

Organic Cotton Experiences

Learnings and recommendations from Mali,
Burkina Faso and Kyrgyzstan

Stefanie Kaegi, Andrea Bischof and Rudolf Luethi



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Organic Cotton Experiences

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II) SUMMARY OF OUTCOMES AND KEY LEARNINGS

HELVETAS Swiss Intercooperation, with the support of the State Secretariat for Economic Affairs SECO, has implemented organic and Fairtrade cotton projects in West Africa and Central Asia for 14 years with the goal to improve livelihoods and address negative impacts of conventional cotton production in these regions. More than 22'000 farmers benefited from diversified organic agricultural production systems, from improved access to technical and financial services, enhanced incomes and fund flows, as well as from healthier working environments. How did the projects achieve impact, what affected it, and what are the learnings for a future engagement in the organic cotton sector?

1 Why organic and Fairtrade cotton?

Helvetas launched its first organic and Fairtrade (O&FT) cotton value chain project in Mali in 2002, followed by projects in Burkina Faso, Kyrgyzstan, Benin and Tajikistan. Despite the diverse contexts, a majority of conventional cotton farmers faced similar challenges in these countries: Long lasting monoculture cropping systems and over dosed application of chemical pesticides and fertiliser led to health problems, depleted soil fertility, and thus reduced yields. In many places, the low yields combined with volatile cotton world market prices resulted in negative gross margins and increased indebtedness of farmers. Despite the low profitability of conventional cotton, farmers stuck to cotton production due to constricting policies and lacking market access and experiences of alternative cash crop production.

Under such circumstances, organic agriculture offered a way out of indebtedness and reduced exposure to health hazards of farming families. The proposed alternative production and marketing method doing without expensive and harmful chemical inputs, offered competitive gross margins, thanks to premium sales prices and an overall increased livelihood resilience thanks to diversified cropping patterns and related income streams.

The introduction of certified sustainable production and trade standards like organic and Fairtrade was new in the three countries at that time. The projects focused on developing technical and institutional competences of producer organisations and external service providers to offer relevant services, such as rural advisory on organic production, supply of production inputs applicable in organic, the organisation of internal control and external certification, and marketing of certified crops. Furthermore, the project facilitated important partnerships with market actors. Figure 1. Organisational structures of the organic and Fairtrade cotton value chains in Kyrgyzstan, Burkina Faso and Mali. Figure 1 illustrates the organisational structures of the three organic value chains, the fund flows from cotton sales, and the services which producer organisations internalised or procured from external service providers.

Summary

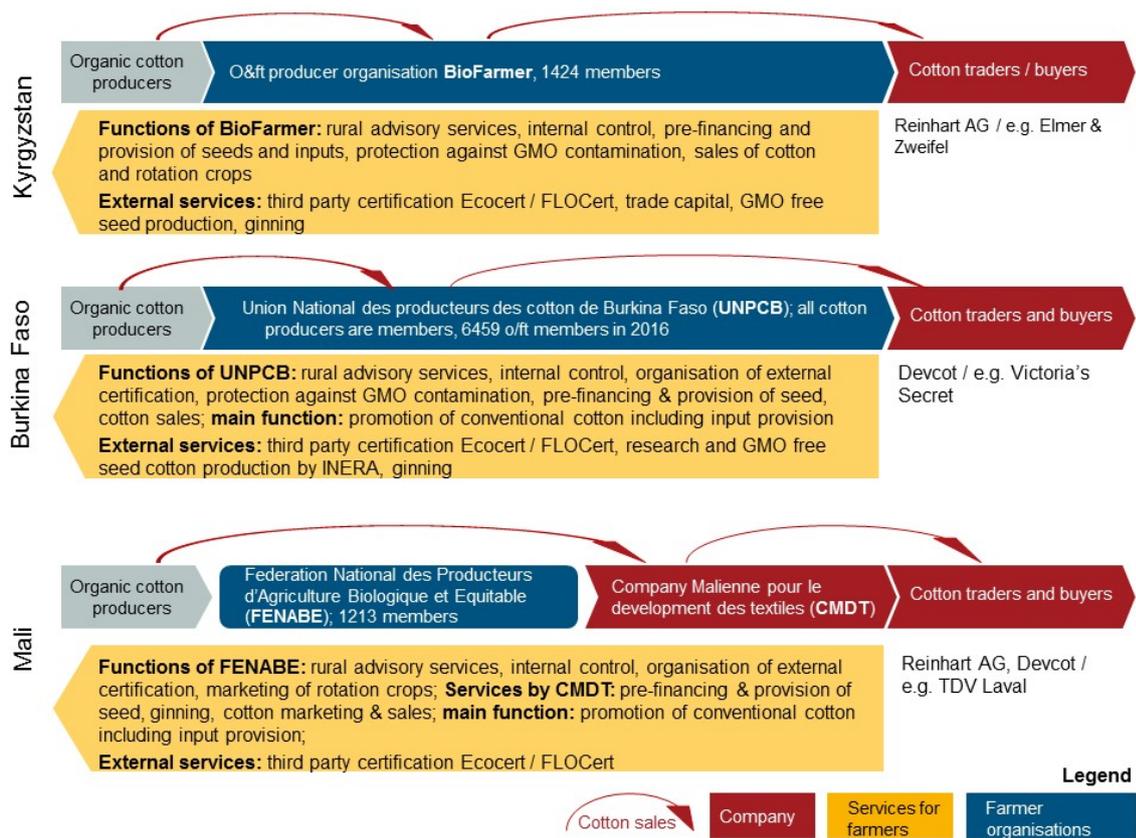


Figure 1. Organisational structures of the organic and Fairtrade cotton value chains in Kyrgyzstan, Burkina Faso and Mali

2 Impact of the organic and Fairtrade cotton value chains¹

2.1 Number of farmers involved in the value chains and sold O/FT cotton

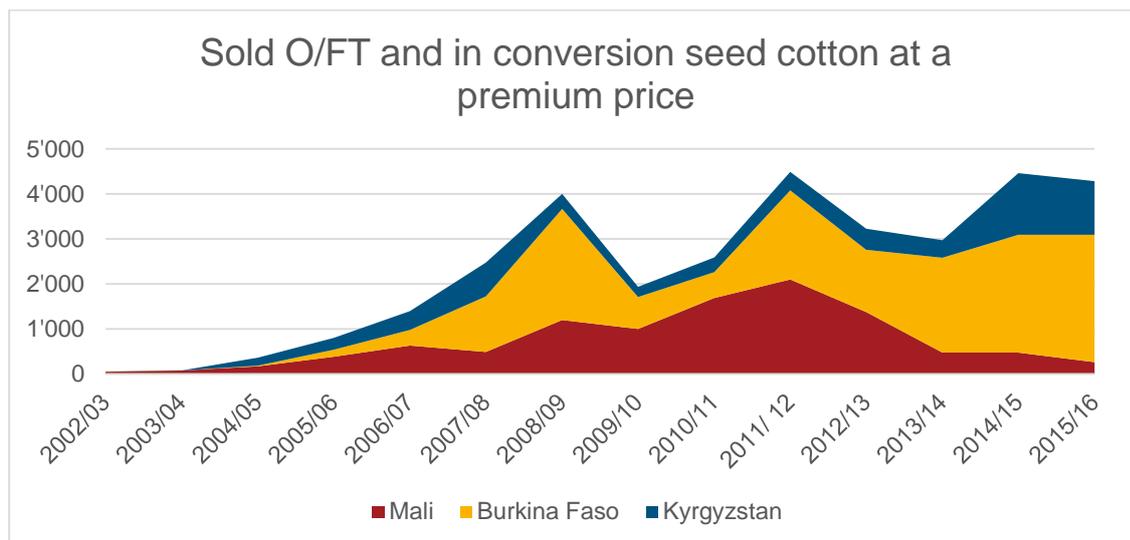


Figure 2: Overview of O/FT and in conversion cotton sales 2002/03-2015/16

¹ For more information and references see the full CAPEX study

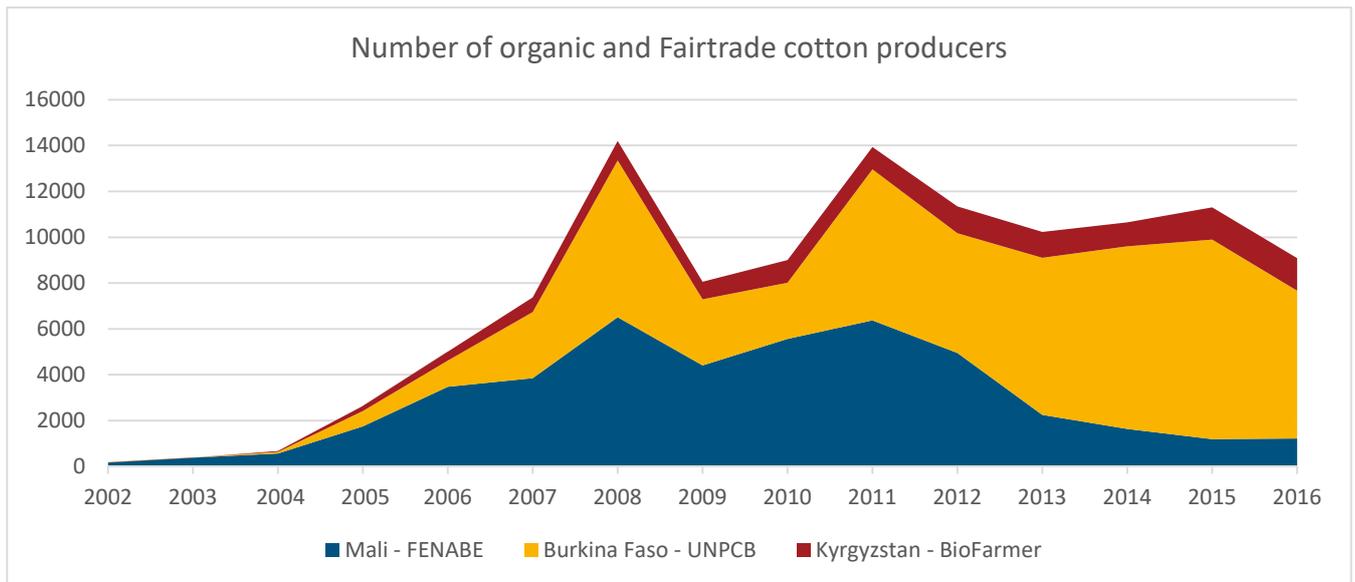


Figure 3: Number of farmers involved in the O/FT value chains

Until 2015/16, the number of O&FT cotton farmers has increased to around 12'000. On average, 9007 farmers annually sold 1034t O&FT seed cotton and in addition produced rotation crops such as sesame, vegetables, millets and lentils. The average sales of organic cotton fibre from the season 2002 to 2015 accounts for 132kg as per farmer household and year. Assuming that farmers participated on average five years in the value chain, more than 22'000 farmers benefitted from the O&FT cotton projects. Over the years, the number of O&FT certified cotton farmers fluctuated significantly in each country, which shows the opportunities and serious challenges the organic value chains faced:

Burkina Faso

In 2008/09 Monsanto and the national cotton companies introduced genetically modified (GM) cotton on around 70% of the productive cotton lands in Burkina Faso with multiple negative effects on the O&FT cotton dynamic as follows:

- First GMO contamination of organic cotton in 2009 led to a wide de-certification of organic fields.
- The producer organisation UNPCB ceased collaboration with farmers in GMO areas and shifted organic cotton production to less fertile areas in order to prevent further GMO contamination of organic cotton. As a consequence, additional investments into training of new farmers were necessary.
- Transportation costs from the new areas to the ginneries increased. Due to the availability of the GM cotton seeds, the seed farms did not breed any longer local varieties at scale and cotton seeds procured by farmers were blended with GM seeds. In the subsequent years, seeds for organic production were scarce and the farmer's union had to import non-treated seeds from Togo in a complicated bureaucratic way.
- High risk of GMO contamination made it necessary to clean ginneries thoroughly before processing organic cotton. Ginning of organic cotton was thus scheduled only at the very end of the season and delayed O&FT cotton sales and consequently cash payments to O&FT certified farmers.

The Strategic interventions of a multinational company (GM seed) and political instability jeopardised efforts on sustainable cotton production as it raised seed prices and processing costs, complicated certification, all of which demotivated many farmers to continue with organic production.

In 2016 political and related institutional crisis of the farmers' union (UNPCB) has led to the termination of a long-term and highly beneficial sales contract with the main buyer Victoria's Secret affected farmers' motivation and adherence to the value chain.

Mali

In Mali, cotton sales and processing are concentrated within the parastatal Malian cotton company (CMDT). The National Federation of Organic and Fairtrade Producers (FENABE, formerly MoBioM) can therefore not engage in and directly benefit from cotton from and to its clients, which limited their operational freedom to build economically viable services and income streams. Reason's for the fluctuation in number of farmers in Mali were:

- In some years (e.g. from 2011-2013) CMDT did not sell certified cotton at premium prices due to other marketing priorities. As a consequence, farmers suffered a combination of low yields and low sales prices and resulting in late payments for producers.
- Mismanagement by MoBioM's leadership led to an institutional crisis which resulted in restructuring and organising O&FT cotton producers under a new organisation named FENABE.

Both factors demotivated O&FT cotton farmers and many shifted their production either economically more viable crops or back to conventional cotton production.

Kyrgyzstan

In Kyrgyzstan O&FT cotton sales are determined by the ability of the producer organisation "BioFarmer" to purchase cotton from farmers directly at the ginnery at the transaction point when farmers deliver their seed cotton. This required liquidity in form of a significant trade capital. The project jointly with "BioFarmer" tested different options on accessing reliable and affordable trade capital. Nevertheless, timely availability of trade capital was occasionally missing and combined with fluctuating world market prices have resulted in side selling of organic certified cotton to conventional cotton traders.

2.2 Economic impact of the value chains from cotton season 2002/04 – cotton season 2015

While the overcome of debts is one of the main economic and social impact of the value chains, the additional income that farmers generated from the shift from conventional to organic cotton is considerable as well: All O&FT farmers together have benefited from a **total additional income of 11 million CHF, respectively 111 CHF as per farmer and year**, compared to conventional cotton farmers.

The calculation bases on the following parameters: The totally sold cotton, the sales prices and the Fairtrade premium and the saved production costs. While the quantities of cotton, sales prices and premiums have been defined yearly for the total certified cotton area of the three countries, the saved production costs base on average values given by impact assessments that were conducted in Kyrgyzstan and Burkina Faso.

Summary

The tables on the following page provide an overview on investments, additional financial benefits compared to conventional cotton, savings made from refraining using chemical pesticides, herbicides and fertilisers for the agricultural seasons 2002/04 -2015. Comprehensive data for each year and country is provided in chapters 14, 22, and 30. Additional economic impacts from crop rotations and diversifications are not taken into account, but according to impact assessments rotational crops are often economically more beneficial than cotton.²

Applied formula for calculating the economic impact:

$$\text{Total additional income} = \left[\text{Total o/ft Cotton sales} * \text{Av. o/ft cotton price} \right] - \left[\text{Potential conv. cotton sales} * \text{Conv. cotton price} \right] + \text{Total Fairtrade premium} + \text{Total saved production costs}$$

Yield and prices if farmers would have had produced conventional cotton on the o/ft area during the same time

Average local cost for pesticides, herbicides and chemical fertilizers applied in conventional cotton production

² Compare also *Kaegi (2013): Profitability study of organic products in Sughd Region, Tajikistan.* https://assets.helvetas.org/downloads/profitability_study.pdf

Summary

Total outcomes and investments 2002/03 resp. 2004/05 - 2015/16									
Country	Number of farmers that sold cotton	Certified cotton area from which cotton have been sold	Total additional income by total number of farmers) (CHF)	Total sold organic cotton fibre (t)	Wweighted av. org. sales price for fibre (CHF/kg)	Total potential sales of conventional cotton fibre (t)	Wweighted av. conv. sales price for fibre (CHF/kg) 2002/04-2015	Total Fairtrade premium (org. fibre production*Fairtrade premium per kg)	Savings from refraining from chemicals (CHF/total project area)
Mali	43'056	27'688	4'580'718	4'254	0.58	7'170	0.34	240'073	4'284'182
Burkina Faso	52'317	32'149	5'833'522	6'734	0.55	10'613	0.35	380'071	5'489'325
Kyrgyzstan	4'147	2'443	588'539.28	2'115	2.15	2'363	1.83	83'037	291'071
Total / Average	99'520	62'280	11'002'779	13'103	1.09	20'146	0.84	703'181	10'064'579

As per farmer and year							
Country	Additional income (CHF/farmer/year)	Sold organic cotton fibre (kg/farmer/year)	Potential sales of conventional cotton fibre (kg/farmer/year)	Fairtrade premium (CHF/farmer)	Savings from refraining from chemicals (CHF/farmer)	Number of O/FT cotton farmers	Calculated number of farmers that sold O/FT cotton
Mali	106	99	167	6	100	43'056	43'056
Burkina Faso	112	129	203	7	105	52'317	52'317
Kyrgyzstan	142	510	570	20	30	9'620	4147
Total / Average	111	132	202	7	101	104'993	99'520

As per hectare and year							
Country	Additional income (CHF/ha)	Sold organic cotton fibre (kg/ha)	Potential sales of conventional cotton fibre (kg/ha)	Fairtrade premium (CHF/ha)	Savings from refraining from chemicals (CHF/ha)	Certified cotton area	Certified cotton area from which cotton have been sold
Mali	165	154	259	9	155	27688	27'688
Burkina Faso	181	209	330	12	171	32149	32'149
Kyrgyzstan	241	866	967	34	58	5592	2443
Total / Average	177	210	323	11	162	65'429	62'280

- 1) **Yields: In Kyrgyzstan**, O&FT cotton farmers invested into livestock and therefore had access to the necessary farmyard manure in order to maintain soil fertility and yields. Their average yields were comparable with conventional seed cotton yields (2t to 2.5t / hectare). **In Burkina Faso and Mali**, the access and application of organic manure or other organic fertilisers remained a challenge. In addition, conflicting interests prevented organic cotton from growing faster: the core business of CMDT and UNPCB was input supply and marketing of conventional cotton. Furthermore, GMO contamination in Burkina Faso led to a marginalisation of organic production areas to less productive lands. As a result, yields of conventional cotton were up to 60% higher (723kg seed cotton/ha) than yields of organic cotton (441kg seed cotton /ha).
- 2) **Sales prices: In Kyrgyzstan**, the average price for organic seed cotton was 15% higher (2.15 CHF/kg) than for conventional (1.83 CHF/kg). **In Mali and Burkina Faso** sales prices for organic cotton fibre were about 60% higher (0.58/0.55 CHF/kg) than for conventional cotton fibre (0.34/0.35 CHF/kg). Premium payments more than compensated the relatively lower yields. In addition, the cotton farmer communities benefited from a total **Fairtrade premium of 703'181 CHF, respectively 6.5 CHF (West Africa) and 20 CHF (Kyrgyzstan)** as per farmer and year.
- 3) In organic farming, input costs were on average 162 CHF/ha lower than in conventional, thanks to refraining from using synthetic pesticides, herbicides and fertilisers. Between 2002 and 2015 total **savings in input costs amounted to 10.06 million CHF, respectively 101 CHF as per farmer and year**. Labour costs were not included in this calculation, although they account for a significant share of the production costs. Organic production usually requires more labour input during vegetation period, while during the harvest period conventional cotton requires more labour input for the reason of higher yields. Therefore, and for the reason of lack of adequate data this calculation does not include labour cost.

