financial proposal:

- Detailed financial bid in USD, covering all the costs related to the evaluation.

Proposal submission deadline

The deadline for the submission is July 3rd, 2019 at 5 PM (GMT).

About the Organization

CRS staff, alongside our partners and the people we serve, work daily to bring our mission and guiding principles to life. We share our stories of hope, compassion and solidarity to inspire others to join us in creating a more just and prosperous world for all.

Annex 2: RECOLTE project actual beneficiary numbers (cumulative)

Zones	Baseline (2013)	Year 1 2014-2015	Year 2 2015-2016	Year 3 2016-2017	Year 4 2017-2018
Comoe	316	263	293	231	415
GPCB[1]		22	22	24	27
Men		112	127	147	140
Women		151	166	84	275
Ioba	995	599	718	709	805
GPCB		44	49	40	46
Men		510	638	182	541
Women		89	80	527	264
Gourma	1,794	1,905	1,576	1,386	1,014
GPCB		36	42	40	40
Men		1,244	1,023	503	627
Women		661	553	883	387
Ziro	668	931	1,192	850	1,198
GPCB		17	23	27	29
Men		496	603	450	451
Women		435	589	400	747
Kossi	N/A	N/A	N/A	215	302
GPCB	N/A	N/A	N/A	6	7
Men	N/A	N/A	N/A	60	174
Women	N/A	N/A	N/A	155	128
Boulgou	2,793	3,424	2,709	1,724	2,569
GPCB		58	58	62	67

Men		2,013	1,503	520	1,108
Women		1,411	1,206	1,204	1,461
Nayala	393	1,121	1,645	1,362	1,613
GPCB		11	14	19	27
Men		169	248	221	345
Women		952	1,397	1,141	1,268
Oubritenga	135	239	249	329	465
GPCB		7	7	8	12
Men		84	99	227	147
Women		158	150	102	318
Total	7,094	8,319	8,382	6,806	8,381
GPCB		195	215	236	255
Men		4,628	4,241	3,230	3,533
Women		3,857	4,141	3,576	4,848

[1] Organic Cotton Producer Group (*Groupe de producteurs de coton biologique*, GPCB)

Annex 3: RECOLTE project performance monitoring plan

Burkina Faso CRS RECOLTE PROJECT Performance Monitoring Plan							
Performance Indicator		**Data Acquisition**				**Analysis, Use & Reporting**	
Intermediate Result / Output	**Indicators / definition**	**Sources of Information**	**Method / Approach of Data Collection and Data Entry (if indicated)**	**Schedule / Frequency**	**Responsible Person(s) & Team**	**WHY**	**WHO**
FFPr SO 1: Increased Agricultural Productivity							
Value of production per hectare	Sum of value in FCFA divided by total area of production per hectare; disaggregated by province, gender, and crop Unit will be FCFA/ha, disaggregated by sex and zone	Baseline, midterm, and final evaluations, Annual sales monitoring reports, data collection sheets	Regular field monitoring and regular surveys Each farmer's production will be sold and recorded on the data collection sheets and stored in a data base	Annually, to capture the value of product sales for each farmer targeted by project.	Baseline survey & annual reports: CRS and consortium partners; Mid-term and Final evaluations: independent third party and CRS. Data collection sheets: field agents	Program Quality Impact assessment Progress monitoring and program management	CRS (national and regional staff), partner staff, producers, and donor
FFPr 1.1 Improved Quality of Land and Water Resources							
Percentage of ha in the target area in accordance	Soil composition of organic cotton fields will be measured in TBD	Baseline Study, Mid-Term Evaluation,	Testing of soil samples in BUNASOL	Collect and send soil samples for analysis at	Baseline study and annual report: CRS and partners, mid-term evaluation:	Ensuring the quality of the program, monitoring of	CRS (national and regional staff), partners,

with the recommended level of soil fertility (TBD standards)		Final Evaluation, Annual Reports, Laboratory Analysis Reports	laboratories in Burkina Faso	baseline, mid-term and final evaluation	independent consultants and CRS Data collection sheets by agent,	performance and management	producers and the lessor
FFPr 1.2 Increased Use of Improved Agricultural Techniques and Technologies							
Number of ha where techniques or technologies are used as a result of USDA assistance	Area (in hectares) cultivated using improved techniques and technologies as a result of USDA assistance disaggregated by province by sex, by crop.	Baseline Study, Mid-Term Evaluation, Final Evaluation, Annual Reports, Laboratory Analysis Reports	Each officer will use the data collection sheets to collate information on all organic cotton and rotational crop producers in the program collection figures during baseline, mid-term and final evaluations will make it possible to carry out checks on the figures of the routine monitoring system	Annually, during the rainy season	Baseline survey and annual reports: CRS and its partners; Mid-term and final evaluations: independent consultant, CRS and its partners. Data collection sheets by agent	Ensure the quality of the program, the monitoring of performance and management	CRS (national and regional staff), partners, producers and the lessor

Number of producers and others who have used new techniques as a result of USDA assistance	Number of organic cotton farmers and others using improved techniques and technologies as a result of USDA assistance, disaggregated by province by sex, by crop	Baseline Study, Mid-Term Evaluation, Final Evaluation, Annual Reports, Data Collection Sheets	Each officer will use the data collection forms to collect information on all organic cotton producers in the program. The numbers of the collection During the baseline, the mid-course and the final evaluations will make it possible to make checks on the figures of the routine monitoring system	Before the beginning of the field work, during the preparation of the production units, the sowing, the growth of the crops, at the harvest and during the period of storage of the production	Baseline study and annual reports: CRS and partners, mid-term and final evaluation: external consultants and CRS. Data collection sheets by agent,	Ensure the quality of the program, the monitoring of performance and management	CRS (national and regional staff), partners, producers and the lessor
FFPr 1.3 Improved Farm Management (Operations, Financial)							
Number of producers who have received USDA	Number of producers who participated in Enhanced Production Unit Management	Attendance Lists at Training Sessions	Total number of beneficiaries who attended at least one	Data will be collected at each training session and completed	Baseline study and annual reports: CRS and partners, mid-term and final evaluation:	Ensure the quality of the program, the monitoring of performance	CRS (national and regional staff), partners, producers and the lessor

training in improved production unit management (eg governance, administrative and financial management)	Training including Operational Management and Financial Management. The unit of measure is the number of producers by sex and by zone.	Baseline Survey, Mid-Term Evaluation and Final Evaluation Annual Reports	training session.	and processed by quarter.	independent consultants and CRS. The lists Waiting : Field Agents	and management	
Number of producers who have applied improved management practices (governance, administrative and financial management)	Number of beneficiary producers who have applied at least one improved technique in farm management and financial management. The unit of measure is the number of producers disaggregated by sex and area.	Field officer reports Surveys of producers during the baseline assessment, the mid-term evaluation and the final survey Annual reports	During baseline, mid-term and final evaluations, producers will be surveyed and the respondent% will be calculated.	Field Officer Reports: quarterly Producer survey: 3 times during the life of the project. Annual reports: annually	Baseline study and annual reports: CRS and partners, mid-term and final evaluation: independent consultants and CRS Field Officer Reports: Field Collectors and Monitoring and Evaluation Officer	Field agent reports: monthly Farmer surveys: 3 times over life of project Annual reports: annually	CRS (national and regional staff), partners, producers and the lessor
FFPr 2.1 Increased Value Added to Post-Production Agricultural Products							
Number of jobs created through	N / A	N / A	N / A	N / A	N / A	N / A	

USDA assistance[2]							
FFPr 2.2 Increased Access to Markets to Sell Agricultural Products							
Number of countries to which selected agricultural production ar e exported	Number of countries to which selected agricultural products are exported	Copies of the signed agreements	Information will be collected and summoned by the UNPCB and the total number of agreements will be calculated.	Annually	CRS and its Info Partner	Ensure the quality of the program, the monitoring of performance and management	CRS (national and regional staff), partners, producers and the lessor

[1] This indicator is not monitored within the project.

Annex 4: RECOLTE project performance indicators and achievement of key outcomes

	Performance Indicator	Baseline	Target (Life of Project)	Achievements to date	% Achieved
FFPr SO1: Increased Agricultural Productivity					
2	Value of production per hectare	52,000	195,000	123,825	63.5%
FFPr 1.1 Improved Quality of Land and Water Resources					
1.1	Percentage of ha in the target area in accordance with the recommended level of soil fertility (TBD standards)	78.57	80	-	0%
FFPr. 1.2: Increased Use of Improved Agricultural Techniques and Technologies					
1.6	Number of ha where techniques or technologies are applied as a result of USDA assistance	0	6,000	4,772.5	79.5%
1.7	Number of producers and others who have applied new techniques as a result of USDA assistance	0	8,000	8,379	104%

FFPr 1.3 Improved Farm Management (Operations, Financial)					
1.8	Number of producers who have received USDA training in improved production unit management (e.g. governance, administrative and financial management)	0	10,000	8,467	84.6%
1.9	Number of producers who have applied improved management practices (governance, administrative and financial management)	0	7,000	8,379	119.7%
FFPr 2.1 Increased Value Added to Post-Production Agricultural Products					
1.11	Number of jobs created through USDA assistance	0	2,500	2,500	100%
FFPr 2.2 Increased Access to Markets to Sell Agricultural Products					
1.12	Number of countries to which selected agricultural production are exported	1	1	4	400%

Annex 5: Questions specific to project objectives and results

Strategic Objectives and Results	Key Questions	Source	Type of Information
FFPr SO1 Increased Agricultural Productivity	What is the average crop yield by cohort of farmer? What percent of producers have increased their yield (by cohort)? What is the average surface area cultivated per farmer (by cohort)? What is the average value of the production per hectare (by cohort)? What factors contributed to this value? How has increased agricultural productivity affected producer living conditions?	Producer, MEAL Team, MEAL records, UNPCB, ATBs, CZ, RECOLTE project staff	Quantitative Qualitative
FFPr 1.1 Improved quality and land and water resources	What is the soil quality in the project target area? What percent of cultivated land (in ha) meets soil quality standards (by cohort)?	Soil analysis	Quantitative
FFPr 1.2 Increased Use of Improved Agricultural Techniques and Technologies	How many producers have used the new techniques and technology (by cohort)? To what extent have these new and improved agricultural technologies been adopted (measured in ha by cohort)? What are the advantages and the limitations of using them?	Producers, ATBs, CZs	Quantitative, Qualitative
FFPr 1.2.1 Increased Availability of Improved Inputs	What is the availability of certified organic cotton seed by province? Were seeds available on time and in sufficient amounts? How much was available? What is the yield (MT/ha) (by cohort)? What percent of seed needs were met by seed production?	INERA, UNPCB, ATBs, CZs, RECOLTE project staff, farm managers	Quantitative
FFPr 1.2.2 Improved Infrastructure to Support On-Farm Production	How many warehouses meet storage standards? What is their total storage capacity? How many farmers have access to quality/effective off-farm storage (by cohort)?	UNPCB, ATBs, CZs, producers, RECOLTE Project staff	Quantitative
FFPr 1.2.3 Increased Use of Financial Services	What percent of producers have access to, and use, financial services (by cohort)? How many loans have producers received, and how much are those loans worth (by cohort)? What is the loan repayment rate (by cohort)?	RECOLTE Project staff, UNPCB, producers	Quantiative
FFPr 1.2.4 Increased Knowledge by Farmers of Improved Agricultural	How many producers have received training on using new techniques and technologies (by cohort)? What percent of producers can explain the key uses and benefits of the new crop rotation techniques (by cohort)? What percent report	UNPCB, RECOLTE Project staff, producers	Quantitative