2.3 Social and environmental impact

Punctual impact assessments revealed that **social benefits** were a major reason for farmers to adopt organic practices. The benefits included improved human and animal health thanks to abstaining from hazardous pesticides and access to land and cash crop production for women in West Africa. Other benefits were more resilient production and marketing thanks to enhanced soil fertility and diversification, access to rural advisory services and markets for rotation crops. The introduction of rotation crops was so compelling that numerous organic farmers reduced cotton production in favour of more beneficial organic food crops, such as vegetables or sesame with positive effects on cash flows and food security.

In addition, the waiving of the estimated 6000t of synthetic fertilisers led to a calculated **reduction of around 11 mio t of CO₂ emissions** for the agricultural season 2002/04 to 2015.³

³ Calculation based on data from the Organic Cotton Market Report. Textile Exchange. 2016

3 Learnings related to producer organisations (PO)

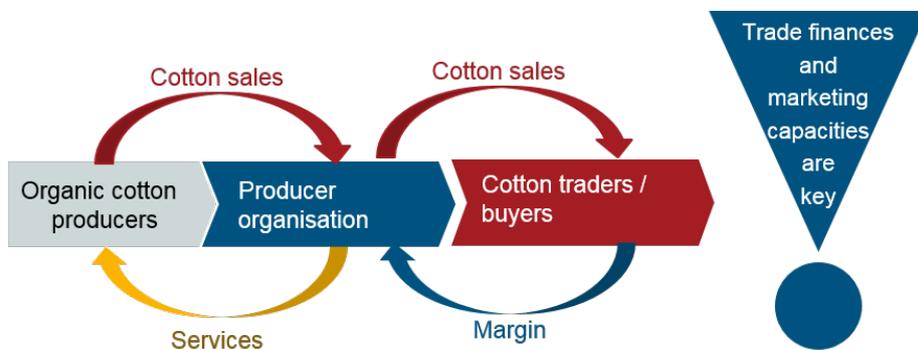
3.1 Key capacities of the producer organisation

When it comes to the economic viability of the farmer organisations, four aspects played a key role: In order to break even, the farmer organisation must be able **1) to produce a critical quantity** of cotton and rotation produce from which it can **2) derive a margin from sales**. Therefore, the farmer organisation must be capable **3) to offer or organise effective internal and external services** in an efficient way. Finally, yet importantly, the producer organisation should be able **4) to maintain a solid member base**, thus limit farmers' fluctuation.

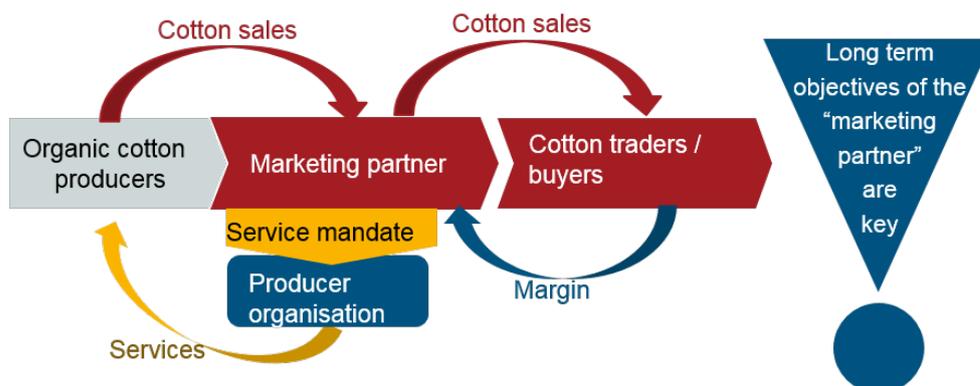
1) The sales margins are a major source of funding to cover costs of services

Services may be offered directly or mobilised from third party service providers by the producer organisation. There are two ways for a producer organisation to access sales margins:

- a. Directly by involving in trade and deriving a margin. This requires indispensably trade finances.



- b. Indirectly by getting a service mandate from the entity, that markets the cotton. This on the one hand releases the producer organisation from involving in international marketing and dealing with trade capital, on the other hand, it creates dependency of the PO from the marketing entity. A careful assessment of the greater business objectives is necessary to reduce the risk of weak marketing and limited payment for services.



2) Production and sales of critical quantities

Independently from the above-described approaches, the production and sales of a critical quantity of produce is key to get finance for all services required for O&FT production.

In general, the business plans of the three producer organisations overestimated future production and sales of cotton. Reasons for the overestimation are unforeseen challenges such as GMO contamination, changes of the regulatory framework, or world economies, but also lack of trade finances that reduced cotton sales. Further, high expectations from the local project management and/or donor for the growth of the value chain combined with the intercultural challenge to communicate barriers openly have led to a planning that afterwards revealed as too optimistic.

In order to get realistic business plans, **the growth of a value chain has to be assessed carefully and possibly even conservatively** so that expectations regarding financial sustainability of a producer organisation base on realistic growth data. If it is unrealistic to produce the required quantity of cotton and rotation crop to breakeven, the producer organisation will rely either external support in on sales of input in the long run. The latter is limited for organic production that bases on low cost and/or little external inputs.

3) Increased value chain efficiency through “sales and services under one roof”

Based on a systemic approach, the organic cotton projects first promoted a model in which the producer organisation had the function of organising farmers, and facilitating their access to services that were provided by external service providers. Except for Mali, the POs were also responsible for cotton sales (see figure A). This revealed not efficient for two reasons:

- 1) Overheads were to be paid several times: for the producer organisation, which was the necessary entity for Fairtrade certification and for facilitating the services, and for the external service providers.
- 2) The service providers were not involved in marketing of the produce and did not benefit from higher volumes of good quality product. Therefore, there was no direct incentive in providing best quality service in a most efficient way, in the opposite the more expensive the service was, the better for the service providers – seeing that there was little competition in this sector.

Consequently, the producer organisations preferred to integrate more and more services in order to be able to offer them in a most effective and efficient way. This required considerable investments into the capacity building of the PO. Looking at the three cases, however, it becomes evident that this shift only paved the way for self-financing of the PO, at least in Kyrgyzstan where the PO could benefit from cotton sales (see figure B)

Another option for saving overheads and benefitting from incentive-driven service provision by the sales agent is contract farming with individual farmers (figure b. This, however, does not comply with the Fairtrade standard that requires the organisation of farmers, and was thus no suitable option (see figure C).

In order that producer organisations are capable to offer the relevant services, there is a need for investment into their capacity development, not only for technical capacities, but also for institutional capacities, the capacities to link and engage with others, personal and management capacities, as well as marketing and advocacy capacities. Doing so, one has to keep in mind that capacity development is a means to increase capacities, but cannot change characters. Business-orientation and general aspiration of the PO management is thus key.

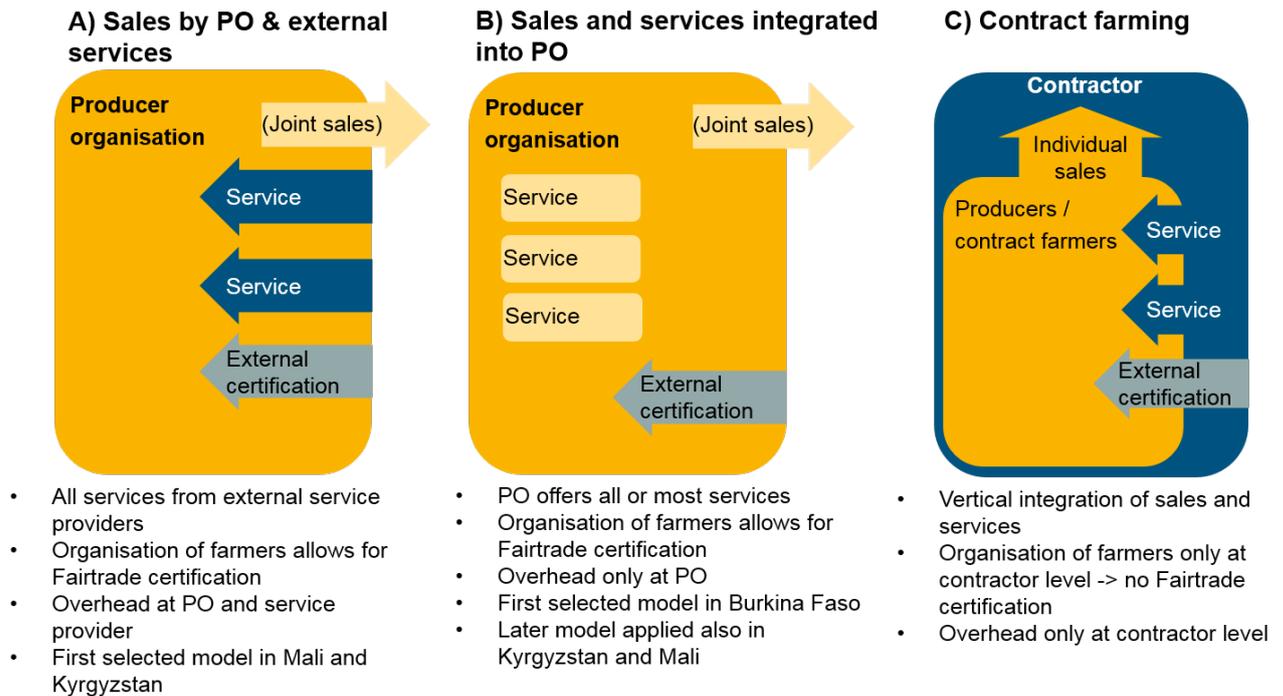


Figure 4: Producer organisations and service delivery schemes (by the authors: 2016)

4) Maintenance of the member base: Farmers' adherence to the value chain is key for the sustainability of the producer organisations' business: In the first years, farmers need most support in order to get acquainted with the O&FT system, whereas yields increase only after some years of organic farming. Furthermore, organic certification usually requires a conversion period. Hence, farmers leave the value chain at an early stage drive the costs of the producer organisation by generating less margin. Keeping the farmers as long as possible in the farmers organisation is therefore key. Five aspects support farmer adherence to the sustainable cotton value chain:

- I. Services to **mitigate the risk of a GMO contamination**
- II. **Beneficial funds flow** to farmers via pre-financing of inputs, timely sales of cotton and rotation products. In this regard, trade capital, diversified production and marketing systems are key.
- III. **Sales prices** that compensate lower yields or trigger investments into organic intensification instead of organic by default.
- IV. **Diversified production and marketing systems** to increase the farm income, reduce cluster risks and enhance funds flow. Since the fibre market is different from staple market, a separate business network must be established to market rotation crops of cotton.
- V. **The Fairtrade premium as well as public funding** are important to bridge the in-conversion phase of organic farming.

3.2 Business environment is key for the PO's viability

Besides the ability of the producer organisation to be an effective actor in the value chain, **the policy environment of the value chain is key and – if not conducive - can seriously affect the development of organic value chains.**

In Mali and Burkina Faso, the parastatal cotton companies have a mono-/oligopoly on cotton trade, input sales and ginning services. Ginning and sales of organic cotton thus completely depend on the priorities of these institutions. Furthermore, the cotton companies do important businesses with agricultural inputs, which limits their interest in strengthening the organic sector. In particular, in non-privatised settings, policies conducive to organic sector development proved to be key for sustainability of the O&FT cotton value chains. In both, privatised or state markets, policies are particularly relevant for the overall sector development that includes curricula development, integration of organic methods into public extension budgets, protection against GMO, as well as the business environment of producer organisations. Where a producer organisation should deal with trade capital right enforcement is a key for the financial security of the organisation. **Investments in O&FT value chains shall thus entail an advocacy component** that addresses above issues systematically.

4 Recommendations for future organic sector projects

4.1 Institutional set-up

- Where available, collaborate with existing market actors and facilitate their transition to meet legal and market needs to sustain in existing and new market systems.
- Producer organisations (PO) can contribute to sustainable market activities if the following factors are assembled:
 - PO must be legally registered and should have sufficient internal resources (qualified staff, assets, business plans, client network) and credibility to access affordable working capital in the open market.
 - PO must be able to produce a critical mass of cotton and rotation produce that ensures economic viability (cover all cost and generate surplus for future investments and growth or diversification).
 - PO must either perform buying and marketing functions to derive a margin to cover cost for service provision and risk management or be mandated to offer services by a potent and reliable market partner.
 - PO should internalise important services such as technical advise and internal control systems and possibly marketing (buying and selling) for economic viability and loyalty of farmers
 - PO must be professionally managed to efficiently mobilise and deliver quality services to its member base and clients. This includes solid business planning and management.
 - PO must ensure a loyal member base because training new farmers is costly and risky.
 - Voice of farmers is key to ensure accountability and loyalty between PO management and farmers. Projects should include activities to sensitise members on their role and strengthen the voice of members within a PO.

4.2 Project approaches

Basically, approaches like the market systems development complement the value chain approach with enhanced analytical tools and strategic planning to be inclusive, reach scale and sustainability.

As preparation there are three fundamental first steps to be done:

- 1) to conduct a comprehensive context and partner analysis to select crops, regions and partners. Value chain partners should...
 - be legally in control of main market and/or service functions
 - have a willingness to change

Summary

- have the capacity and interest to run a business (including the ability to access capital and do realistic business planning)
- 2) to assess realistically the change potential and political will of government and para state organisations to engage for more sustainable production and trade practices.
 - 3) Partner with engaged buyers which have relevant market presence to ensure market access

During implementation the following aspects are key:

- For international trade, promote established sustainability standards
- Include an advocacy component in order to strengthen and/or stabilise a favourable business environment for organic/sustainable crops
- Invest into curricula development and institutionalisation of capacity building for rural advisory services
- Capacity building of PO and other partners needs time and investment, however, be realistic in what can be achieved and continuously assess whether the targets are realistic.
- Facilitate market linkages, but also aim at building capacities of the market actors in networking and client relationships.

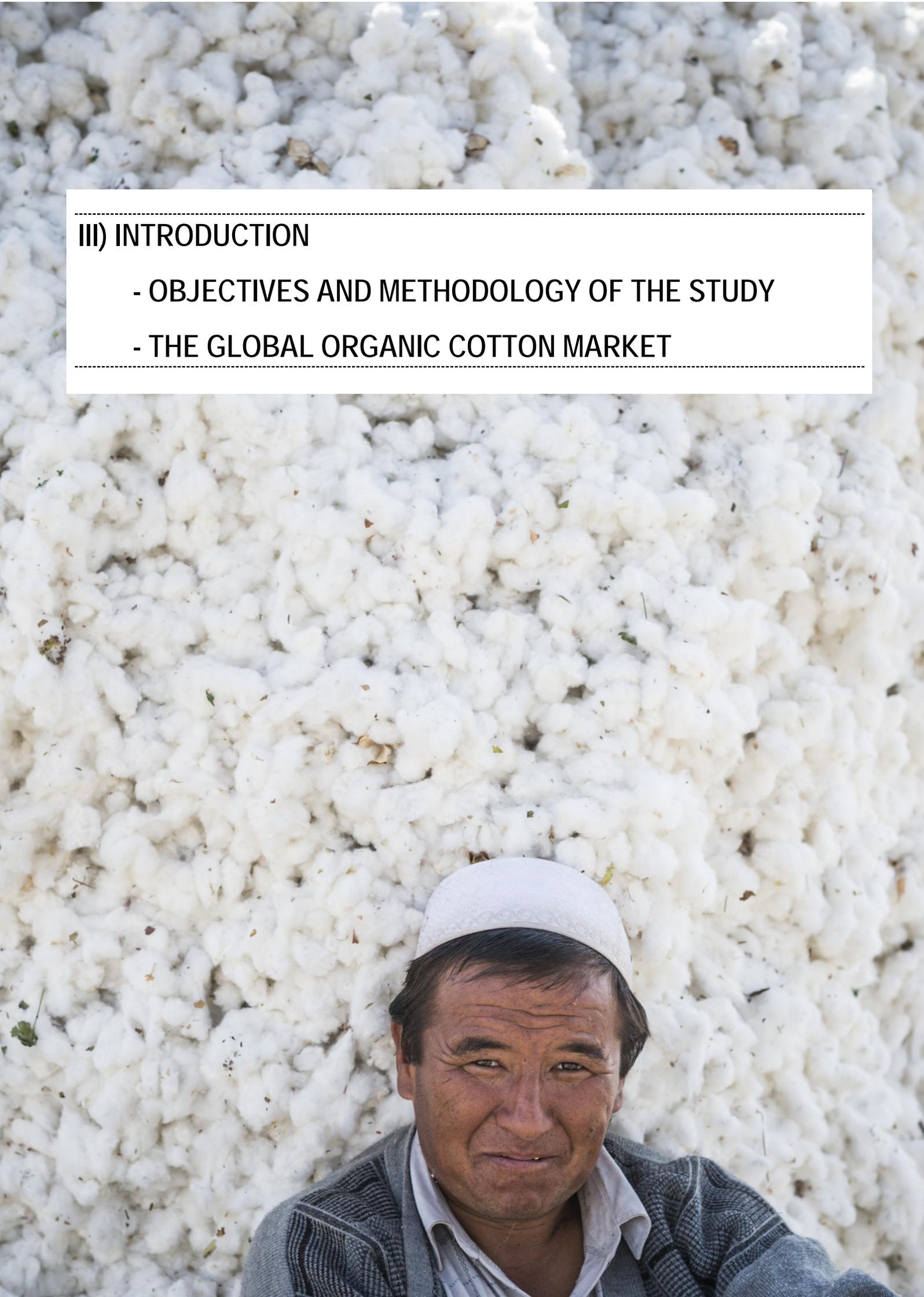
Poverty focus, inclusiveness and livelihood development

- Identify value chains with a high potential to change livelihoods of many small holder farmers and to reduce environmental impacts through the introduction of sustainable production standards.
- Organic agriculture requires investments that are often not subsidised. Microcredit schemes support farmers to do this investments, e.g. to increase assets and animals that have positive effects on economic resilience and workloads (mechanisation).
- Women empowerment and useful capacity building of farmers have the potential to benefit farmers significantly and in the long run, independently of the success and sustainability of a specific value chain. Farmers adoption rate of promoted knowhow is a key indicator for the usefulness of capacity development and should be monitored tightly.
- Give attention on the fact that the land is certified organic and not the farmers! Therefore, secured land tenure rights are crucial for farmers' investments into organic production systems and their adherence to the value chain.