Techniques and Technologies	having used new techniques and technologies? (by cohort)		
FFPr 1.3 Improved Farm Management (Operations, Financial)	What percent of producers have received training on improved farm management practices (by cohort)? What percent of producers have applied improved farm management practices (by cohort)?	Producers, UNPCB, RECOLTE project staff, M&E records, ATBs, CZs	Quantitative
Foundational Results	What are the membership trends in targeted producer groups? How many groups are using new technology or management practices? If so, to what extent? If not, why not? To what extent are producers using market information? How many private sector institutions are supporting agricultural productivity (in-kind or monetary support)? What is the nature and extent of that support? What are the budget/revenue values of targeted producer associations and cooperatives? Has the use of market information contributed to improving producer sales revenue? If so, how much? What were the main sources used? What are the barriers to accessing the information?	RECOLTE project staff, Producers, UNPCB, ATBs, CZs	Quantitative, qualitative
FFPr SO2 Expanded Trade of Agricultural Products (Domestic, Regional, and International**)**	What percent of agricultural products is exported at the regional and international levels (both in terms of volume and value)? What factors favorcotton trade at the regional and international levels? What opportunities exist for organic cotton at the regional and international levels?	RECOLTE project team, UNPCB	Quantitative, qualitative
FFPr 2.1 Increased Value Added to Post-Production Agricultural Products	Do post-harvest techniques add value? If so, what value is added? How have post-harvest techniques contributed to improving producer incomes?	UNPCB, RECOLTE project team	Qualitative, Quantitative
FFPr 2.1.1 Improved Quality of Post-Production Agricultural Products	What percent of organic cotton meets international standards for certification? What are the challenges of certification? What are the solutions?	UNPCB, RECOLTE project team	Quantitative, Qualitative
FFPr 2.1.2 Increased Efficiency of Post-Production Processes	What is the average production cost per ha for organic cotton and rotational crops (by cohort)? Has the cost increased or decreased?	UNPCB, RECOLTE project team, producers, ATBs, CZs	Quantitative
FFPr 2.1.3, 2.2.1 Improved Marketing of Agricultural Products	What marketing strategy was used?	UNPCB, RECOLTE project team	Qualitative, quantitative

	How efficient was this marketing strategy? How many trade shows/fairs has UNPCB attended since the start of the project?		
FFPr 2.2 Increased Access to Markets to Sell Agricultural Products	How many buyers have purchased organic cotton from UNPCB? Has this number increased since the baseline evaluation? If so, by how much? Has UNPCB diversified its base of potential organic cotton customers? Has UNPCB obtained better prices from the sale of organic cotton? Was UNPCB able to sell all of its organic cotton production at fair prices? What were the barriers to market access?	UNPCB, RECOLTE project team	Quantitative, qualitative
FFPr 2.3 Improved Transaction Efficiency	To what extent is market information used by companies? What were the main market information sources companies used? What barriers exist for companies trying to access market information?	UNPCB, RECOLTE project team	Qualitative

Annex 6: RECOLTE project final evaluation questionnaire

SECTION 0. IDENTIFICATION	
S0.1. Numerator code	|__|__|
S0.2. Collection date	|__|__|__|__|_**1**_|_**8**_| *dd mm yy*
S03. Questionnaire number	|__|__|__|__|

SECTION 1. GENERAL CHARACTERISTICS		
1.1. Area		|_**1**_|
1.2. Department		|__|__|
1.3. Village		|__|__|__|__|
1.4. Producer code		|__|__|__|__|__|__|__|__|__|__|__|
1.5. GPCB code		|__|__|__|__|__|__|__|__|
1.6. Name of the GPCB of membership		
1.7. Gender makeup of the group	1 = Female 2 = Male 3 = Mixed	|__|
1.8. Year of membership in GPCB		|__|__||__|__|
1.9. Are you a member of your GPCB board ?	1=Yes 2=No	|__|
If you answered yes to question 1.9 : **1.10. What is you function on your GPCB board ?**	1=President 2=Président adjoint 3=Secrétaire 4=Secrétaire adjoint 5=Trésorier 6=Trésorier adjoint 7=Autre (à préciser)	|__|
1.11. Family and given name		
1.12. What is your phone number ?		|__|__|__|__|__|__|__|__|__|
1.13. Gender	1=Male 2=Female	|__|
1.14. What is your marital status ?	1=Single 2=Married 3=Widowed 4=Divorced	|__|
1.15. What is your level of education ?	1=Illiterate 2=Literate 3=Primary school 4=Rural school 5=Medersa (Coranic school) 6=Secondary level and above	|__|

1.16. How old are you ?	*[write 99 if age is unknown]*	|__|__|
1.17. Relationship to head of household	1=head of household 2=husband/wife 3=son/daughter 4=other (please specify)	|__|……
1.18. Three main activities by income	1=agriculture 2=trade 3=farming 4=fishing 5=crafts 6=other (please specify)	|__| |__| |__|
1.20. Number of years in organic cotton production	*[write 99 if unknown]*	|__|__|
1.21. Are you a relay producer ?	1=Yes 2=No	|__|
1.22. How many plots do you own ?		|__|__|
1.23. What is the total area (hectare) of your plots ?		|__|__|
1.24. How many plots do you use for organic cotton growing (cotton and rotational crops)?		|__|__|
1.25. What is the area for the organic cotton (hectare)?		|__|__|

SECTION 2. HOUSEHOLD MAKE UP AND MEMBERS INVOLVED IN FARMING		
2.1 How many people live in your household?		|__|__|
2.2 What is the number of children under 16 years of age?		|__|__|
2.3 What is the number of adults (over 16 years of age)?		|__|__|
2.4 How many are involved in farming works?		|__|__|
2.5 What is the number of men over 16 years of age?		|__|__|
2.6 How many men over 16 years of age are involved in farming works?		|__|__|
2.7 What is the number of women over 16 years of age?		|__|__|
2.8 How many women over 16 years of age are involved in farming works?		|__|__|

SECTION 3. AGRICULTURAL EQUIPMENT AND DRAUGHT ANIMALS

Equipment	**Code**	**Number**	**Year of acquisition**	**Method of acquisition** 1 = bought in cash 2 = borrowed 3 = grant 4 = location 5 = donation 6= inheritance 7 = credit 8 = other to be specified	**Financing**		
					Credit		
					Credit source 1=UNPCB 2= RECOLTE 3=CP 4=Microfinance institution (to specify)	**Amount on credit**	**Cash amount**
(3.1)	**(3.2**	**(3.3)**	**(3.4)**	**(3.5)**	**(3.6)**	**(3.7)**	**(3.8)**
Ridge-plough	01	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Sower	02	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Handled Cart	03	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Other cart	04	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Weeder	05	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Plough	06	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Axe	07						
Machete	08	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Back sprayer	09	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Hoe/short handled hoe	10	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Ridge-plough	11	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Livestock pulled wagon	12	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Tractor	13	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Wheelbarrow	14	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Pitchfork	15						
Donkey	16	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Ox/cows	17	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Ox	18	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|
Horse	19	|__|__|__|	|__|__|__|__|	|__|	|__|	|__|__|__|__|	|__|__|__|__|

SECTION 4. CHARASTERISTICS OF ORGANIC PLOTS (Organic cotton and rotational crop)

N° plot	**Area (ha)**	**How long have you been using this plot?**	**How did you acquire this plot?** 1=Donation 2 = legacy 3 = Loan 4 = rent	**What kind of title do you have on this plot?** 1 = Land title	**What type of farm**	**Location**	**How far is the plot (in km) from the family home is the plot?**	**What is the topography of this plot?**

(4.1)	(4.2)	(4.3)	5=Purchase (4.4)	2 = Customary Certificate 3 = Certificate of sale 4 = Other document 5 = No document (4.5)	1=Individual 2=Collective (4.6)	1=Hut 2=Bush (4.7)	(4.8)	1 height = 2 = Fairly steep slope 3 = Average slope 4 = Near a low land 5 = low land (4.9)
|__|__|	|__|__|	|__|__|	|__|	|__|	|__|	|__|	|__|__|	|__|
|__|__|	|__|__|	|__|__|	|__|	|__|	|__|	|__|	|__|__|	|__|
|__|__|	|__|__|	|__|__|	|__|	|__|	|__|	|__|	|__|__|	|__|
|__|__|	|__|__|	|__|__|	|__|	|__|	|__|	|__|	|__|__|	|__|
|__|__|	|__|__|	|__|__|	|__|	|__|	|__|	|__|	|__|__|	|__|
|__|__|	|__|__|	|__|__|	|__|	|__|	|__|	|__|	|__|__|	|__|

SECTION 4. (CONTINUED) ORGANIC PLOTS CHARACTERISTICS

Plot number (4.1)	**What is the soil type of this plot?** 1= Sand 2= Clay 3= Stones 4=Zipélé (degraded and stripped) (4.10)	**What do you think of the soil fertility of this plot?** 1= Good 2=Average 3= Low (4.11)	**Have you experienced erosion ploblems on this plot ?** 1=Yes 2=No ► Go to question **(4.16)** (4.12)	**What was the cause of these erosion problems ?** 1= Rains/floods 2= Wind 3=Man-made 4=Other (please specify) (4.13)	**Have you built any kind of work to fight erosion problems on the plot ?** 1=Yes 2=No ► Go to question **(4.16)** (4.14)	**What types of works have you built?** 1= Stone border 2 = Half moon 3 = Grass hedge 4= Hedge 5 = Other (please specify) (4.15)	**Has this plot been left fallow since 2013 ?** 1=Yes 2=No ► Go to question **(4.18)** (4.16)	**What year was this plot left fallow ?** (4.17)	**What is the area used (hectare)** Write 0 if the field is not cultivated during the crop season concerned **2016/2017** (4.18)	 **2017/2018** (4.19)
|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|__|__|__|	|__|__|	|__|__|	|__|__|
|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|__|__|__|	|__|__|	|__|__|	|__|__|
|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|__|__|__|	|__|__|	|__|__|	|__|__|
|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|__|__|__|	|__|__|	|__|__|	|__|__|
|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|__|__|__|	|__|__|	|__|__|	|__|__|
|__|__|	|__|	|__|	|__|	|__|	|__|	|__|	|__|__|__|__|	|__|__|	|__|__|	|__|__|

SECTION 5. INPUTS USED (OVER THE LIFE OF THE PROJECT - 2013 à 2018)

Plot n°	**Organic fertilizers**

	Manure				Compost				Have you used organic mixtures on this plot? 1=Yes 2=No
	For how many years have you used manure on this plot ?	How did you get this manure ? 1=Own animals 2=Fold-manuring 3=Waste 4=Purchase 5 = Other	How much manure have you used? Unit 1=Cart 2=Wheelbarrow 3=kg	How much manure have you used? Number	For how many years have you used compost on this plot?	How did you get this compost ? 1=Purchase 2=Own production 3=Gift 4 = Other	How much compost have you used? Unit 1=Cart 2=Wheelbarrow 3=kg	How much compost have you used? Number	
(5.1)	**(5.2)**	**(5.3)**	**(5.4)**	**(5.5)**	**(5.6)**	**(5.7)**	**(5.8)**	**(5.9)**	**(5.10)**
|__|__|	|__|	|__|	|__|__|	|__|__|	|__|	|__|	|__|__|		|__|
|__|__|	|__|	|__|	|__|__|	|__|__|	|__|	|__|	|__|__|		|__|
|__|__|	|__|	|__|	|__|__|	|__|__|	|__|	|__|	|__|__|		|__|
|__|__|	|__|	|__|	|__|__|	|__|__|	|__|	|__|	|__|__|		|__|
|__|__|	|__|	|__|	|__|__|	|__|__|	|__|	|__|	|__|__|		|__|
|__|__|	|__|	|__|	|__|__|	|__|__|	|__|	|__|	|__|__|		|__|

SECTION 6. TYPES OF CROPS, SEEDS AND TECHNIQUES USED (2017/2018 SEASON)

Plot n°	What is the crop grown on this plot? 1= Organic cotton 2=Sesame 3=Soybean		Have you applied a technique to improve production on this plot? 1=Yes 2=No ► Go to next line of question **6.1**	What techniques have you applied ? *(Multiple choices allowed)* 1 = Rules for the production of organic cotton (no chemical) 2 = Identification and preparation of plots 3 = Sowing and crop maintenance 4 = Harvesting technique 5 = Commercialization 6 = Management of the cohabitation between organic cotton and cotton
	2016/2017	2017/2018		
(6.1)	**(6.2)**	**(6.3)**	**(6.4)**	**(6.5)**
|__|__|	|__|__|	|__|__|	|__|	|__| |__| |__| |__| |__| |__|
|__|__|	|__|__|	|__|__|	|__|	|__| |__| |__| |__| |__| |__|
|__|__|	|__|__|	|__|__|	|__|	|__| |__| |__| |__| |__| |__|
|__|__|	|__|__|	|__|__|	|__|	|__| |__| |__| |__| |__| |__|
|__|__|	|__|__|	|__|__|	|__|	|__| |__| |__| |__| |__| |__|