5 Outlook

The support of SECO and Helvetas to the O&FT cotton value chains in Mali and Kyrgyzstan ended in 2016, respectively will end mid-2017 also in the case of the Burkina Faso project. Due to the growing market demand for O&FT cotton⁴, the improved competences of the producer organisations, the alluring benefits for farmers, as well as the increasing interest of the international community to support organic agriculture, there is a high probability that the business of these three O&FT cotton value chains will be long lasting and outlast the completion of the SECO's and Helvetas' engagement.

⁴ Textile Exchange (2016): PFM Benchmark Sector Overview 2016



III) INTRODUCTION

- OBJECTIVES AND METHODOLOGY OF THE STUDY
- THE GLOBAL ORGANIC COTTON MARKET

6 Objectives and methodology of the study

Since 2002, SECO has been supporting organic and Fairtrade (O&FT) cotton projects implemented by HELVETAS Swiss Intercooperation (Helvetas) in Mali, Burkina Faso, and Kyrgyzstan. By the end of 2016 the projects in Kyrgyzstan and Burkina Faso came formally to their end, whereas the Mali project has been extended until end of 2017. This study presents the achievements of 11 or 13 years of implementation of organic cotton projects (2002/04-2015), it documents good practices, analyses the challenges and highlights learnings. A particular focus is put on the capacity development of the organic and Fairtrade producer organisations and their supporting institutions, as well as on the analysis of the sustainability of producer organisations' businesses. Furthermore, learnings shall be made available for the future engagement of the international organic cotton community and interested stakeholders in organic and Fairtrade value chains.

6.1 Presumptions and extent of the study

The projects considered the change from conventional to O&FT cotton as an opportunity for peasant farmers to generate income, which allows them to step out of the indebtedness trap. Furthermore, the organic production method was seen as an opportunity to improve the producer family's health, as well as soil fertility and thus preserve their production base in the long run. At the same time the project aimed to decrease the production costs and to balance potential losses in production with better and more stable sales prices. The O&FT cotton producers on their part expected, access to a market with higher prices, better health, and investments in the infrastructure of their communities.

These expectations were supported by a statement of ICAC in 2009: "Often the smallest and most resource poor cotton farmers see greatest benefits in organic, and in fact organic reaches comparably better results in marginal or tribal areas", and by several scientific papers, such as of Foster et al. 2013, Delbridge et al. 2011, and Sodjinou et al. 2015.

The present study does provide an analysis of economic, social and ecological benefits of organic cotton production compared to conventional cotton production that bases on data from project reports and manifold impact assessments.

The analysis takes into account data from 2002/04 to 2015. Since the study was written in mid-2016, the data of 2016/2017 have not been included into the analysis.

6.2 Methodology

The present capitalisation of experiences bases on project reports, external evaluations and impact assessments. In order to identify and validate the findings, the authors conducted eleven interviews with relevant resource persons such as project managers, representatives of producer organisations, market stakeholders, and organic cotton experts (see "General References and Interviews"). The study focuses on the project contributions to the development of the O&FT value chains, and analyses the functioning of the value chain with regard to roles and capacities of producer organisations and their support institutions. The study derives learnings from both the projects contributions as well as from the institutional setting of the value chain

7 Development of the global organic cotton market

7.1 Organic and Fairtrade cotton standards

Organic cotton is cotton produced according to the internationally recognised organic farming standards of the EU regulation 834/2007, of the USA National Organic Program (NOP), the Indian National Program for Organic Production (NPOP) or the Japanese Agricultural Standard (JAS). Currently, two independent organic certifications are available for textiles made out of organic cotton: the Organic Content Standards (OCS) and the Global Organic Textile Standard (GOTS). However, a garment made out of organic cotton might be labelled as “100% organic cotton” without complying with any of the textile standards that control all steps of processing.



Figure 5: Labels of organic & fair traded cotton. Global Organic Cotton Standard (GOTS), the Organic Content Standard (OCS), Fairtrade International, and the EU Organic Standard.

The term “fair trade” is not legally defined and protected. Organic cotton garments can be claimed as fair traded whenever a retailer contend that he’s offering fair trading conditions to his suppliers. However, the biggest and most famous fair trade label in cotton is defined by Fairtrade International.

7.2 Organic and Fairtrade cotton price

Fairtrade International defines a minimum cotton price and a Fairtrade premium which a buyer of certified Fairtrade cotton has to pay. For organic there is no definition in price. Often, however, an organic premium is paid for organic cotton. Yet, the combination of both certifications assures the producers a better price, approximately 20% above conventional cotton price.

The price for solely organic cotton, remains a widely discussed issue. Value chain actors agree that the price shall reflect the true value of organic and cover real costs, as well as provide an incentive to farmers growing organically for all their hard work and efforts. Usually a premium for organic is paid in addition to the conventional price. This premium often is defined as a percentage of the conventional cotton price. However, as each step of the value chain claims the need for that premium to cover additional production (or separation) costs, the premium costs add until the end of the garment and causes an increase in the organic garment price which influences competitiveness of organic garments in the market. Value chain actors therefore try to find a distinct business model for organic cotton products.

7.3 World organic cotton production

In 1992, first data of organic cotton production was reported by Textile Exchange (formerly Organic Exchange). The world production was about 2'075 t of fibre at that time and rose to 240'000 t in 2010. The initial fast growth of organic cotton production began to stumble afterwards, due to the introduction of GM cotton, the related non availability of organic seeds, the launch of further identity cotton standards as such as the Better Cotton Initiative (BCI) and Cotton Made in Africa (CmiA), and a constant mismatch of demand and supply of organic cotton. Therefore, global organic cotton production stagnated and was only 116'974 t fibre in 2014 according to the Organic Cotton Market Report 2015 of Textile Exchange.

Since 2002 - when Helvetas launched the first organic cotton project - the global share of organic cotton in world's total cotton production increased from 0.03% to 1.16% in 2009, but fell again to 0.41% in 2012 and was only 0.45% by 2014.

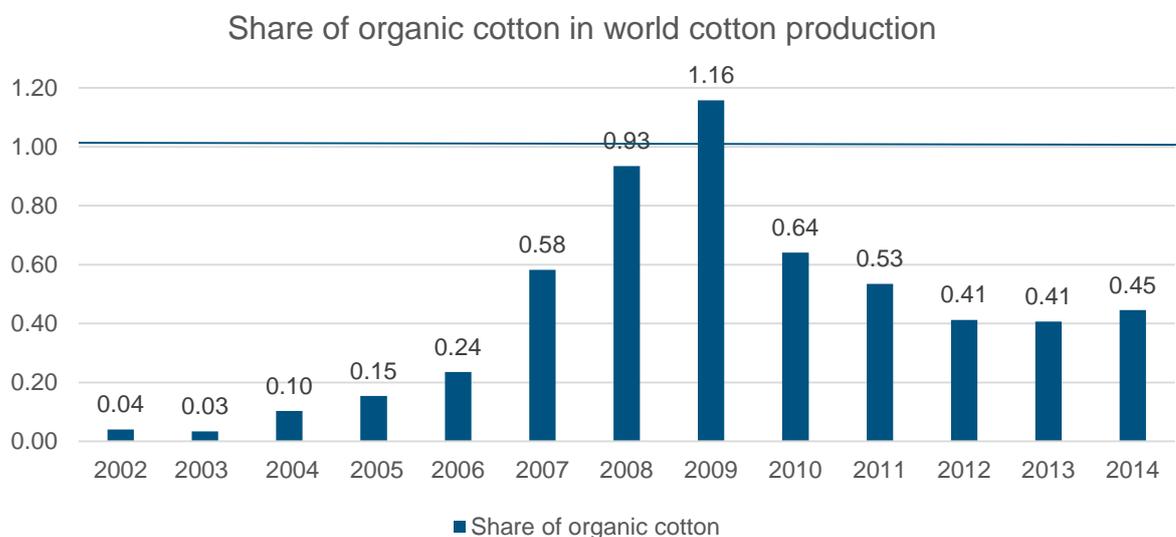


Chart 1: Organic cotton share in world cotton production (Textile Exchange: 2002-2012, ICAC: 2014, FAO Stat)

In 2004, organic cotton was produced in 22 countries with Turkey growing 40%, India, 25%, the United States 7.7% and China, 7.3% respectively. Ten years later, in 2014, the proportion shifted: organic cotton was produced in 20 countries whereas India accounted for 74,3%, China 10,46%, Turkey 6,80%, Tanzania 3,21%, the USA for 2,07%, and all together 97% of the total organic cotton production. Burkina Faso's organic cotton production ranked sixth after the USA, Mali eighth and Kyrgyzstan eleventh on the world's chart of organic cotton producing countries in 2013.

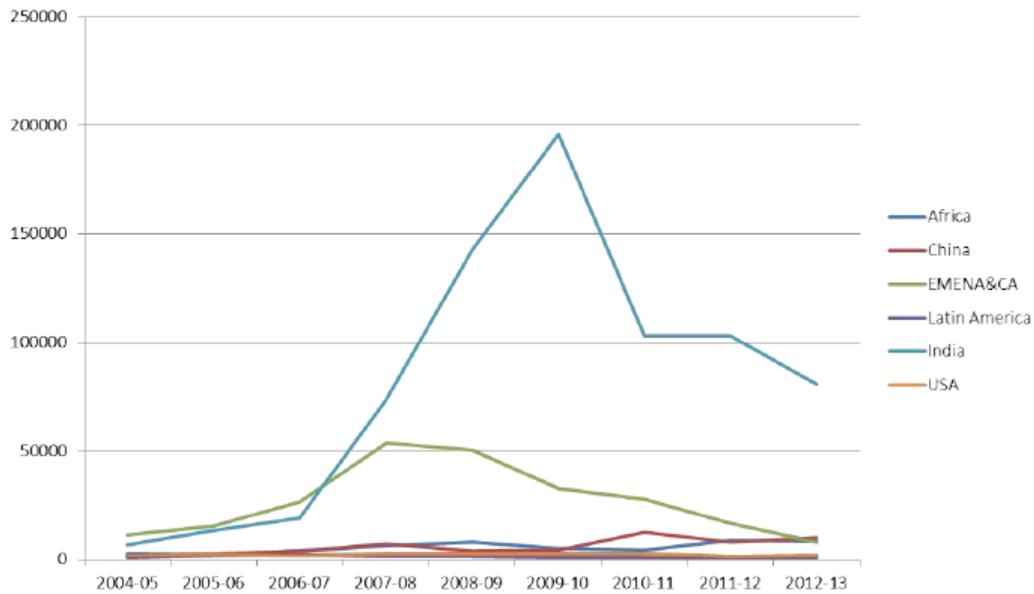


Chart 2: Development of organic cotton production as per region (Textile Exchange 2013).

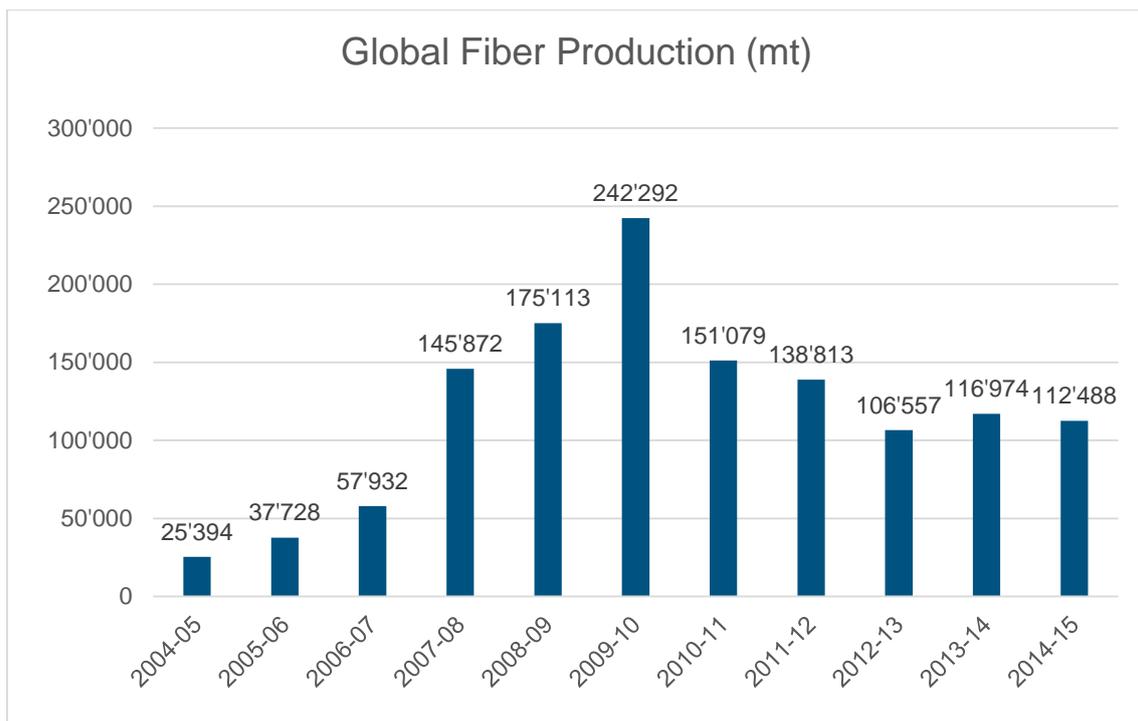


Chart 3: Total organic cotton production (t) over years (Textile Exchange).

7.4 Global Organic Cotton Market

Despite the fluctuations in organic cotton production, the market value of organic cotton steadily increased over the past ten years. In 2014 Textile Exchange reported an annual increase of 67%.

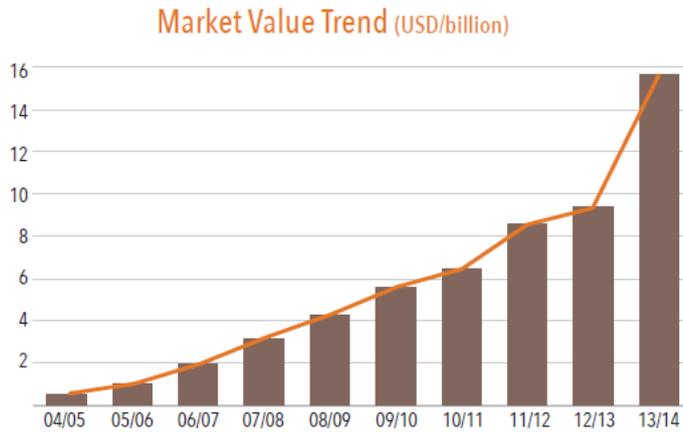


Chart 4: Market value trend of organic cotton in billion USD (Textile Exchange 2015)

As demand for organic continuously grows, there is an emerging organic cotton supply-demand mismatch. Production would need to grow by five-fold in order to meet projected demand in 2020.

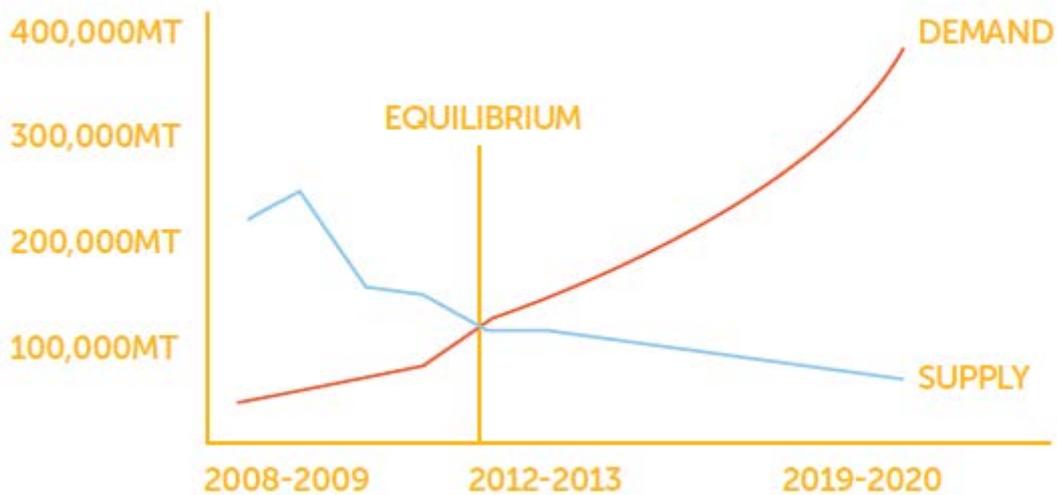


Chart 5: Organic cotton supply-demand mismatch (Organic Cotton Accelerator 2014)

IV) ORGANIC AND FAIRTRADE COTTON PROJECT IN MALI: "PROGRAMME DE PROMOTION DES FILIÈRES BIOLOGIQUES ET EQUITABLES AU MALI": 2002-2016

By Stefanie Kaegi and Andrea Bischof



8 Summary

The organic and fair trade cotton project in Mali was implemented by HELVETAS Swiss Intercooperation from 2002 to 2016 with the financial support of the Swiss State Secretariat of Economic Affairs (SECO) and further supporters like AFD, Britany/UEMOA, FiBL, Helvetas, ICCO, Migros and OXFAM. The total project budget was CHF 12'757'142, out of which CHF 4'109'832 were funded by SECO. The project was implemented in eight cotton producing regions of Mali: in Bougouni, Kolondieba, Yanfoalila, Garalo, OHVN, Kita, Bla and Yorosso.