SECTION 7. COST OF INPUTS USED (2017/2018 SEASON)

Type of inputs	Did you use [input] On the plots you have cultivated	Crop code	Where did you	Can you recall the amount of input used during the season 2017/2018?	Did youp ay for all or part of this input ?	What quantity did you buy ?	What is the total value of the input

			During the crop season 2017/2018? 1=Yes 2=No ►Go to the next line (7.1)	1= Organic cotton 2= Sesame 3= Soybean (7.2)	store this input? 1 = GPCB warehouse 2 = Own warehouse 3= Barn 4=House 5=Other (7.3)	Unit 1=Cart 2=Wheelbarrow 3=Plastic bag 4=kg (7.4)	Number (7.5	1=Yes 2=No ► Go to question **7.10** (7.6)	Unit 1=Cart 2=Wheelbarrow 3=Plastic bag 4=kg (7.7)	Number (7.8	bought ? (in FCFA) (7.9)
Organic fertilizers	**Fumure**	|__|	|__||__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
	Compost	|__|	|__||__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
Organic pesticides	**Neem**	|__|	|__||__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
	Botanic mixture	|__|	|__||__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
	Batik	|__|	|__||__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
Seeds	**Organic cotton**	|__|	|__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
	Sesame	|__|	|__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
	Soybean	|__|	|__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|
	Peanut	|__|	|__|	|__|	|__|__|__|	|__|__|	|__|__|__|	|__|	|__|__|	|__|__|__|

SECTION 7. (CONTINUED) COST OF INPUTS USED (2017/2018 SEASON)

Types of inputs (7.1)	Did you apply for credit to buy these inputs ? 1=Yes 2=No ► Go to question **7.15** (7.10	Did you get a credit to buy these inputs? 1=Yes 2=No ► Go to question **7.14** (7.1	Who did you apply for credit from? 1= Friends/parents 2= Supplier 3= UNPCB 4= Bank/microfinance institutions 5= Other (7.12)	What is the amount of credit you used to buy these inputs? **(in FCFA)** (7.13)	Why did you not get the credit ? 1=Lack of guarantees 2=Other (please specify) (7.14)	Did you get some of these inputs as donations or gifts ? 1=Yes 2=No ► Go to question **8.1** (7.15)	From whom did you get most of the donations or gifts ? 1=Other household 2=State/government 3=UNPCB 4=Farming cooperatives 5=Project 6=Other (7.16)

Organic fertilizers	**Fumure**	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
	Compost	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
Organic pesticides	**Neem**	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
	Botanic mixture	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
	Batik	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
Seeds	**Organic cotton**	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
	Sesame	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
	Soybean	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|
	Peanut	|__|	|__|	|__|	|__|__|__|	|__|	|__|	|__|

SECTION 8. ORGANIC COTTON PRODUCTION COST (2017/2018 SEASON)

8.1	**Have you paid labor for activities such as plowing or cotton transporting from the farm to your storage site?**	1=Yes 2=No ► Go to question **8.3**	|__|
8.2	**In terms of cash or value of payments in kind, how much did you spend on all these activities?**		|__|__|__|__|__|
8.3	**What other non-labor costs have you incurred in planting, maintaining and harvesting this crop (eg, land leasing or transportation rental to move the crop from the farm to the home, seed)?**	(Write « 0 » if there aren't any)	|__|__|__|__|__|
8.4	**Have you hired temporary paid labor on an hourly basis?**	1=Yes 2=No ► Go to question **8.9**	|__|
8.5	**How many persons/day did you hire to prepare the field (weed and harvest this crop)?**		|__|__|__|
8.6	**What the total amount did you pay for this work, in cash or in kind?**		|__|__|__|__|__|
8.7	**Were there any other tasks for which you paid temporary labor for this crop? If so, how many persons/day did you hire/take?**		|__|__|__|
8.8	**What the total amount did you pay for this work, in cash or in kind?**		|__|__|__|__|__|
8.9	**Did any member of your household work on the organic cotton plot?**	1=Yes 2=No ► Go to question **9.1**	|__|
8.10	**How many persons/day did work?**		|__|__|__|

SECTION 9. QUANTIFICATION AND PRODUCTION INCOME (2017/2018 SEASON)

Crop code 1=Organic cotton 3=Sesame 4=Soybean	**How much of this product did you harvest ? (in kg)** *(Write « 0 » if this crop wasn't produced during the season of concern)*	**How much in total did you spend for this crop during the season concerned ?**	**How much time has elapsed between harvesting and weighing this product ? (in days)**	**How much time has elapsed between weighing and selling or evacuating (cotton) this product? (in days)**	**How much time elapsed between the sale or evacuation (cotton) of this product and the**	**During this time, where did you store this product ?** 1 = GPCB warehouse 2 = Own warehouse	**What is the quality level of the storage facility?** 1 = Airy 2 = Spacious	**How much of this product did you sell (kg)?** 0 in case of no sale	**What amoun sale of (in FC**

							payment? (in days)	3 = Barn 4= House 5 = Other (please specify)	3= Pesticide free 4= No Bt product stored		
	2016/2017	2017/2018	2016/2017	2017/2018							
(9.1)	(9.2)	(9.3)	(9.4)	(9.5)	(9.6)	(9.7)	(9.8)	(9.9)	(9.10)	(9.11)	(9.
|__|	|__|__|__|	|__|__|__|	|__|__|__|		|__|__|__|	|__|__|__|		|__|	|__|	|__|__|__|	|__|_
|__|	|__|__|__|	|__|__|__|	|__|__|__|		|__|__|__|	|__|__|__|		|__|	|__|	|__|__|__|	|__|_
|__|	|__|__|__|	|__|__|__|	|__|__|__|		|__|__|__|	|__|__|__|		|__|	|__|	|__|__|__|	|__|_
|__|	|__|__|__|	|__|__|__|	|__|__|__|		|__|__|__|	|__|__|__|		|__|	|__|	|__|__|__|	|__|_
|__|	|__|__|__|	|__|__|__|	|__|__|__|		|__|__|__|	|__|__|__|		|__|	|__|	|__|__|__|	|__|_

SECTION 10. INCOME AND USE MADE OF COTTON INCOME (2017/2018 SEASON)

10.1 What is your net income from the sale of cotton (in FCFA)?	|__|__|__|__|__|
10.2 What is the amount spent on the following items?	
10.2a Agricultural equipment and inputs	|__|__|__|__|__|
10.2b Housing	|__|__|__|__|__|
10.2c Education	|__|__|__|__|__|
10.2d Health	|__|__|__|__|__|
10.2e Food	|__|__|__|__|__|
10.2f Motivation of members	|__|__|__|__|__|
10.2g Means of transportation (motorbike, bicycle)	|__|__|__|__|__|
10.2h Means of communication (mobile phone)	|__|__|__|__|__|
10.2i Other (please specify)	|__|__|__|__|__|

SECTION 11. HOUSEHOLD SHOCKS

11.1	**Did your household experience any shock(s) that affected its well-being between 2013 and 2018?**	1=Yes 2=No ► Go to question **12.1**	|__|
11.2	**If yes, please specify what type(s) of shock?**	1=Draught/locusts/pests 2 =Theft of money, property or crops 3=Socio-negative shock (death, disease) 4=Poor harvest 5=Famine 6=Other (please specify)	|__|
11.3	**How did your household cope with it?**	0= No strategy 1= Sale of animals	|__|

	2= Money transfer received 3= Solidarity 4= Loan taken 5= Sale of land 6= Migration 7= Levy on savings 8= Other, please specify (durable goods, etc.)	
11.4 Who was the most affected ?	1 = Men 2 = Women 3 = Children 4 = Entire household	|__|

SECTION 12. ACCESSING FARMING SERVICES

12.1 Have you improved your post-production operations for rotational crops?	1= Yes 2= No	|__|
12.2 Do you have access to equipment and draft animals?	1= Yes 2= No	|__|
12.3 Have you applied for credit in 2017-2018? If yes give the amount requested.	Yes (write the amount requested in FCFA) No (write « 0 » and ► go to question **12.6**)	|__|__|__|__|__|__|
12.4 With what structure did you apply for credit?	1= UNPCB 2= Credit union/Loans and savings bank 3= Cotton company 4= NGO 5= Traders 6= Other (please specify)	|__| |__| |__| |__| |__|
12.5 What amount did you receive?	In FCFA	|__|__|__|__|__|__|
12.6 What were the difficulties encountered? (Multiple answers possible)	0=None 1= Lack of guarantees 2= No proximity with financial institution 3=Other (please specify)	|__| |__| |__| |__|
12.7 Have you ever been trained on post-production techniques (treatment and handling)?	1= Yes 2= No	|__|
12.8 Do you apply crop treatment and handling techniques?	1= Yes 2= No	|__|
12.9 Have you ever been trained on soil conservation, water improvement and agroforestry ?	1= Yes 2= No ► Go to question **12.11**	|__|
12.10 What training(s) on soil conservation, water improvement and agroforestry did you benefit from? (Multiple answers possible)	1 = Stone border 2 = Half moon 3 = Grass hedge 4 = Other (please specify)	|__| |__| |__| |__|
12.11 What soil conservation, water improvement and agroforestry techniques have you applied?	0 = None 1 = Stone border 2 = Half moon 3 = Grass hedge 4 = Other (please specify)	|__| |__| |__| |__|
12.12 Have you ever been trained on the management of production units?	1= Yes 2= No ► Go to question **12.14**	|__|
12.13 What training(s) on the management of production units did you benefit from? (Multiple answers possible)	1= Season plan 2= Financial management plan	|__|

	3= Cotton protection 4= Other (please specify)	|___| |___| |___|
12.14 What management of production units techniques have you applied? (Multiple answers possible)	0= None 1= Season plan 2= Financial management plan 3= Cotton protection 4= Other (please specify)	|___| |___| |___| |___|
12.15 Have you ever been trained on composting techniques?	1= Yes 2= No ► Go to question **12.17**	|___|
12.16 What training(s) on composting techniques did you benefit from?	1=Heap 2=Compost pit	|___| |___|
12.17 What composting techniques have you applied?	0=None 1=Heap 2=Compost pit	|___| |___| |___|
12.18 Can you mention the benefits of rotational crops ?	1=Improve soil structure 2= Back effects for rotational crops 3= Break pests cycle 4= Weed control	|___| |___| |___| |___|
12.19 Are you interested in market information?	1= Yes 2= No ► Go to question **13.1**	|___|
12.20 What sources of market information do you know? (Multiple answers possible)	1= Apex, 2= Inades 3= Afrique Verte 4 = SIM/SONAGES 5= Other (please specify)	|___| |___| |___| |___| |___|

SECTION 13. QUALITY OF STORAGE INFRASTRUCTURE		
13.1 Do you store the inputs before using them ?	1= Yes 2= No ► Go to question **14.1**	|___|
13.2 What off-farm storage do you use for inputs used in organic cotton production?	1 = None 2 = GPCB warehouse 3 = Own warehouse 4= House 5= Other (please specify)	|___| |___| |___| |___| |___|
13.3 What is the quality of storage used for inputs used in organic cotton production?	1 = Airy 2= Spacious 4 = Pesticide free 5= No Bt stored 6 = Equipped 7= Other (please specify)	|___| |___| |___| |___|
13.4 What is the means of storage used to store organic cotton before it is sold ?	1 = None 2 = GPCB warehouse 3 = Own warehouse 4= House 5= Other (please specify)	|___| |___| |___| |___|

		|___|
13.5 What is the quality of storage used to store organic cotton before it is sold ?	1 = Airy 2= Spacious 4 = Pesticide free 5= No Bt stored 6 = Equipped 7= Other (please specify)	|___| |___| |___| |___|
13.6 What is the means of storage used to store inputs for rotational crops ?	1 = None 2 = GPCB warehouse 3 = Own warehouse 4= House 5= Other (please specify)	|___| |___| |___| |___| |___|
13.7 What is the quality of storage used to store inputs for rotational crops ?	1 = Airy 2= Spacious 4 = Pesticide free 5= No Bt stored 6 = Equipped 7= Other (please specify)	|___| |___| |___| |___| |___|
13.8 What is the means of storage used to store products from rotational crops before they are sold ?	1 = None 2 = GPCB warehouse 3 = Own warehouse 4= House 5= Other (please specify)	|___| |___| |___| |___| |___|
13.9 What is the quality of storage used to store products from rotational crops before they are sold ?	1 = Airy 2= Spacious 4 = Pesticide free 5= No Bt stored 6 = Equipped 7= Other (please specify)	|___| |___| |___| |___|
13.10 Do you practice cleaning, drying, storage in a quality store for the products of rotational crops?	1=Yes 2=No	|___|