Achievements

- The aggregated number of farmers (annual figures) which participated in the O&FT cotton value chain from 2002/03 to 2015/16 was **43'056**, out of which 73% of producers were male. On average **2'235 men farmers** and **841 women farmers** produced organic cotton annually.
- Assuming that farmers stayed on average five years with the organic cotton production (according to entries and leaves reported), the study calculated a number of **beneficiaries of about 8'611**.
- **In total 10'391t** of organic certified seed cotton has been produced and sold. On average, this is **796 t seed cotton annually**, respectively **0.26 t of O&FT seed cotton as per farmer and year**. No in-conversion cotton has been produced, since farmers could directly start with organic production.
- Throughout the project implementation the O&FT cotton yields remained at a low level of **0.42 t seed cotton per ha** compared to 0.94 t/ha in national conventional production (ICAC statistics). However, conventional cotton yields of the same production areas were about 0.64 t/ha and lower as well.
- Over the years, a total of **51'290 ha** of land has been certified for organic production out of which 27'688 ha were dedicated to cotton. On average this amounted to **3'664 ha** per year or **1.2 ha as per farmer and year**. The O&FT cotton growing area as per farmer **increased from 0.7 ha in 2002 to 1.3 ha in 2015**.

Economic impact

- A simplified calculation considering yields, prices, premiums and additional costs for conventional cotton production resulted in a total net income of CHF 2'727'543 in organic cotton project area compared to a calculated net income of CHF - 1'848'359 if the farmers would have produced conventional cotton on the same area.
- The total **additional financial benefit** from production and sales of O&FT cotton was **CHF 4'575'902** respectively **CHF 106 as per individual farmer and year**, or **CHF 165 as per hectare and year**. Therein not included was the additional income from sales of rotation crops.
- The total savings from not using agro-chemicals (CHF139 /ha/year) during 14 years of project implementation amounted to CHF 3'859'436 respectively to an annual average saving of **CHF 93 as per organic cotton farming household**.
- Organic and Fairtrade certification has been achieved since 2005. Thanks to the Fairtrade certification **social investments in the amount of CHF 240'459** (CHF 0.06 CHF per kg seed cotton) have been realised, corresponding to **CHF 6 as per farmer and year**.
- In order to diversify farmers' income sources, several rotation crop value chains (e.g. sesame, sorghum, maize, fonio, soy) have been fostered.

Social and institutional impact

- **Calculated 9000 farmers** have been capacitated to produce cotton and other crops according to organic standards.
- The producers are members of a producer organisation that advocates for their interest and where they make use of their voices. E.g. during the MoBioM crisis.

- The producer organisation (FENABE) is able to offer all relevant service for reaching O&FT certification.
- The involved farmers value the healthier work environment as key benefit.

Ecological impact

Based on a calculation provided by Textile Exchange (2016), with the conversion of 27688ha into organic (2002-2015) the project has contributed to save 7'316'853 CO₂ equivalent, and to avoid the use 24'919kg pesticide and 3'235'236kg chemical fertilisers.

Major challenges

Despite the financial attractiveness of the O&FT cotton production the sustainability of the value chain was affected by three major constraints:

- The project did not manage to produce the required quantity of cotton to break even with the producer organisations costs mainly due to:
 - **The marginalisation of O&FT cotton production** to unproductive areas, the **low investment potential of farmers** in soil fertility, and the **lack of organic matter** to improve soil fertility (e.g. farmyard manure), led to persisting low cotton yields.
 - **The missing continuity in cotton sales and late payment of farmers by CMDT** affected farmer's motivation to constantly produce organic cotton. As a result some certified fields with enhanced soil fertility - thanks to organic fertilization - were lost for further O&FT cotton production.
- **The privatisation of the cotton sector has not been realised** as it was foreseen at the beginning of the project. As a result, the O&FT cotton producer organisation could neither influence the timing, nor the pricing of cotton sales, nor directly benefit from cotton sales. This affected the overall sustainability of the value chain. In particular the late cotton sales led to a high fluctuation in farmers.
- Since the state cotton company CMDT acts as input supplier for conventional cotton production **conflicting interests affected the promotion of organic cotton**. This conflict can only be solved by privatisation of the cotton sector or by strong policies conducive to organic agriculture.

Learning

- A **promoted business case should work in a current political and institutional setup** and not depend on expected policy developments. The business case of organic cotton based on the assumption that the cotton sector will be privatised. This did not come true and affected the sustainability of the value chain.
- Promoting a business in a **state controlled or otherwise monopolised sector** (in Mali ginning and sales of cotton are fully state-controlled) is only possible if there is a real interest of the monopolist to promote the specific business and policies conducive to this business are in place. In state controlled sectors the project's influence on the monopolist is limited.
- **The critical volume of the produce** that breaks even with production costs must be calculated and communicated to the producer organisation (PO) upfront in order to plan the funding of the necessary services and overheads. Therefore
 - the projects potential to influence both factors but also the pretended risks must be assessed carefully;
 - in the planning phase the potential for organic intensification must be carefully assessed in order to not base a business on organic by default production method;
 - farmers' adherence to the value chain is key for efficient investments and must be noted.

- As a key requirement of Fairtrade certification farmers must be organised in a producer organisation. **The incurring overhead costs must be integrated into the business calculations.** If the PO itself acts as service provider for extension and internal control, service costs can be saved partly, even more if the PO acts as sales agent and is able to generate benefits from cotton sales. However, the latter is not possible in a monopoly situation as in Mali.
- A project does well to strengthen **democratic awareness and farmers' voice** during the time of project implementation, as farmers' ability to raise their voice within their producer organisation is key to ensure benefits for farmers and a correct implementation of the business plan.

9 Content and abbreviations

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ABBREVIATIONS

CHF	Swiss Franks
CMDT	Compagnie Malienne du Développement des Textiles
FENABE	Fédération Nationale des Producteurs de l'Agriculture Biologique et Équitable
ICS	Internal control system
MoBioM	Mouvement Biologique Malien (organic farmer organisation)
OHADA	Organisation for the Harmonisation of Business Law in Africa
ProFilBio	Programme de Promotion des Filières Biologiques et Équitables au Mali
SCPC	Sociétés coopératives producteurs de coton
SCPC-Bio	Sociétés coopératives producteurs de coton biologique
SECO	Swiss State Secretariat of Economic Affairs
SYPROBIO	Systèmes de production biologique diversifiés
UEMOA	West African Economic and Monetary Union
UNSCPC	Union Nationale des Sociétés Coopératives Producteurs de Coton

10 Introduction

10.1 The cotton sector in Mali

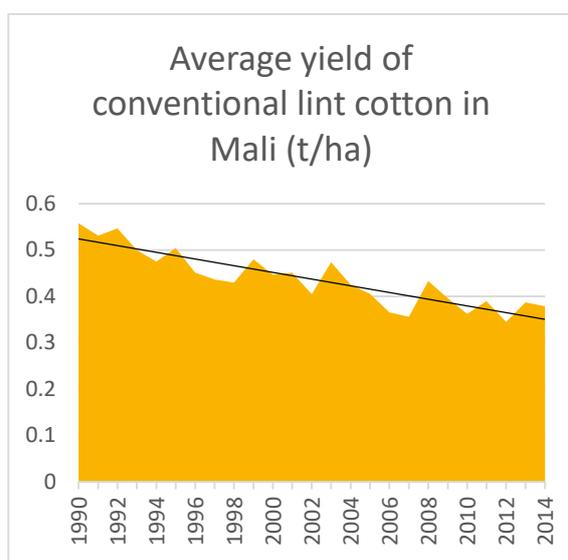


Chart 6: Average seed cotton yields from 1990-2014 in Mali (ICAC 2014)

In Mali, about 80% of the population make their living from agriculture. In 2015, about 3 million of farmers worked in the cotton sector. Cotton is the major export crop accounting for about 15% of gross domestic product. Since 1960, Mali has experienced growing pressure on land and consequently shorter fallow periods. The use of mineral fertilisers grew and resulted in an increase in cotton productivity from 120 kg cotton lint per hectare in 1964 to a volume of 558 kg/ha by 1990 (ICAC 2014). The 1990s however marked a turning point in this development: due to heavily depleted soils, the application of agrochemicals did not any longer result in increasing yields and farmers experienced a rather considerable reduction in productivity. Nevertheless, cotton farmers were still buying the same amounts of chemical inputs and fell into debts, as the production no longer covered the production costs

10.1.1 Development of the O&FT cotton production

Due to this situation there was a need for a change in Mali's cotton production towards sustainable practices. Helvetas therefore initiated the organic cotton project with the aim to support farmers in producing cotton in a financially and environmentally sustainable manner. Helvetas has already been active in the organic cotton sector since 1991, launching the first organic cotton shirt in the world that year. In 1997, the Swiss development organisation undertook the first study on the feasibility of organic cotton production in Paraguay. However, a feasibility study done in 1998 to check the same for Mali provided more promising results and led to the decision to launch a pilot in Mali starting by 1999. The idea was to offer hundreds of indebted smallholder cotton farmers burdened with poor soils, an alternative approach to conventional cotton production. During the initial phase Helvetas conducted successful and promising organic farming experiments, which paved the way for an official collaboration with state-owned company CMDT (Compagnie Malienne du Développement des Textiles), the monopoly holder over production and trade in the Malian cotton sector. In 2002, Helvetas initiated a pilot project on organic cotton trade promotion started with the support of the Swiss State Secretariat of Economic Affairs (SECO). The project intervention area was selected jointly with CMDT. The organic farmer organisation collaborated with one ginnery in Bougouni and was active in two surrounding cotton zones: Kolondieba and Yanfolila (AR: 2002). In 2004, CMDT included Bougouni as a new, promising zone. The zone Garalo followed in 2007, and in 2008, OHVN, Kita, Bla and Yorosso joined.

The ProFilBio project “Programme de Promotion des Filières Biologiques et Equitables” has been implemented during three phases (2002-2016), whereas the last phase 2013-2016 has been extended until 2017. In 2011, Helvetas started a collaboration with the university IER/CRRA in Sikasso in the frame of the regional project Syprobio (funded by the EU) to strengthen participatory research on organic practices, improving soil fertility and enhancing productivity.

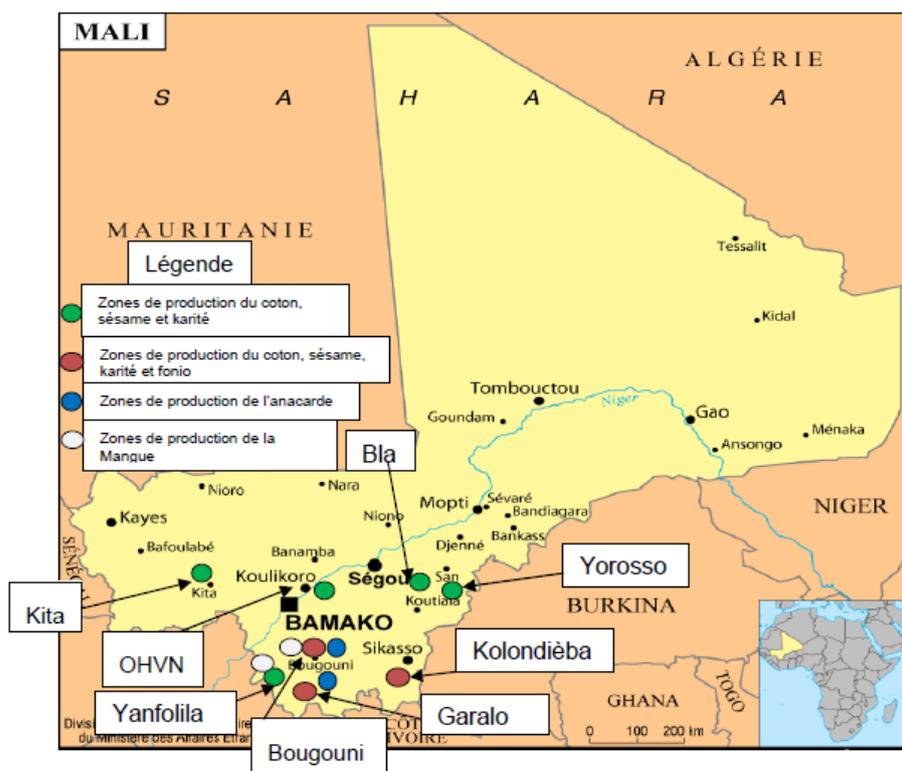
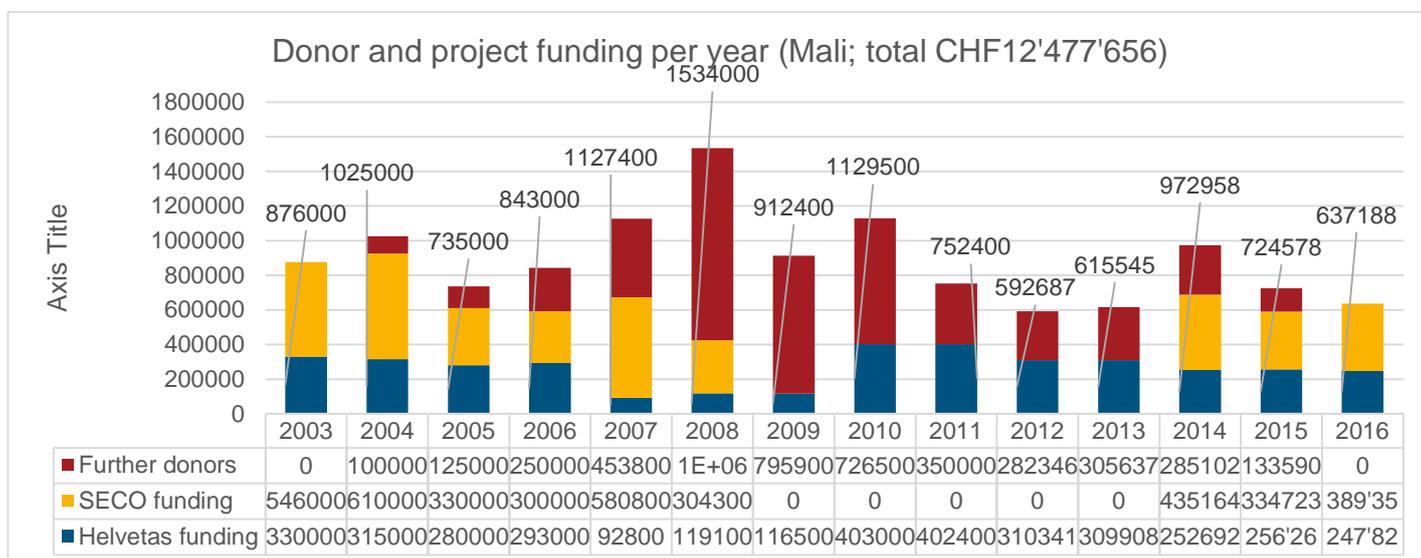


Figure 6: Project area from 2002 to 2016; green and red dots (Annual report 2012)

10.1.2 Donor and project support to the organic cotton value chain

The project has been funded mainly by SECO and Helvetas, but also by Lichtenstein Development Service (LED), ICCO, Migros, OXFAM, Bretagne/UEMOA, FIBL and AFD with a total of CHF 12'477'656 out of which CHF 4'109'832 from SECO. The total budget for the analysed time span of this study (2002-2015) was 11.8 million CHF, respectively 3.4 million CHF from SECO. The following table provides an overview of the funding sources.



11 Stakeholders of the O&FT cotton value chain in Mali

The cotton sector of Mali consists of the two main actors:

- 1) The cotton producers union "Union Nationale des Sociétés Coopératives Producteurs de Coton" (UNSCPC)
- 2) The state cotton company CMDT "Compagnie Malienne pour le Développement du Textile".

CMDT is a parastatal company founded in 1975 and owned by the Malian state (78%), the UNSPCP (20%) and the French Company Geocoton (2%). Since 1988, all production and marketing of Malian cotton is regulated by a contract between the Malian state, CMDT and the representatives of the cotton producers. Sixty percent of the operations of CMDT are financed by the Malian state and 40% by Geocoton (Dupont 2010). Since 2001, the Malian Government planned to privatise CMDT but this is yet to happen. In the meantime, the management of CMDT has changed several times considerably affecting the development of the organic cotton sector.

CMDT holds a monopoly position on seed production, input supply, cotton ginning and export. The company also provides extension service and organises the transport of the cotton from local cotton sales points to the ginneries. In addition, CMDT provides inputs to the cotton cooperatives on credit. Completing its monopoly, CMDT owns all 17 cotton ginneries in the country, of which three are certified according to organic and Fairtrade standards. 72% of the total Malian cotton fibres produced are ginned by these eight ginneries, which shows the weak capacity of the remaining nine ginning factories. The Malian main fibre variety (N'TA88-6) has a good reputation in the international market (ProDoc 2001).

Learning 1: The Malian Government officially planned to privatise the cotton sector by 2001. The project was planned on the assumption that this privatisation would happen in the course of the project implementation and that this would catalyse the development of the organic cotton sector. Many of the project's challenges and the difficulties to establish long term commercial partnerships based on the fact that the private cotton business could not develop. In addition, the permanently changing responsibilities within CMDT affected the value chain considerably. The interest of CMDT militated against the promotion of an autonomously developing organic cotton sector. The organic cotton business is only possible if the state and its subsidiary entities are interested in sustainable cotton production.

Producer organisations: Until 2005 farmers were organised in village associations, without any legal status. These associations organised the cotton production at village level. They planned the annual production, ordered the required agricultural inputs, and served as intermediaries between producers and financial institutions. Many of the village associations were severely indebted due to the low cotton yields and prices. In 2005, the associations were reorganised into producer corporations "**sociétés coopératives producteurs de coton**" (SCPC) and got a legal status as 'cooperatives'. In 2012, the cotton sector in Mali comprised 7,177 SCPCs (including the organically producing cooperatives, the SCPC-Bio), 288 communal unions, 41 sector unions (e.g. MoBioM), and 4 regional unions (Annual report 2012). The number of organic SCPCs increased from 6 in 2002 to 74 in 2013, but decreased again to 46 in 2014 due to further reorganisation and mergers. Each SCPC-Bio comprises of tens to hundreds of members.

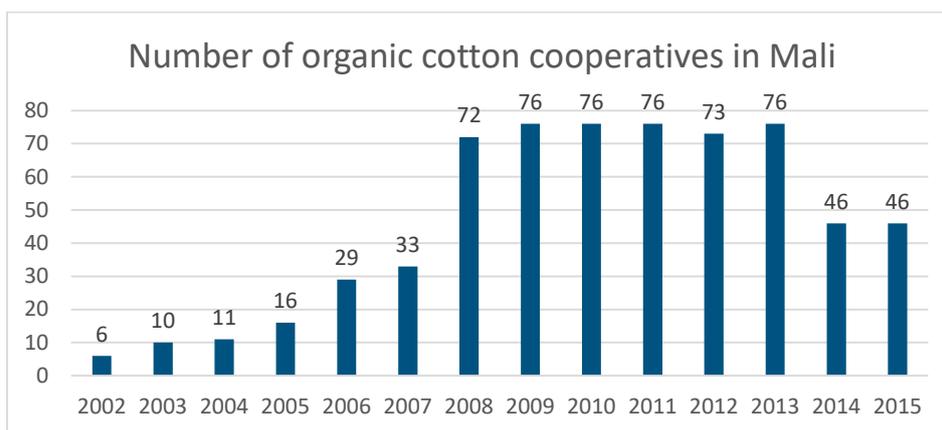


Chart 8: Number of organic cotton cooperatives in Mali from 2002 to 2015 (Annual reports)

All O&FT cotton producing cooperatives (SCPC-Bio) were united in their umbrella organisation **Mouvement Biologique Malien (MoBioM)**. MoBioM was founded in 2002 with support of ProFilBio and the objectives to represent the organic SCPC in the UNSCPC, to organise the O&FT value chain, and to advocate for organic agriculture in Mali (Annual report 2008). By 2008, MoBioM became the key partner of ProFilBio responsible for its management and its own internal control system (ICS), as well as for the provision of technical advice to organic cotton farmers. Step by step MoBioM entered in direct business relationships with funding partners, such as CONFED (EU) through the Ministry of Foreign Affairs (2009 - 2012) and the Dutch Inter-church organisation ICCO (2010 – 2011) (ProDoc 2012). However as the whole marketing was with CMDT MoBioM's direct contacts with cotton buyers was not in a kind of a commercial actor. With regard to further (rotation) crops such as shea, sesame and fonio, MoBioM was able to establish direct partnerships with buying partners such as with Emil Noel, Olvea, etc.

All SCPC (organic and conventional) are united in the **L'Union Nationale des Sociétés Coopératives Producteurs de Coton (UNSCPC)** which was founded in 2007. The Union represents all cotton cooperatives at the national level, advocates for producers' interests, and is an actor in the cotton value chain as contract partner of CMDT supplying inputs to farmers. That's why the UNSCPC focuses mainly on conventional cotton and for long did not play any major role in the development of the organic cotton sector. However, this changed with the crisis of MoBioM (2012-2015), when several management functions of MoBioM were transferred to the union in order to assure continuity of the services (Doumbia: 2015).

CMDT and the UNSCPC together form the cross-professional organisation **Interprofession du Coton au Mali** which sets the input supply costs and the procurement price for cotton.

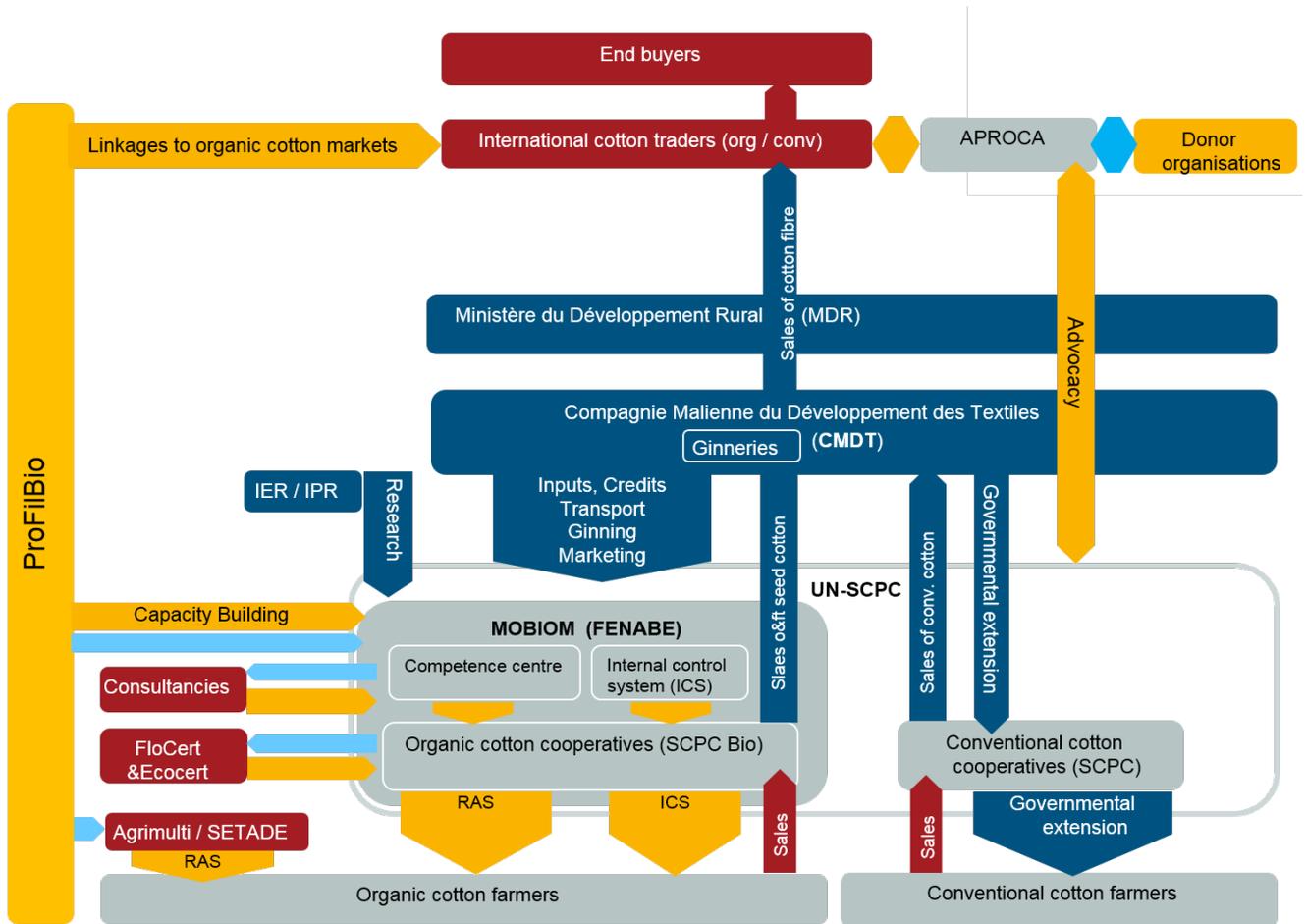


Figure 7: Institutional setting of the Malian cotton sector (Source: own figure by Kaegi: 2016)

Up to 2007, ProFilBio collaborated with two **private service providers for extension and research, Agrimulti Service and SETADE**. Both had been mandated to conduct participatory research during the initial phase (1999 - 2001) and thus gained experiences in organic cotton at an early stage of ProFilBio. During the first and second project phase, they were mandated to provide advisory services to the farmers. However, in 2007 this function was transferred to MoBioM for financial reasons and Agrimulti and SETADE were not involved any longer (ProDoc 2001).

The **Réseau Malien de Transformation de Coton Biologique (REMATRAC-Bio)** is a union of ten local enterprises processing organic cotton for the local market e.g. for a shop in Bamako.

The **Institute d'économie rurale (IER)** and the **Institut Polytechnique Rural (IPR)** maintain several agronomic research centres all over Mali. The research priorities for cotton include breeding and entomology (ProDoc 2001).

The **Ministère du Développement Rural** is responsible for the development and the implementation of policies on rural development with regard to market liberalisation, private sector involvement, and the strengthening of agricultural value chains. In ProFilBio the Ministry contributed to the strategic planning of the O&FT value chain having been part of the programme committee (ProDoc 2001).

MoBioM assigned mandates to **private consultancies** e.g. for the support to the development of their business plan but also for socio-economic studies. These consultancies were paid by the project via MoBioM.

Besides Helvetas, **donor organisations such as SECO, ICCO/EU, Oxfam, Region of Britany**, and the **West African Economic and Monetary Union (UEMOA)**, the following international projects have been involved in the organic cotton value chain of Mali:

- The two **international cotton traders** DEVCOT and Paul Reinhart AG, several international **buyers** amongst others Migros, Marks & Spencer, Switcher, TDV Laval.
- The two **certification agencies** EcoCert and FloCert.
- **APROCA**, the umbrella organisation of African cotton producers, that lobbies for policies conducive to O&FT cotton in the frame of a regional programme to support the development of O&FT cotton in West Africa. The official collaboration amongst APROCA Helvetas started in 2008.
- **SYPROBIO (Systèmes de production biologique diversifiés)**, the international programme to enhance food security and rural income through a diversified organic production system was launched in collaboration with the national research institutes and farmer organisations of Burkina Faso (INERA/UNPCB), Mali (IER/CRRRA & MoBioM), and Benin. SYPROBIO aimed at creating and communicating evidence of benefits of new, resource efficient agricultural techniques in a participatory way (www.syprobio.net).

12 Policy framework and the project's influence on it

12.1 Policies influencing the organic cotton value chain

The **government's monopoly position over cotton production and export** considerably affected the development of the O&FT cotton value chain: It disallowed direct client relationships between the producer organisation MoBioM and international buyers. This led to the fact that mainly CMDT was able to profit from O&FT cotton trade and benefits had not been necessarily passed on to MoBioM.

The national platform on ecological and organic agriculture was set up in the frame of the policy project Agriculture Écologique Biologique (AEB), 2014 - 2018 supported by SDC in collaboration with the African Union and implemented by Biovision. This project advocates for the institutionalisation of organic agriculture in the national legislations of the African Union countries. In Mali, MoBioM brought this multi-stakeholder platform into being, uniting civil society, government and private sector actors, in order to launch a policy dialogue on organic agriculture. The first **action plan for organic agriculture** was developed and adopted in 2015. The actions foreseen were:

- 1) Research in and education on organic production methods
- 2) Communication and extension on organic agriculture
- 3) Development of local and international value chains for ecological and organic produces

Until today the use of **GM cotton** seeds is prohibited by law in Mali. Officially Mali produces no GM cotton. However, **the national law on biosafety**, adopted in 2008, opened the doors for GM cotton varieties. MoBioM and Helvetas, together with other civil society organisations, took a position and advocated against the introduction of GM cotton and other GM crops in Mali (Annual report 2008). So far, in spite of the Law on Biosafety there is little to no use of GM varieties in Mali's cotton production due to the troubles GM cotton caused in Burkina Faso.

The Regional "Politique Agricole de l'Union (PAU)" was elaborated by **UEMOA** in 2001 with the aim to support food security, and to enhance agricultural productivity and the living standards of the farmers families. Interventions are foreseen in i) the adaptation of production systems and improvement of the production environment; ii) strengthening of local markets and management of common resources, as well as iii) regional and national integration of agricultural markets (UEMOA 2007). This policy is entirely supporting organic production systems.

The Cadre Stratégique de Sécurité Alimentaire durable (CSSA) was elaborated in the frame of a meeting of the “Permanent Interstates Committee for Drought Control in the Sahel” in Bamako in 2000. This policy serves as a reference for all activities that concern national food security and poverty elimination (ProDoc 2009) and thus provides a valuable basis for advocacy on organic production systems.

The Organisation for the Harmonisation of Business Law in Africa (OHADA) came into force in 1993 in order to structure business laws in the 17 member countries (including Mali and Burkina Faso). In 2014, the statutes of MoBioM and the SPCB had to be adopted to the uniform OHADA act for cooperatives (Annual report 2014).

12.2 Advocacy achievements of ProFilBio

Helvetas supported MoBioM in their advocacy activities prior to the adoption of the law on biosecurity with a public education event and an advocacy week to sensitise civil society actors to organic agriculture. The project's support for capacity development of MoBioM has enabled the organisation to become one of the major advocacy actor concerning organic agriculture in Mali. The institutional setup of MoBioM as a civil society organisation allowed to maintain an independent position and advocate in favour or against state policies. Furthermore, as MoBioM represented organic farmers of several value chains and crops - not only cotton farmers - their voice gained power and legitimacy. One of the major advocacy achievements is that the Agriculture Act of Mali mentions organic agriculture as sustainable production method.

However, despite MoBioM's advocacy efforts, the national support for the elaboration of a law on organic agriculture remained low. The state cotton monopoly and agribusiness entities have a distinctive interest in supplying inputs to farmers. Organic cotton production may thus have been seen as bad for this business. As a result, organic cotton producers cannot benefit from state subsidies in the same way as conventional producers do, as subsidies are linked to price reduction for agricultural inputs.

Learning 2: Where the cotton sector is regulated by the state - as in Mali - policies conducive to organic and fair trade are of major importance, since many decisions are taken by CMDT and the scope of the producer organisations to influence their business is limited. A strong policy framework would also mitigate the influence of staff change and individuals within CMDT.

13 The organic cotton value chain in Mali

13.1 Set up of the organic cotton value chain in Mali

The organic cotton value chain of Mali is organised as shown in Figure 8. The organic farmers, united in several SCPC-Bio, sell their cotton via the umbrella organisation of the SCPCs, the UNSCPC, to CMDT and get an O&FT price in return. The Fairtrade premium is transferred to the SCPC-Bio and reaches the farmer families via social projects upon which the SCPC-Bio decides jointly.

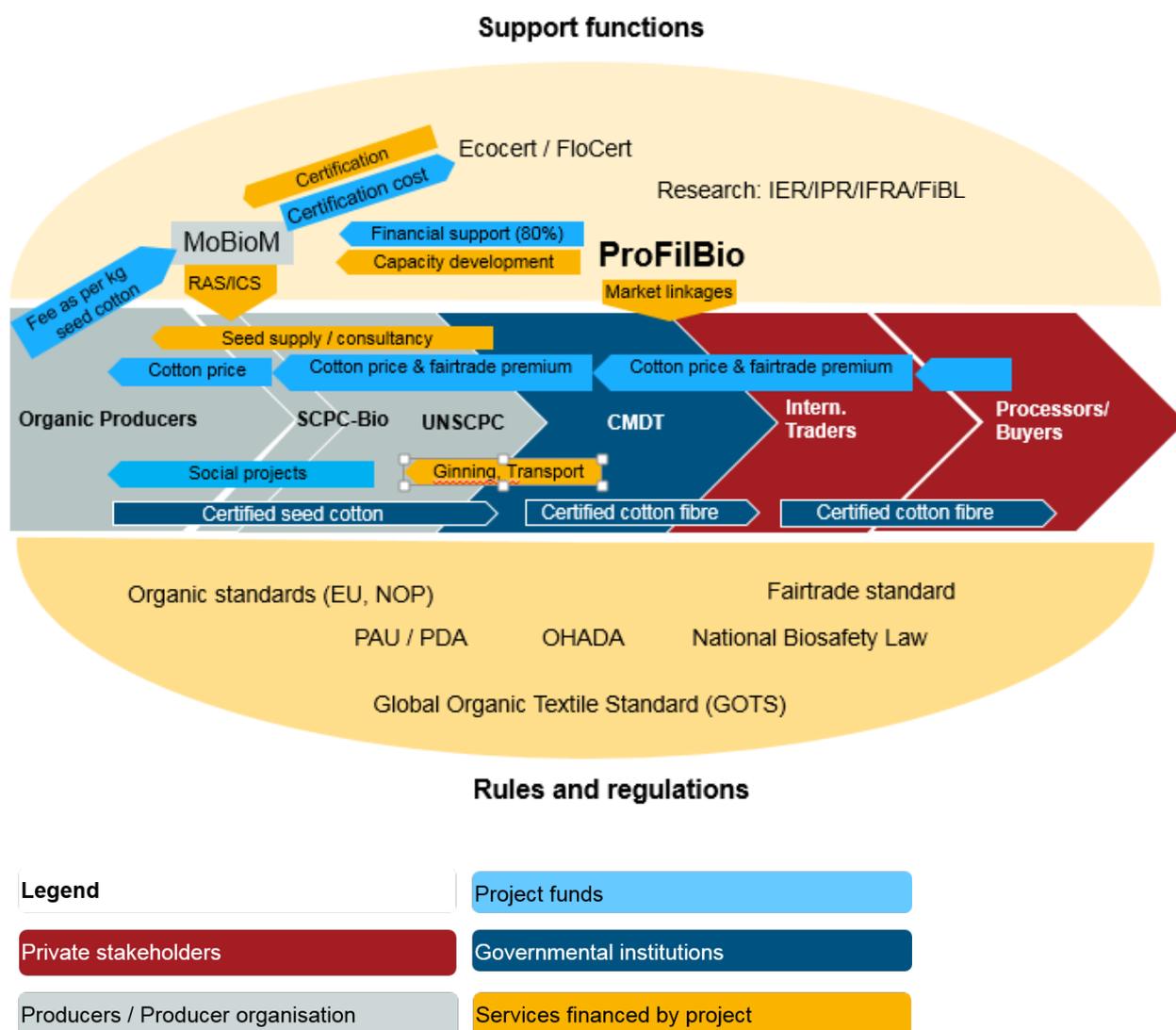


Figure 8: The organic and Fairtrade value chain in Mali: supporting functions and regulations (Source: own figure by Kaegi: 2016)

ProFilBio strengthen the **capacities of the producer organisation MoBioM** to enable the organisation to provide services required to manage the O&FT cotton value chain from production to sales. The main objective was an independent, self-financed, vertically integrated value chain with MoBioM as the main actor. However the role of MoBioM remained limited and MoBioM did not become a real value chain actor, but a supporting entity providing rural advisory services and certification services via the SCPC-Bio to the organic farmers. These services had been partly financed through a small contribution of CMTD to MoBioM - 28 FCFA as per kg organic seed cotton sold. The responsibility for ginning and - more important - the purchase of cotton from farmers, the payment to farmers and the marketing for sales always stayed with CMTD.