SECTION 14. CONSTRAINTS AND FUTURE OF ORGANIC COTTON PRODUCTION		
14.1 Do you encounter constraints related to the production of organic cotton?	1=Yes 2=No ► Go to question **14.3**	|__|
14.2 What constraints do you encounter in organic cotton production?	1 = Delay in organic seed supply 2 = Insufficiency of organic matter quantities 3 = Transport of organic manure 4 = Difficulty in building the manure pit 5 = Distance from farm 6 = Organic conversion time 7 = Other (please specify)	|__| |__| |__| |__| |__| |__| |__|
14.3 What constraints do women in particular encounter in organic cotton production?	0 = None 1 = Lower access to organic manure 2 = More remote farms 3 = Lack of agricultural equipment 4 = Difficulty in building the manure pit 5 = Other (please specify)	|__| |__| |__| |__| |__|

14.4 What solutions do you propose to address difficulties faced by women in organic cotton production?	1 = Grant more equipment subsidy 2 = Facilitate access to land 3 = Other (please specify)	|__| |__| |__|
14.5 Do you think that the increase in organic cotton production causes the reduction of cereal production and other food crops?	1= Yes 2= No ► Go to question **14.8**	|__|
14.6 What productions have reduced due to the production of organic cotton?	1=Corn 2=Sorghum 3=Cowpea 4=Rice 5=Other (please specify)	|__| |__| |__| |__| |__|
14.7 What is the area reduction (in hectare) in food crops due to the production of organic cotton ?		|__|__|
14.8 How many children under 12 years of age are working in organic crops?	Write "0" if none	|__|__|
14.9 How many children between 12 and 16 years of age are working in organic crops?	Write "0" if none	|__|__|
14.10 How many children between 16 and 18 years of age are working in organic crops?	Write "0" if none	|__|__|
14.11 How many hours per day did children under 12 work on average?		|__|__|
14.12 How many hours per day did children between 12 and 16 work on average?		|__|__|
14.13 How many hours per day did children between 16 and 18 work on average?		|__|__|
14.14 What type of activities did children under 12 participate in?	1 = Plowing 2 = Sowing 3 = Weeding 4 = Butting 5 = Insecticide treatment 6 = Harvest 7 = Transport home 8 = Sale at the market	|__| |__| |__| |__| |__| |__| |__| |__|
14.15 What type of activities did children between 12 and 16 participate in?	1 = Plowing 2 = Sowing 3 = Weeding 4 = Butting 5 = Insecticide treatment 6 = Harvest 7 = Transport home 8 = Sale at the market	|__| |__| |__| |__| |__| |__| |__| |__|
14.16 What type of activities did children between 16 and 18 participate in?	1 = Plowing 2 = Sowing 3 = Weeding 4 = Butting 5 = Insecticide treatment 6 = Harvest 7 = Transport home 8 = Sale at the market	|__| |__| |__| |__| |__| |__|

		|__| |__| |__|
14.17 According to you, what are the causes of child labor in agricultural production ?	0 = None 1 = Household poverty 2= Dropping out of school 3 = It is part of their education 4 = Labor shortage 5 = Other (please specify)	|__| |__| |__| |__| |__|
14.18 How can we reduce the instances of child labor in agricultural production ?	1= Awareness raising 2= Mainstreaming the issue into the organic production requirements 3= Children functional literacy 4= Other (please specify)	|__| |__| |__| |__|
14.19 What are your expectations regarding the RECOLTE project?	1 = Livestock training 2 = New agricultural techniques and technologies 3 = Training on compost production 4 = Subsidy of inputs 5 = Agriculture microcredit loans 6 = Literacy support (functional) 7 = Microcredit loans for income generating activities 8 = Other (please specify)	|__| |__| |__| |__| |__| |__| |__| |__|
14.20 Can you tell us about successful cases ?		

SECTION 15. SUSTAINABILITY OF PROJECT INTERVENTIONS		
15.1 According to you, will the activities of the RECOLTE project continue after the end of the project?	1= Yes 2= No	|__|
15.2 What activities are you personally going to continue after the end of the project?	1= Production of organic fertilizers 2= Production of organic cotton and rotational crops 3= Stays in producers' groups 4= Income generating activities	|__| |__| |__| |__| |__| |__| |__|
15.3 According to you, are there important activities that the project has not consolidated ?		
15.4 Do you think that your producers' group is now better organized to continue the activities of the project ?		
15.5 Do you think that the field agents will be able to support you after the project has ended?		

Annex 7: Presentation of CERFODES and the team of consultants in charge of the final evaluation of the RECOLTE project

CERFODES is a Research and Evaluation on Social and Economic Development consulting company headquartered in Ouagadougou (Burkina Faso) with offices in Kampala (Uganda) and Lilongwe (Malawi), working with key strategic partners in several other African countries. Over the years CERFODES has provided and continues to provide technical advice and support to public, private, and non-profit organisations with the primary focus of adding value.

Over the years, CERFODES has accumulated considerable experience in the administration of and conducting surveys, studies, research and data collection by CAPI. The main sectors in which we have conducted these activities include: Peace and Development, Education, Reproductive Health, HIV/AIDS, Agriculture, Food Security, Environment, Economic and Social Development, Child Protection, Gender. The methodologies often used by CERFODES include experimental and quasi-experimental evaluation designs with randomization or matching techniques to make control groups. CERFODES has already used rigorous impact evaluations combined with monitoring activities for Education (Formal, Non-Formal and Alternative Education) in Burkina Faso, Mali, Niger, Togo, Ghana, Liberia, Uganda, Cote d'Ivoire, Benin, Guinea-Bissau, guinea. CERFODES also conducted many Evaluations (baseline, mid-term and final or impact) on Peace and Development, the Alleviation of Poverty, the CVE and the Value Chain in Agriculture (Cotton, Sesame).