13.2 Production inputs and ginning services

In order to produce certified O&FT cotton, producers rely on the following support services:

- 1) Access to production inputs (seeds, organic fertilisers, organic crop protection products) and to ginning services
- 2) Access to innovation and knowledge about organic agriculture via rural advisory services
- 3) Access to certification by an accredited certification body using group certification and a well-managed ICS



In Mali, requested inputs for organic cotton production are seeds, organic manure and crop protection products, as well as working equipment.

Supply and pre-financing of seeds is adequately managed by CMDT to all cotton cooperatives, including the organic SCPC. Since GM cotton varieties so far have not been introduced in Mali, no particular challenges appeared regarding seed supply. However, MoBioM did not manage to make research institutions developing cotton varieties adapted for organic production. So far, the Malian organic cotton farmers need to sow the same variety as conventional farmers do; varieties bred and tested under conventional production circumstances.

The production and provision of **organic fertilisers** was always the responsibility of MoBioM and the organic cotton cooperatives. Access to sufficient organic fertilisers has constantly been a critical issue for profitable organic cotton production, as 30% of the farmers do not have cattle and 16% do not have any livestock at all. Despite diverse measures, e.g. distribution of subsidised carts to ease the application of the organic manure, or specific trainings on compost production and application, attempts to create composting SMEs never felt on fertile soil and MoBioM was not able to enhance the availability and farmer's use of this important input factor. This fact limited the productivity of Mali's organic cotton production. The reason for the limited use of organic fertiliser, however, was not only a lack of organic material, but also farmers' reluctance to additional labour and the lack of their capacity and willingness to invest in the productivity of their cotton fields. The reasons have not been properly assessed and remain hypothetical (Helvetas 2008). However, in 2016 a collaboration with the organic fertiliser producing company "Elephant Vert" just started.

With regard to **crop protection means** MoBioM has been supported by ProFilBio to develop and sell several organic plant protection products such as Neem oil, Koby oil, and M'peku oil.

Working equipment has been subsidised in manifold ways by the project. The SCPC-Bio have been afforded to buy e.g. carts or scales for cotton weighing at 50% of the sales price.

Learning 3: Access to quality production inputs, such as organic fertilisers or locally adapted seeds, is key to increase productivity. However, there are other factors influencing low productivity, such as reluctance to labour or financial investment into the farm system. If these factors are not sufficiently and critically assessed (are the returns adequate? Is the opportunity costs analysis robust?), expectations regarding profitability of a value chain tend to be too high.

The monopoly position of CMDT enabled the company to define the **price for ginning**, which ended up in high ginning costs that hindered Mali's competitiveness in the global market (CDI 2011). Although organic cotton was mostly ginned timely and in an adequate quality, the dependency on CMDT's price policy and ginning services constrained the overall development of the value chain and farmers benefit.

Learning 4: The project's assumptions that ginning services together with CMDT will be privatised in the course of the project implementation did not come true. As a result, dependency of the o&ft cotton sector on monopolised ginning services remained and still affects the profitability of the value chain – an external factor that is beyond the project's sphere of influence.

13.3 Agricultural extension and certification services

Until 2007, the two private service providers SETADE and Agromulti Service have been mandated by Helvetas to ensure extension and ICS services to the organic producer organisations. This changed in 2008 when the responsibility for extension services and certification (external and internal control system) was completely transferred to MoBioM, which on its part was trained by the project and private service providers to ensure these services in order to reduce costs.

MoBioM's services were organised at four levels: The competence centres responsible for extension and ICS at national level, the supervisors responsible at zone level, the technical advisors with responsibility for a group of cooperatives, and the animators or lead farmers operating at cooperative level. Until 2008, the services were financed hundred percent by the project (Annual Report 2008) and the number of technical advisors increased with the number of cooperatives up to 40 until 2013. As the advisors became more efficient over time they reached some scale effect and were reduced to 20 employees afterwards.

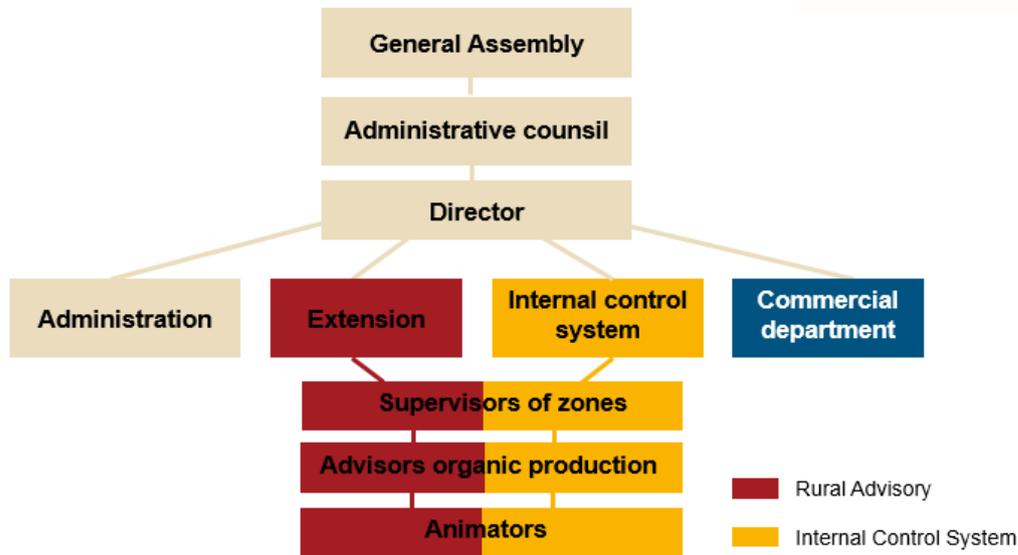


Figure 9: Structure of the producer organisation MoBioM

Learning 5: With the decision to certify the organic cotton production also as Fairtrade, the project had to compulsorily constitute a producer organisation. Producer organisations become self-supporting through sales of produces, or - if sales are still too low - by offering paid services (to their members). This and the aim to reduce costs, led to the integration of extension and ICS services into the producer organisation MoBioM instead of further invest into the capacities of SETADE and Agromulti Service (two private service providers). The Fairtrade certification therefore has a considerable influence on the value chain setup.

13.4 Production figures

Between 2002 and 2011 the total area of O&FT cotton production continuously increased from 118 ha to 4641 ha and the produced volume steadily increased (with a slight slump in 2009 due to heavy rainfall which affected the cotton production in general).

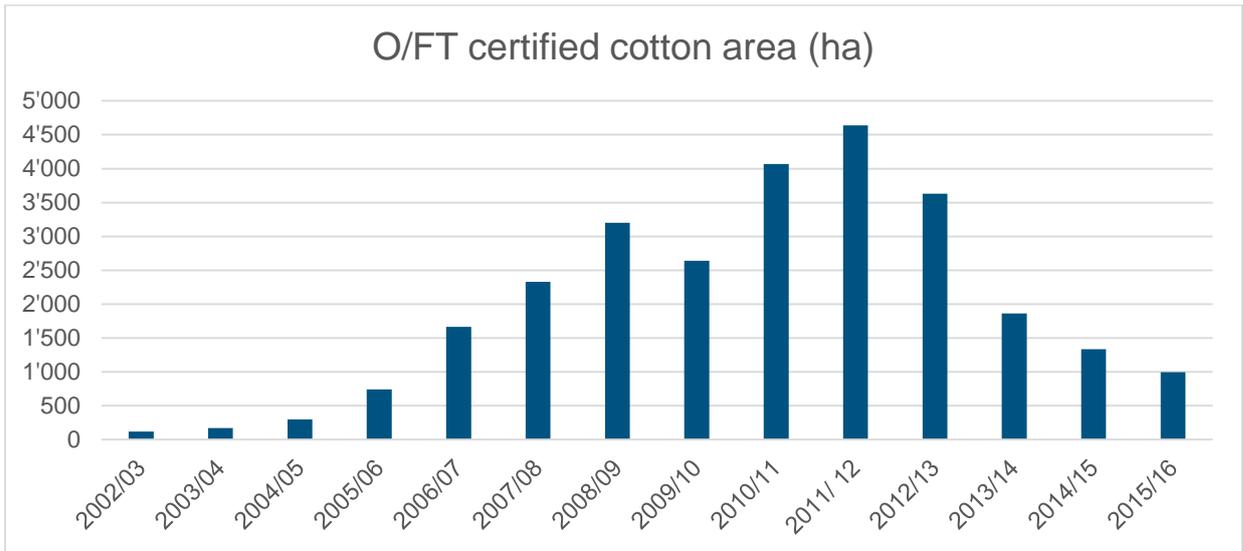
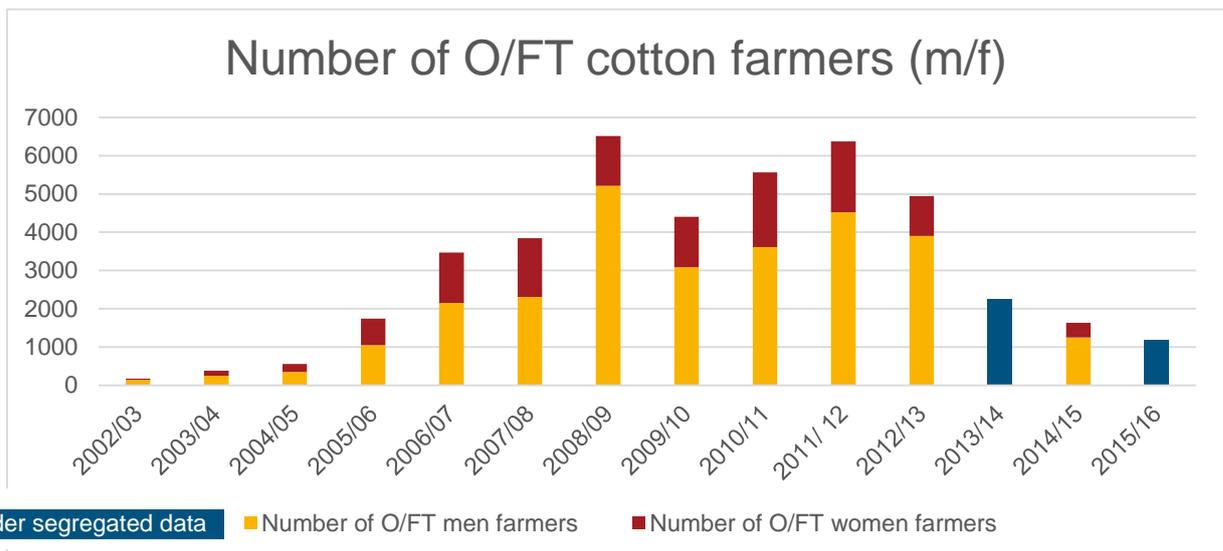


Chart 9: Area under O&FT cotton, 2002-2015 (Kaegi based on Annual reports 2002 - 2015)

Though, after 2011 the number of producers and therefore the production area decreased tremendously because of changing payment method of CMDT and the internal crisis of MoBioM.



No gender segregated data

Number of O/FT men farmers

Number of O/FT women farmers

Chart 10: Number of female and male O&FT cotton producers in Mali (Kaegi, based on Annual Reports 2002-2015)

In 2010 CMDT went through a huge internal reorganisation and was not able to sell the O&FT cotton at a premium price. Farmers therefore did not get any premium. Thus, in 2011 CMDT started to pay the organic price and premium not until O&FT cotton was sold. This in fact was nothing special, as conventional cotton farmers usually get paid in June. However, it was a loss of a former privilege when - thanks to the huge demand for O&FT cotton - organic farmers got paid for their O&FT cotton upfront, latest in February. In 2012 and subsequent years the internal crisis of MoBioM became noticeable. From then on, the O&FT cotton production started stuttering as shown in Chart 11.

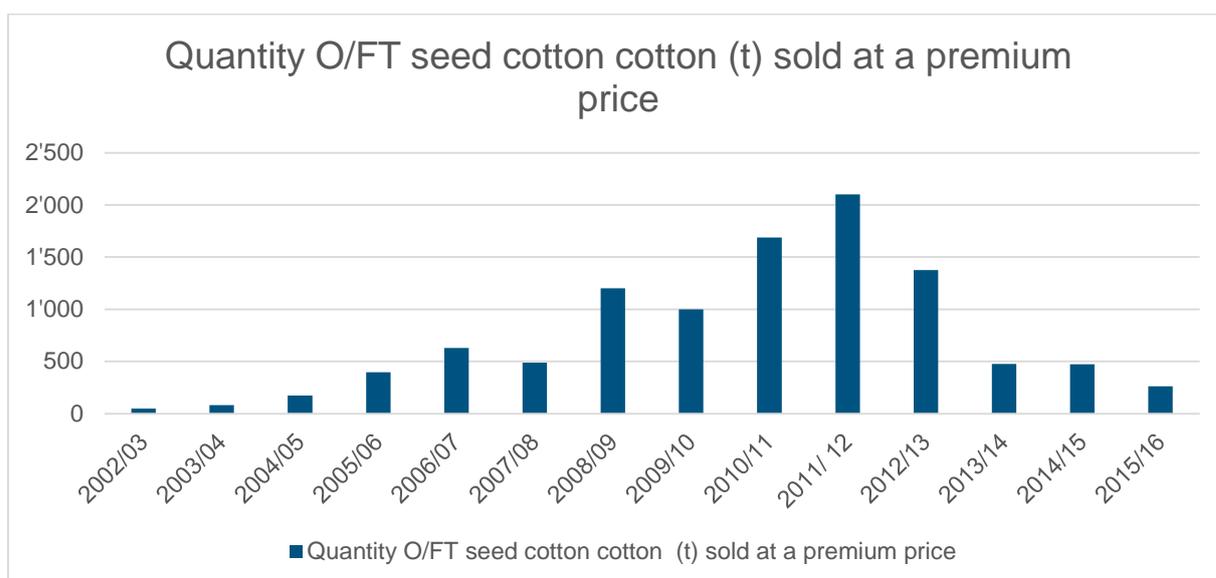


Chart 11: O&FT cotton production in Mali. 2002 and 2003 in conversion cotton (Annual Reports 2002-2015)

However, despite the production decrease, the average area as per farmer dedicated to cotton doubled between 2003 and 2015 because O&FT cotton still proposed an economically attractive alternative with more profit and no credit interests, access to trainings and capacity development and better producer health.

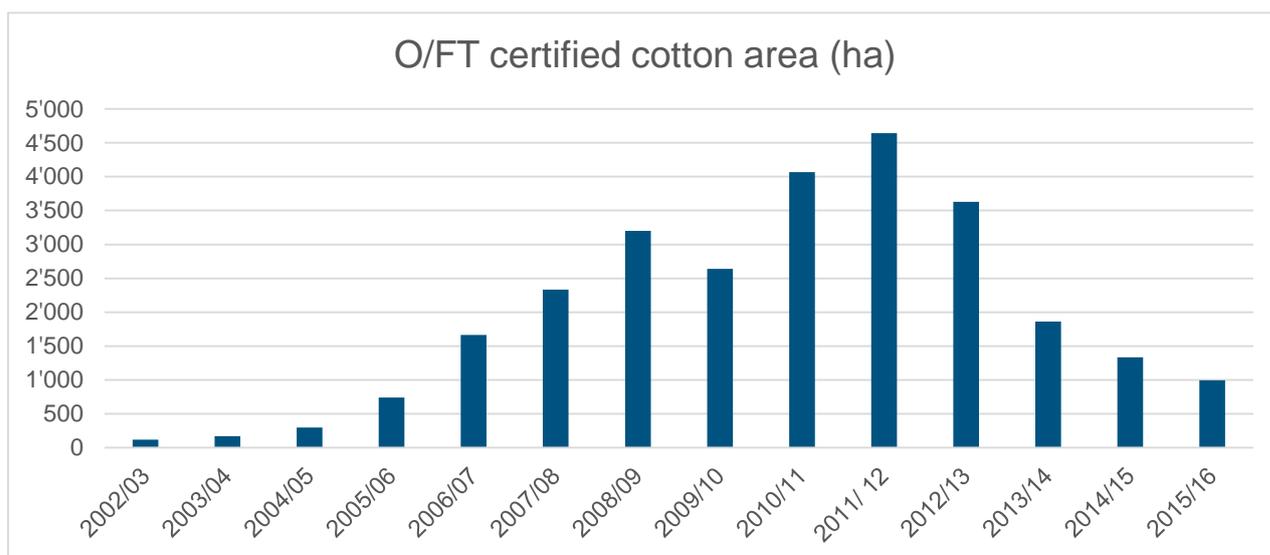


Chart 12: Area under O&FT cotton as per farmer (Kaegi, based on Annual Reports 2002-2015)

Though a remaining concern was the constant low yields in organic compared to conventional production. In organic on average only 420 kg seed cotton per ha had been produced, about the half of the yields produced in conventional production (940 kg/ha) (Annual reports and ICAC 2014). The major reasons for the low yields, however, was the limited availability and application of organic fertiliser which has not improved significantly over time but also the expansion of organic to marginal areas in order to avoid conversion time (Chart 13).

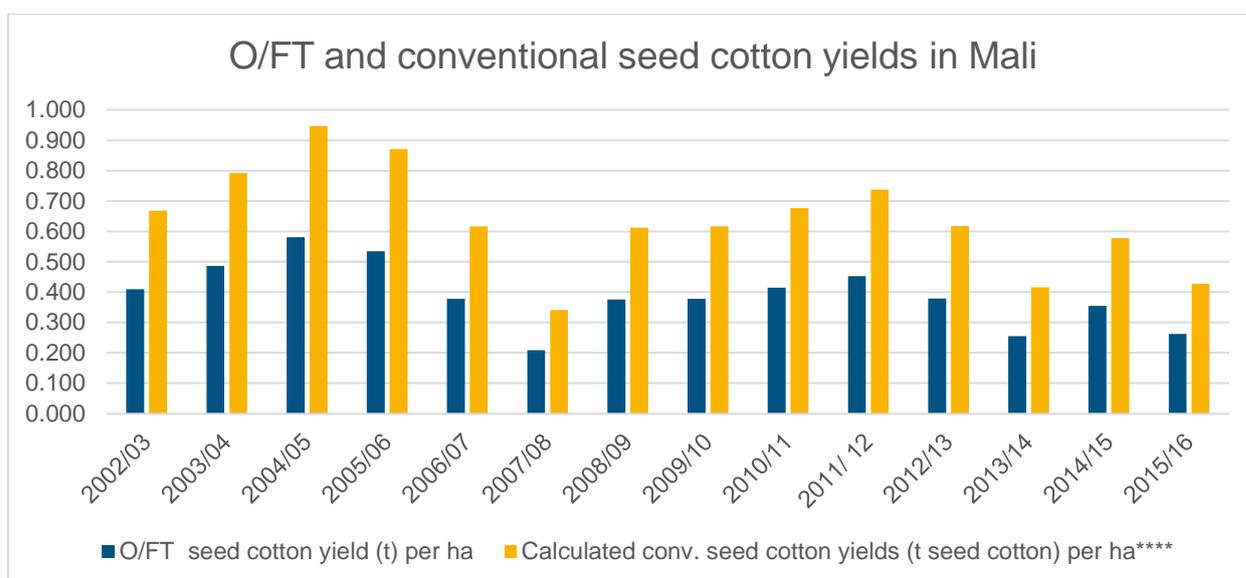


Chart 13: Average seed cotton yields in Mali (Kaegi, based on Annual reports 2002-2015; ICAC 2014)

MoBioM accessed and developed knowledge and innovations with support of the project and in collaboration with Syprobio and research institutions. They set up farmer field schools and training centres, to share best practices. This fostered the farmers' knowledge and self-confidence as their empirical knowledge had been valued. However, the fact that MoBioM did not manage to enable or motivate farmers to produce their own fertiliser does not give very high marks to the extension service of MoBioM and implementation of the organic production method. Although motivation of the farmer as well as their potential to invest was definitely not completely in the sphere of influences of MoBioM but dependent on diverse factors.

13.5 Marketing of O&FT cotton

The project's marketing strategy strived for long-term partnerships with international traders and brands in order to assure farmers benefit from a better price and premium to compensate the comparably lower yields. Higher profitability in organic cotton production, however, can only be reached if O&FT cotton is sold at a premium price. In the case of Mali, where CMDT has the exclusive right for cotton marketing, including organic, this posed a challenge: the organic producer organisation could not decide to whom the O&FT cotton was sold and CMDT did not dispose of a network of buyers interested in organic cotton. That's why advisors of Helvetas head office in Switzerland - in close collaboration with the cotton traders Paul Reinhart AG and Devcot - linked them with potential buyers such as Migros and Switcher. However, often CMDT was not able or willing to sell the produced O&FT cotton to interested buyers which had been proposed, and Helvetas tried to hand over this brokering function to CMDT, which was only partly successful, as staff within CMDT often changed and clients relation constantly got lost. In 2010 CMDT was not able to sell the O&FT cotton simply as there was no buyer at hand.

Despite the marketing support of Helvetas Switzerland and the increasing demand for certified cotton (Textile Exchange 2015) selling of identity cotton remained a challenge. A lot of buyers interested in certified cotton often were not willing to pay a higher price. In 2015 Fairtrade International published a study stating that in 2013, hardly any Fairtrade cotton was sold at a Fairtrade price with a Fairtrade premium. In 2014 only 40% of the total produced Fairtrade cotton was sold with a Fairtrade premium. However, past experience showed that in general cotton with combined certifications - organic and fair trade – sells better than non-organic Fairtrade cotton.

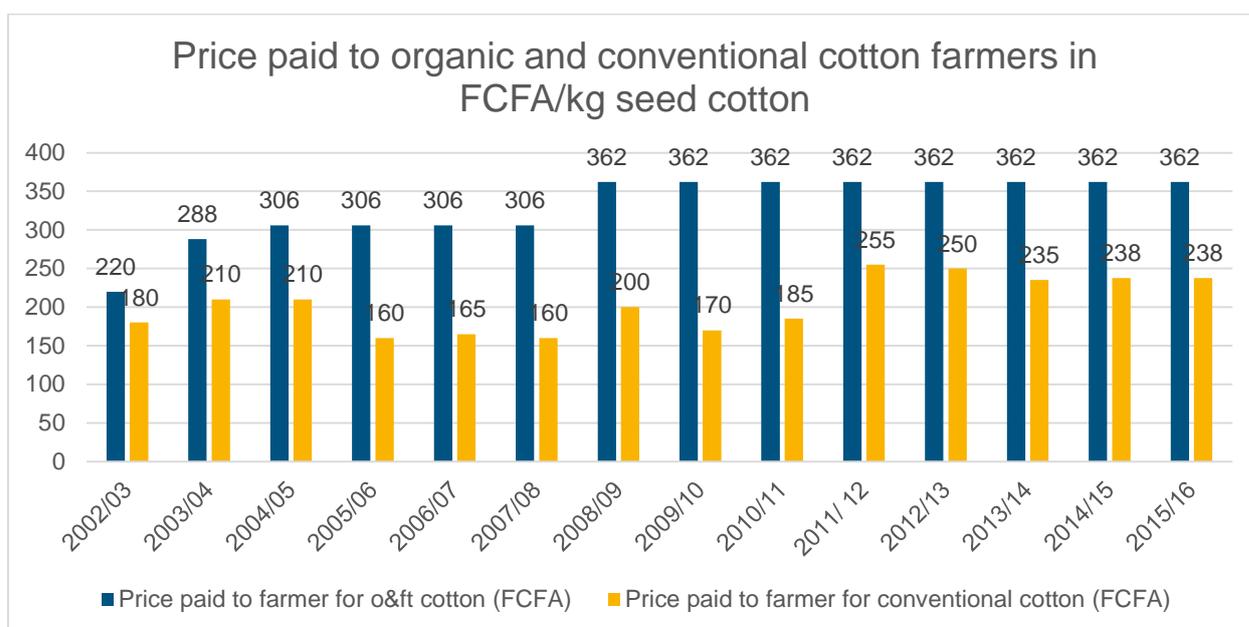


Chart 14: Price paid to organic and conventional cotton farmers in Mali (Kaegi, based on Annual reports 2002-2014)

Learning 6: Selling cotton at the open market without any purchase agreements or long term contract bears the risk that o&ft cotton can't be sold at a premium price and in reasonable time. Since the premium is needed to cover costs for extension and certification and to compensate the lower yields in organic production, negligence or low capacities in marketing puts the sustainability of a value chain at risk. However, in the Mali organic cotton project several interested buyers showed up but neither MoBioM nor CMDT did sufficiently pursue these opportunities to set up long-term agreements.

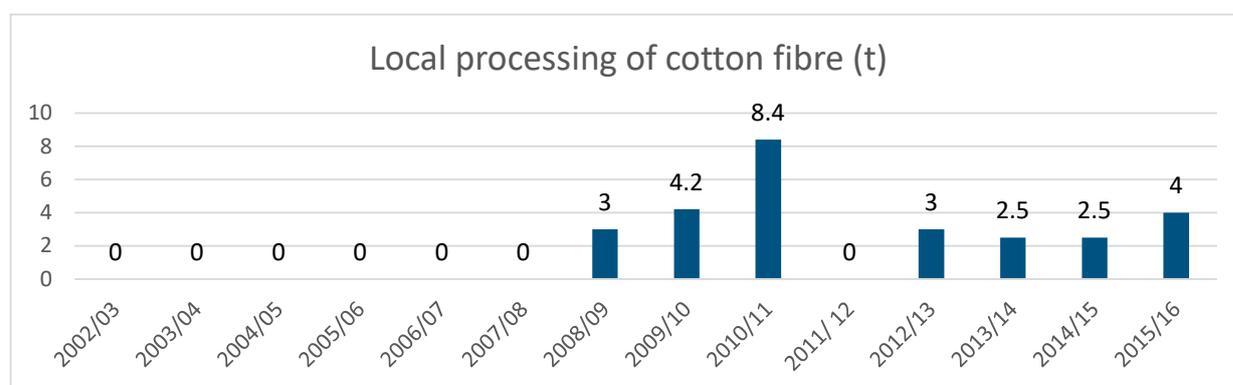


Chart 15: Locally processed o&ft cotton fibre (Kaegi, based on Annual reports 2003-2016)

The only market directly accessible for MoBioM and thus for the farmers, was the local textile craftwork market. A local network of processors REMATRAC-BIO (le Réseau Malien de la Transformation du Coton Biologique) processed yarn spun by COMATEX a local spinner. Five initiatives worked on local O&FT cotton processing (weaving and natural dyeing). However, this market did not show a high potential for growth due to limited demand from local but also international purchasers.

13.6 Economic self-reliance of MoBioM

In 2008, MoBioM developed a business plan which foresaw MoBioM's income to increase in a way the organisation could finance all its activities to hundred percent from 2012 onwards. However, the calculated break-even point - where revenues would have covered all costs - has never been reached. Several challenges threw a spanner in MoBioM's plans and prevented the business from growing as planned. In 2010 MoBioM was able to cover only 28% of its current costs and 8% of the investments. Therefore the business plan had to be adapted in 2011 and aimed at 60% self-financing by 2014. Both business plans calculated with the following income sources for MoBioM:

- 1) 28 FCFA/kg sold O&FT seed cotton
- 2) 10 FCFA/kg of the Fairtrade premium (34 FCFA/kg)
- 3) Membership fees of 25'000 FCFA as per year
- 4) subscription fees (5'000 FCFA)
- 5) Premiums and profit from sales other crops than cotton (mainly sesame, fonio, cashew, mango, and shea)

However, even the adapted business plan had been challenged by the reality of difficult circumstances: CMDT did not put much effort in the O&FT cotton value chain and starting by 2011, MoBioM went through a serious institutional crisis characterised by four main aspects:

- 1) Illegality and illegitimacy of the elections of the administrative council
- 2) MoBioM's denial to conduct budget audits in 2010 and 2011
- 3) Unrealised disbursement of 34 Mio FCFA Fairtrade premiums to farmers
- 4) Misappropriation of 22 Mio FCFA by MoBioM's accountant

This led to the suspension of the director by the producers association, to the election of a crisis committee and the adoption of an emergency action plan. The crisis led to the immediate stop of MoBioM's activities and was followed by several months of uncertainty and institutional reorientation. In this time, MoBioM was still supported by the project, but managed by the crisis team in collaboration with CMDT and ProFilBio. The farmers clearly stated their interest in a continuation of the O&FT cotton production provided that the value chain was organised in a more transparent way. In 2015, the producer cooperatives decided to form a new umbrella organisation with the same functions as MoBioM but led by a new administrative council. The new producer organisation, called FENABE (Fédération Nationale des Producteurs de l'Agriculture Biologique et Équitable), was legally registered on November 26, 2015. FENABE, representing about 20 organic cooperatives, hired technical advisors of the former MoBioM in order to keep knowledge and experiences that were generated during the past years, available for the organic farmers.

Learning 7: Besides a business case and a credible business plan, farmers' democratic awareness within a producer organisation is key to ensure correct implementation of the plan and benefits for farmers. A project does well to strengthen farmers' voice during the time of project implementation in order to prepare them for potential improper functioning of the producer organisation.

Organic and Fairtrade cotton in Mali

At the beginning, of the project subsidised MoBioM's costs completely and there was no strategy in place to internalise the operational costs. Hence, there was also no incentive to break even. In retrospect, MoBioM's business plans have been too optimistic not only in terms of production increase but mainly in speed to reach self-financing of the organisation, as this implied a considerable change in the project setup. In addition no public funding had been foreseen to discharge part of the project support to the value chain and therefore replace the former subsidies; although some subsidy (for risk mitigation mechanism, crop insurance, or compensation mechanisms) would probably be necessary to further develop the organic sector in the country. Thirteen years of support might be a long time, but looking at organic value chains e.g. in European countries, most of them rely on state subsidies.

Last but not least, it is interesting to compare the planned and real cotton production and yields. While the yields have been planned in a realistic way, cotton production did never reach the quantity planned. This, because the area dedicated to O&FT cotton had changed from year to year and did not increase as expected. Seemingly, the production plans for cotton and rotation crops had been fixed quite short-term and fluctuation of farmers was relatively high.

Learning 8: Farmers' adherence to the value chain is key to assure durability. Fluctuation of farmers affects realistic business planning, and thus the sustainability of the value chain. Special attention is to be paid to trust, reliability and timely payments which influences farmer's motivation in long-term engagement.

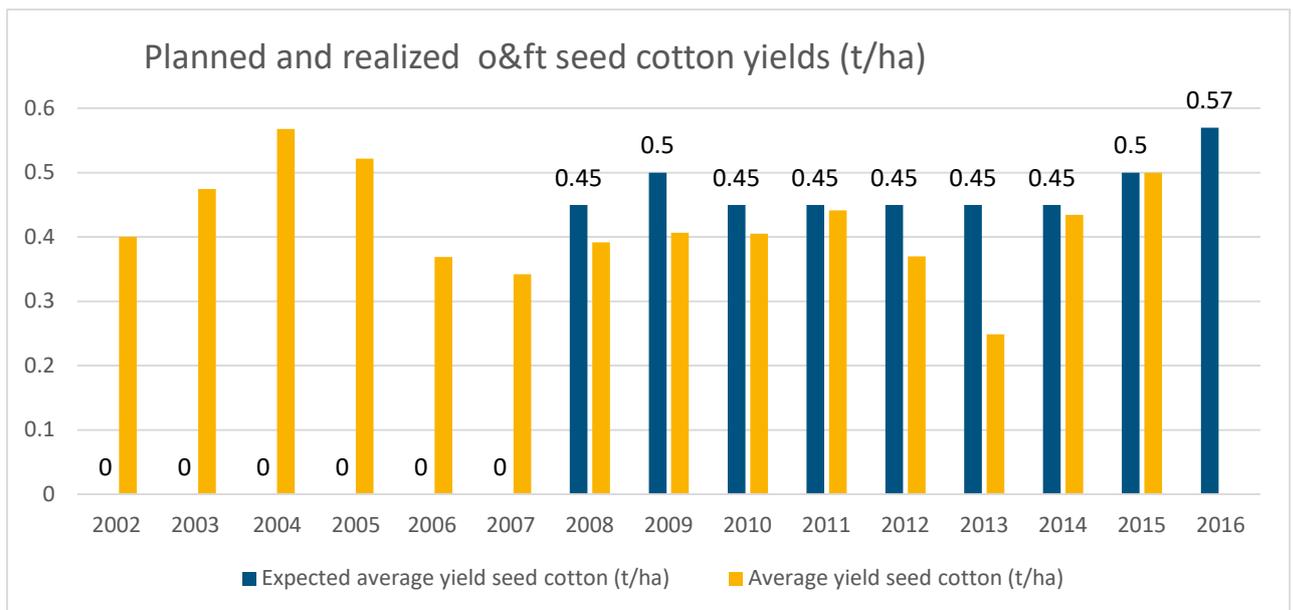


Chart 16: Comparison of planned and realised O&FT seed cotton yields in Mali (Kaegi, based on Annual reports 2002-2016)



Chart 17: Comparison of planned and real O&FT seed cotton production (Kaegi, based on Annual reports 2002-2016)

This unsteady development of the organic & Fairtrade cotton sector also influenced the development of MoBioM and its level of self-financing over the time:

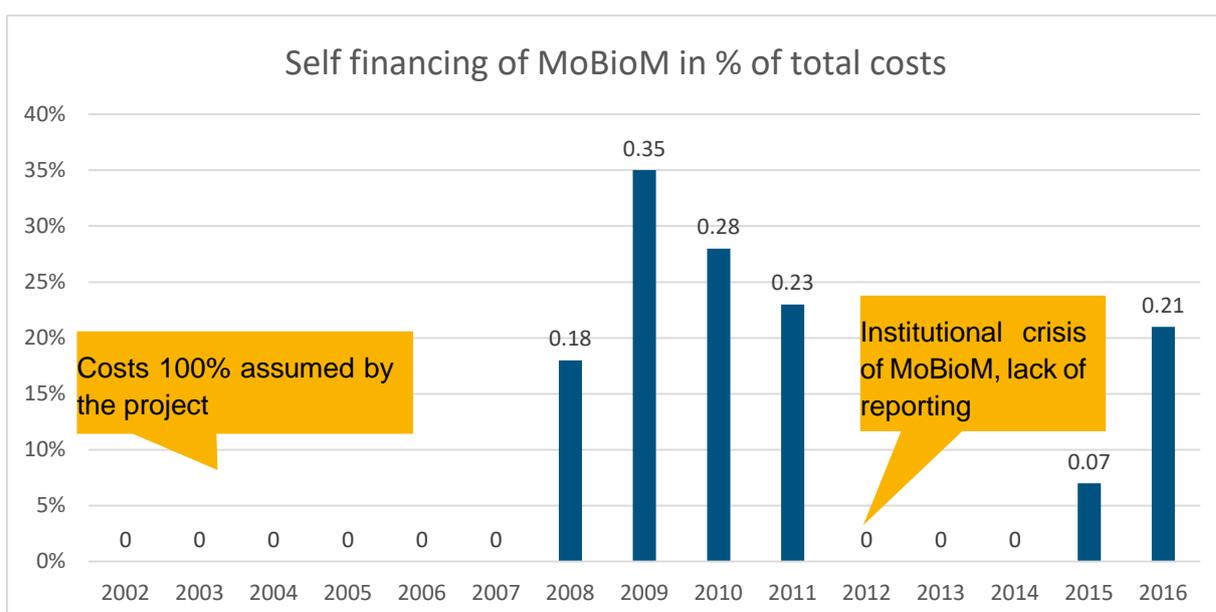


Chart 18: Development of MoBioM's self-financing of total costs of project activities

The relatively high costs for extension and certification of 42 FCFA as per kg seed cotton, which accounts for 14% of the average seed cotton price paid to farmers (311 FCFA/kg) have been considered as the main constraint for increasing self-financing of MoBioM (Helvetas 2008). An

Learning 9: Certification and extension (particularly training costs) are considerable cost factors and play a role to sustainability of a value chain. Even if services are organised in an efficient way, only a growing number of producers can further reduce operational costs and making them breaking even. Therefore, it is necessary that the value chain involves a critical number of producers (break even analysis) and also concerns that costs for extension services for organic can be covered by a margin or subsidised as in the conventional sector.

increased level of self-financing was reached in 2009 due to the improvement of economies of scale. But since cotton production has not increased further after 2010 and the variable costs could not be reduced significantly, MoBioM was not able to further increase the level of its self-financing. Therefore, in 2014 MoBioM felt impelled to reduce the number of cooperatives from 76 to 46 and the number of technical agents from 40 to 20 (Annual report 2015) in order to reduce the costs for extension and certification. As this restructuring took place just before the MoBioM crisis and the foundation of the new organisation FENABE, there is no data available confirming any increase in efficiency.