CERFODES researchers and consultants have undertaken a plethora of evaluations of social and economic programs and policies using a broad range of methods including randomized experiments and quasi-experimental designs. At the international level, CERFODES conducted many assessments for multilateral and bilateral partners such as USAID, USDA, USDOL, DFID, the World Bank, UNICEF, WHO, MCC/MCA, GIZ, CRS, LWR, BORNEfonden. CERFODES closely collaborates with many organizations, as well as local government and implementing agencies, to design evaluation methodologies, develop sampling frameworks, oversee or conduct data collection, and analyse collected data.

CERFODES owns an extensive quantitative and qualitative database on Education, Agriculture, Livestock, Water and Sanitation, Health, Child Protection, Peace and Development, Violent extremism, etc. CERFODES has for several years been using electronic data collection techniques by leveraging smartphones and Tablets on the ODK platform and Survey CTO.

CERFODES has unparalleled expertise in all aspects of data collection design and implementation, from developing survey questions and samples to maintaining data collection processes of the highest quality and delivering user-friendly datasets. From the development of survey instruments to the design of efficiently executable and scientifically valid samples through survey administration and data collection, data processing, and analysis, CERFODES staff bring world-renowned expertise to research activities. CERFODES does conduct qualitative data collection through focus group discussions and in-depth interviews.

CERFODES proposed the following organizational structure for the Final Evaluation of Revenues through Cotton Livelihoods, Trade and Equity (RECOLTE) Project.

As Lead Consultant, Dr. Oble Neya, who is a senior researcher in life sciences and agronomy, values chains and integrated agricultural research. He is holder of a PhD degree in natural resources management from Wageningen University (Netherlands) with an educational background as Rural Development Engineer from the Polytechnic University of Bobo Dioulasso (Burkina Faso). Dr. Neya has a considerable experience in conducting project evaluations and possesses strong research skills. Former Director General of Studies and Statistics at the Ministry of Scientific Research and Innovation of Burkina Faso, at this position Dr. Neya participated actively in the setting up and animation of at least six innovation platforms including on sesame, fonio, multi nutritious blocs, sunflower, kenaf and urea, and Souchet. He has also demonstrated skills in statistics, including experience in analyzing qualitative data. There is no doubt about his good knowledge and experience working in the West African region in general and his sound knowledge of Burkina Faso and its agriculture and rural sector development domain. Dr. Neya has been involved in several regional and international initiatives such as the EU-AU High Level Policy Dialogue on Science and Technology dealing with promoting science-based development particularly in the domain of Food and Nutrition Security and Sustainable Agriculture. He has then an international feature that will be very useful for the current evaluation. With an excellent knowledge and experience in gender sensitive rural sector economy value chain development, the lead consultant has a demonstrated high level of professionalism and ability to work within tight deadlines. He is also very familiar with international development issues and procedures. Finally, he is very fluent in both English and French for having completed his education in these two languages. He has been CERFODES's sectoral expert for the Mid-Term Evaluation (in 2019, almost achieved) of the USDA funded Project, Sesame Marketing and Exports (SESAME), implemented by Lutheran World Relief (LWR) and CERFODES's values chain specialist in the Final Evaluation of the Fonio and Sesame Project (2015) also funded by USDA and implemented by International Relief and Development (IRD).

A Statistician, Mr. Traoré, with a master's degree in Statistics from the University of Ouagadougou, where he specialized in experimental design. Mr. Traoré currently serves as CERFODES's Evaluation Specialist. He is very experienced and sufficiently strong in quantitative as well as in qualitative analysis. He has a solid experience in data processing and analysis and his very comfortable with complex household survey sampling design and implementation. Finally, he has also experience and knowledge in the use of electronic data collection tools in evaluations such as ODK, …. and evaluation methods that use counterfactual, experience with cohort comparison analysis. He also serves as lead statistician on CERFODES's multi-country Monitoring and Evaluation of the "Competitive African Cotton for Pro-Poor Growth (COMPACI)" Program, funded by Deutsche Investitions- und Entwicklungsgesellschaft mbH (DEG). Mr. Traoré has also developed the sampling plans for several national / African social and economic programs. He was responsible for designing and drawing the sample for CERFODES's progress evaluations for the COMPACI Project.

In addition to the above two experts, this Final Evaluation of Revenues through Cotton Livelihoods, Trade, and Equity (RECOLTE) Project will benefited at "almost no-cost" from the managerial support of Dr. Yacouba Yaro and the technical support of Mrs. Kadisso Nacambo.

As the team leader, in charge of coordinating the activities, Dr. Yacouba Yaro (Survey Specialist/Research Director) is the Executive Director of CERFODES. He earned his doctorate in demography, single discipline, at Paris I Pantheon Sorbonne in June 1994. He has continually provided coordination and activity management for all the work CERFODES has accomplished up to the present time. It may be said that in his position as Managing Director, Dr. Yaro has completely mastered his technical, human, financial and logistical management responsibilities as evidenced by the repeated satisfaction of CERFODES' partners and clients. These partners and clients continue to manifest their confidence in him by entrusting work to the Center, the results of which may be decisive in the development, orientation, and renewal of institutional programs and projects or development. Dr. YARO's professional experience as a researcher and manager, supplemented by his competencies as an evaluator, planner, and trainer, are the necessary assets to perform research, studies, and evaluation for development programs and projects. Dr. Yacouba YARO is fluent both French and English.

As an analyst, Kadisso Nacambo is an agro-economist with a huge experience in survey and projects evaluation. With a degree in Agricultural Engineering from the Rural Development Institute (IDR) of the Polytechnic University of Bobo Dioulasso, Burkina Faso, Ms. Nacambo's work experiences include training and technical advice of farmers on improving crop production (cotton, rice, annual crop, and vegetables), promoting incomes generation activities through crop values chain development, training of NGOs staffs involved in rural development on sustainable agriculture and conduct of agricultural surveys. She has extensive working experience on household surveys in urban and rural areas, and studies related to cash crops such as cashew, cotton and sesame.

In addition to this multi-disciplinary core team, CERFODES benefited from the support of the other colleagues such as Boureima Kologo, Arouna Yaro, Harouna Ouili, Alimata Nana. In addition, thanks to our internees (Astrid Manly, Alex Nikièma, Renaud Nyantudre, Andrea Sanou, Yannick Kaboré) who helped in the data cleaning and tables productions, as well as the complementary of data collection in the field.