14 Effects of the O&FT value chain – economic, social, ecological

14.1 Economic impacts at household and project level

To estimate the overall economic effects of the project investments, a simplified calculation has been applied in absence of solid statistical data at farm household level. The net income from organic cotton included the Fairtrade premium for community projects as well as the prices paid to farmers from which certification and extension costs have already been deducted. The resulting net income then was compared with the net income in conventional cotton production (considering conventional yields and prices), adding average additional costs for conventional production (for insecticides, herbicides, pesticides and synthetic fertilisers).

Organic and Fairtrade cotton



Conventional cotton



For simplification, this calculation based on the following assumptions and data:

- The costs for seeds, ginning services, taxes, transportation, soil cultivation, harvesting were treated as being the same in conventional and organic cotton.
- Comparing yields of organic cotton with national yield data for conventional cotton provided by ICAC has turned out to be unrealistic because organic cotton is largely produced in marginal areas, whereas conventional cotton production is located in the most fertile areas. Therefore, the conventional cotton yields of ICAC are adjusted based on a factor provided by an Impact Assessment conducted in Burkina Faso in 2008 (Pineau 2009). According to this study conventional cotton yields are 1.63 times higher than organic cotton yields.
- The additional costs for conventional cotton production based on data of the impact assessment in Burkina Faso (59'940 FCFA from 2002 to 2008) and on indications provided by project staff in 2016 (108'000 FCFA from 2009 to 2015).
- The exchange rate FCFA/CHF was assumed be to 0.00166 over the years.

The aggregated number of farmers that participated in the value chain from 2002/03 to 2015/16 was 43'056 (72% male producers). Assuming that farmers stayed on average five years with organic cotton production (according to entries and leaves reported), the number of total beneficiaries of the organic cotton value chain was about 8'600 farmers.

The simplified calculation resulted in a total net income for organic cotton of CHF 2'727'543, and minus of CHF 1'848'459 for conventional cotton between 2002/3 and 2015/16, which results in a total additional income of CHF 4'575'902. Accordingly, the total additional economic benefit from the sales of O&FT cotton was CHF 106 as per individual farmer and year, respectively 165 as per hectare and year. Therein not included was the additional income from sales of rotation crops. Besides this additional income, the organic cotton value chain had further positive effects on farmers' livelihoods, their capacity and health, as well as on the environment (e.g. biodiversity, water saving and soil fertility). These effects have not been financially assessed in the course of the project implementation.

Furthermore, the average costs of agro-chemical application in conventional cotton production of Burkina Faso and Mali have been used to calculate the cost savings resulting from non-application of agro-chemicals in organic cotton production. The average cost savings per hectare and year was about 139 CHF. The total savings from not using agro-chemicals during the 14 years of project implementation amounted to CHF 3'859'436 or an **annual average saving of CHF 93 per organic cotton farming household**.

The total additional income provided **a return of 37 cents as per invested Swiss Franc** (CHF 3'830'346/ CHF 12'477'656= CHF 0,36).

Environmental impacts presented in chapter 3.8.3 related to increased carbon stocks, saved water, saved energy and reduced CO₂ emissions were not monetarised and defined as additional income.

Furthermore, it was acknowledged that part of the invested capital was targeting the development of the organic sector as a whole and not only benefitting the organic cotton value chain actors.

Table 1: Figures on production, expenditures and income (based on project documents and interviews with project staff)

Season	Number of O/FT cotton farmers	O/FT certified cotton area (ha)	O/FT seed cotton yield (t) per ha	Quantity O/FT seed cotton (t) sold at a premium price	Price paid to farmer for o&ft cotton fibre (CHF/kg)	Average sales prices	Income of O/FT cotton fibre sales per hectare (CHF/ha)	Fairtrade premium for community investments per hectare (34 FCFA/kg fibre) in CHF	Total income on project area (farm income plus fairtrade premium) CHF***/project area	Calculated conv. seed cotton yields (t seed cotton) per ha****	Price paid to farmer for conv. cotton fibre (CHF/kg)	Income of conv. cotton fibre sales per hectare (CHF/ha)	Average costs for using fertiliser, insecticide and herbicide per ha (CHF)**	Income of conv. cotton fibre sales per hectare minus input costs (CHF/ha)	Calculated income for the case that farmers produced conv. cotton on the total project area (CHF****)	Total additional income from O/FT cotton compared to conv. cotton on total project area CHF****	Additional income / farmer (CHF)	Additional income/ha (CHF)	Savings per farmer from refraining from chemicals (CHF)
2002/03	174	118	0.400	47	0.365	17.252	60	9	8'166	0.653	0.299	80	100	-20	-2'308	10'474	60	89	67
2003/04	385	170	0.475	81	0.478	38.581	93	11	17'686	0.774	0.349	111	100	11	1'886	15'800	41	93	44
2004/05	561	298	0.567	169	0.508	85.869	118	13	39'118	0.925	0.349	132	100	33	9'732	29'386	52	99	53
2005/06	1748	740	0.522	386	0.508	196.164	109	12	89'364	0.851	0.266	93	100	-7	-5'083	94'447	54	128	42
2006/07	3469	1'663	0.378	629	0.508	319.643	79	9	145'615	0.617	0.274	69	100	-30	-50'283	195'898	56	118	48
2007/08	3847	2'331	0.209	488	0.508	247.785	44	5	112'880	0.341	0.266	37	100	-62	-145'350	258'230	67	111	60
2008/09	6516	3'200	0.376	1'202	0.601	722.570	93	9	324'078	0.612	0.332	83	100	-16	-51'609	375'688	58	117	49
2009/10	4405	2'639	0.378	999	0.601	600.187	93	9	269'189	0.617	0.282	71	179	-108	-284'756	553'945	126	210	107
2010/11	5560	4'067	0.415	1'688	0.601	1'014.236	102	10	454'893	0.676	0.307	85	179	-94	-382'735	837'628	151	206	131
2011/ 12	6372	4'641	0.452	2'100	0.601	1'261.932	111	10	565'987	0.738	0.423	128	179	-51	-237'967	803'954	126	173	131
2012/13	4945	3'629	0.379	1'376	0.601	826.631	93	9	370'751	0.618	0.415	105	179	-74	-269'089	639'840	129	176	132
2013/14	2249	1'863	0.255	476	0.601	285.803	63	6	128'185	0.416	0.390	67	179	-113	-210'005	338'191	150	182	149
2014/15	1634	1'335	0.354	473	0.601	284.338	87	8	127'528	0.578	0.394	93	179	-86	-114'669	242'197	148	181	146
2015/16	1191	994	0.263	261	0.601	156.825	65	6	70'338	0.428	0.394	69	179	-110	-109'443	179'781	151	181	150
Total/ weighted average	43'056	27'688	0.387	10'375	0.549	0.584	90	9	2'723'778	0.632	0.339	88	139	-728	-1'851'680	4'575'459	106	165	100

* Ginning factor 0.41

** The average additional costs for conventional/ha in FCFA are adjusted regional values provided by ICAC Reports. These values have been compared to the impact assessment of Burkina Faso in 2008, and reduced accordingly. The indicated values are 50% of the national average costs for pesticides, insecticides and herbicides in FCFA.

***Change rate: 0.00166

**** The calculation of conventional yields bases on the impact assessment for organic cotton in Burkina Faso (2008) that indicates a factor 1.63 for conventional cotton yields compared to organic cotton yields.

Sum
Average
Concerns O/FT cotton
Concerns conventional cotton

14.2 Social impacts

Observations and reports indicated an overall human and social capital increase of organic farmers compared to the pre project situation. Organic farmers showed institutional and economic advantages compared to conventional cotton farmers. A major benefit remained the non-exposure of farmers to agro-chemicals which positively impacted their health.

Yet, it is acknowledged that overall organic production methods required higher labour inputs and new skills and production approaches. The social impact assessments of 2009, 2013 and 2016 revealed that the organic cotton value chain has increased the producer organisation's and individual farmers' knowledge on:

- The practice of rotation and the involvement of sesame and soy in crop rotation
- Organic tree crops, such as cashew, mango, and shea
- preparation and application of organic fertilisers (compost, manure)
- preparation and application of bio pesticides (Neem, Koby, and N'pegou oil)
- quality management such as the avoidance of foreign fibre contamination during harvest and storage
- organisational collaboration in the association
- their rights and duties as citizen of their community

This knowledge increase was mainly due to **research and innovation** generated in the organic production system, which was substantially supported by the project and later intensified through the collaboration with Syprobio. Several studies and tests on bio pesticides, crop rotations, and seed production have been conducted. The Syprobio website (www.syprobio.net) still serves as source of knowledge and innovation for the technical advisory system of FENABE and the farmer field schools even after the project's end. Further social impacts included:

- 1) Organic farmers improved their image within their communities as they were able to timely pay their taxes.
- 2) Best organic cotton production methods have been developed and spread amongst the farmers through trainings and field days.
- 3) The collaboration with research institutions in a participatory manner, motivated farmers to further invest in innovations and own field trials. ProFilBio thus introduced a behaviour change and had an empowering impact on farmers.
- 4) Organic farmers have been organised in cooperatives and merged in an umbrella organisation (MoBioM later FENABE) which represented their interest. This is an important precondition to advocate for organic agriculture's interest and to protect the organic cotton production with regard to a possible introduction of GM cotton.
- 5) The O&FT cotton value chain allowed women to participate in a cash crop sector, which before was forbidden because of the high use of poisonous chemicals and their close proximity to food and children. On average 30 percent of the Malian O&FT cotton farmers are women, which is a high percentage compared to conventional cotton production. However, within the farmer families very often only marginal lands had been assigned to women for their cotton production. Furthermore, CMDT considered that organic agriculture should take place in marginal production zones and on fields with low agricultural potential. This led to the inclusion of a high share of farmers with low production capacity, which affected on the one hand the project's objective with regard to a rapid increase in volumes, but ensured, on the other hand, that the very poor and disadvantaged farmers (on average 27% women farmers) participated in the project and gained access to the export market.
- 6) Thanks to the Fairtrade certification (34 FCFA premium as per kg seed cotton) the producer communities were able to realise social investments in infrastructure of their communities and production means in the amount of 250'464 CHF in total.

- 7) The project allowed the poorest and women farmers using marginal lands to benefit from an export commodity value chain enabling inclusive economic development. This was unique in the cotton sector of West Africa and revealed the potential of certified international commodity value chains in providing options and inclusiveness to smallholders.

Long term purchase agreements often entail that buyers (brands or retailer) become aware of the situation of the producers families in the country where they source their cotton. In some cases this lead to an additional engagement of buyers in terms of social project funding (often in the frame of their CSR strategy) to support the development of the producer families. In Mali, for instance, the purchaser Migros, funded donkey carts for producers to apply compost in the cotton fields and TDV Industries funded a tree planting project called "arbre de vie".

Overall, the human and social capital of the organic farmers increased thanks to their involvement in the project and their access to national and international markets, networks and donors.

«In some communities the organic cotton producers are recognised as good citizens. According to the mayor of Faragouaran, a community close to Bougouni, the ones who pay their taxes are the organic cotton producers»,

Siaka Doumbia, Director organic cotton project, Mali

14.3 Environmental impacts

From an ecological point of view the organic cotton project had considerable impact on climate, water quality and soil fertility, and therefore on human and animal health. Due to the low investment potential of farmers in terms of labour and access to organic manure, the overall effect of the organic cotton value chain on soil fertility was not as high as it could have been. However, the introduction of crops new to farmers (sesame, soy) enhanced the crop rotation. Furthermore, the organic method led to a complete renunciation of harmful agrochemicals and therefore definitely contributed to soil fertility and producers health.

The Organic Cotton Market Report 2016 recently published by Textile Exchange, provides a powerful reference to demonstrate environmental impacts of global organic cotton production. Waiving agrochemicals completely from the organic farming system has positive environmental impacts on soil, water, fauna, human health and saved at least 3.9 million of Swiss Francs of Mali's organic farmer's money (90 CHF on average, respectively CHF 139/ha) thanks to the projects interventions.

Furthermore, several studies revealed considerable advantages of the organic production method compared to conventional production. The main reason is the avoidance of synthetic fertilisers and pesticides that consume a lot of energy in its production. Organic farming thus reduces CO₂ emissions by eliminating synthetic fertilisers, and at the same time reduces atmospheric concentrations of this gas by storing it in the soil - a true win-win strategy. The project, itself did not conduct any studies nor LCA calculations, as valuable sources explicitly relevant for organic cotton are already available thanks to FiBL Soil Association, PE International, Textile Exchange, etc. Organic cotton performs better than conventional when it comes to its global warming potential, acidification potential, eutrophication potential, blue water consumption, and primary energy demand but also with regard to its potential for adaptation and mitigation. The soil organic matter is key and any measure to enhance soil organic matter can be seen as adaptation and mitigation method.

15 Conclusions – sustainability of the producer organisation

The facts presented in various reports consulted, and data and information gathered provided evidence that organic cotton farmers have increased their financial, human and physical capitals.

A simplified cost benefit analysis and calculation on economic returns on invested project funds reveals a net gain at farm household level of 36 cents per 1 invested Swiss Franc (CHF).

Because of project interventions the organic cotton farmers have earned on average and annually CHF 106 more than conventional cotton farmers, respectively CHF 165/ha.

It is yet too early to assess if FENABE (former MoBioM) will reach economic sustainability as further growth and financial consolidation is still required before breakeven is reached.

However, although the project intervention in Mali was the longest lasting, the institutional setting of the value chain actors prevented the O&FT value chain from becoming sustainable. The simple fact that CMDT was able to sell the O&FT cotton at a better price without having to invest in extension and certification was not a sustainable approach. CMDT invested very few in marketing and sometimes even sold the O&FT cotton in the conventional market in order to fulfil sales commitments.

The producer organisation **MoBioM never became an authority to decide** but remained a service provider for the O&FT value chain, depending on the goodwill of CMDT. Even the best research and extension capacities of MoBioM was not able to change this situation as long as CMDT did not provide effective support to the O&FT cotton sector.

After a first fast increase from 2002 to 2011, the O&FT cotton production dropped mainly due to **mismanagement of the producer's organisation MoBioM** but also due to **the in-transparent price policy and marketing strategy within CMDT**. Furthermore frequent management changes at CMDT affected trust in long term purchase partnerships. Sales price of the O&FT cotton of Mali often was not competitive, due to temporarily high ginning prices defined by CMDT.

The **foreseen privatisation** of the Malian cotton market, including ginning services, **did not happen**. It probably would have increased the sphere of influence of MoBioM and thus the possibility to take on responsibility for all three core factors that influence profitability of the O&FT value chain: **productivity, price and clients. On the latter two factors MoBioM had no influence.**

Regarding the third core function – the productivity of O&FT cotton production – the responsibility was completely with MoBioM. However, although MoBioM supported the development and dissemination of innovation to increase productivity, cotton productivity did not increase as expected (Chart 16) and production dropped after 2010. The main reason for this was not a lack of capacity within MoBioM, but the **missing continuity in cotton sales, the late payment of farmers by CMDT, and the marginalisation of O&FT cotton production to unproductive lands**. The latter was in consequence of the high share of women producers involved in organic cotton production. They often had only access to the lowest fertile lands to produce 'their' organic cotton. Furthermore, organic farming was mainly done on low productive areas, where also conventional production did not reach the country's average of yields.

With regard to the project setup the Mali project started without having a clear strategy on how to integrate the operation costs into the value chain. At the beginning operating costs of the producer organisation were paid completely by the project. It turned out to be quite difficult to **change the involved partners' mind-set to a more business-related approach** during implementation.

The carefully elaborated **business plans** which based on at least slight interest of CMDT to provide marketing support for O&FT cotton, **became unrealistic** as CMDT's commitment was not given as announced. At a certain moment in time buyers even could not buy O&FT cotton although cotton was available on fields and at stock. This situation demotivated producers and affected trust of buyers likewise.

Related to yields, the first phase of the project did not stimulate intensification sufficiently. As the production of organic fertilisers (compost, etc.) remained difficult, due to lacking organic material and transport means, **production method remained at an “organic by default” level and productivity did not increase considerably**. Enhanced crop rotation and diversification of the production were mainly supported in the second and thirds phase of the project. It turned out to be crucial not only for the sustainability of the production system but also for the sustainability of the farmer’s income.

16 Outlook and recommendations

16.1 Future development of the value chain

Although the organic cotton sector in Mali is still far from well-functioning some very committed producers and buyers have emerged over the past years and build the backbone of today’s O&FT production. The O&FT cotton production of Mali would be ready to scale but at the same time remains still prone to external influences such as an introduction of GM cotton. Furthermore, there is a serious risk that MoBioM, respectively now the new producer organisation FENABE, will not be able to maintain the organic cotton value chain much longer without any support, especially if demand for O&FT cotton and the support of CMDT concerning marketing will not increase considerably within the next years. **Trainings on enhanced organic cotton production and networking for marketing opportunities so far were continuously supported by donor funding**. And there were quite some donor organisations involved in the sustainable cotton sector in Mali: besides SECO also the region of Brittany, the L’UEMOA, AFD/APROCA, CRS/USDA, LED and the European Union (SYPROBIO) had been investing.

It is not very probable that FENABE will now be able to assume and finance all these activities by its own. Since the organisation has been capacitated “on-the-job” in how to collaborate with donor institutions, it is very probable that **FENABE will look for further partnerships and donor funding** to sustain its activities and the O&FT cotton value chain. Though not (yet) financially viable there might be a will to further invest into the Malian organic production systems, simply because of its social and ecological benefits which farmers and donor organisations consider important.

The following points are in favour of a positive development of the O&FT cotton value chain in future:

- By 2015, **1’700 committed organic cotton producers** remained in the O&FT cotton business, organised in the new producer organisation FENABE. These farmers seem to be interested in further exploring organic agriculture and to diversify their crops besides cotton.
- As bad as the internal crisis of MoBioM affected the O&FT cotton value chain, **the organic farmer’s organisation became stronger** than before. The farmers debated intensively about the formal setting of their producer organisation. They agreed on a completely renewed management established and controlled by farmer representatives. This debate clearly demonstrated the farmers’ interest to continue with organic farming under the lead of a strong and democratic farmer organisation.
- Before the adoption of the Biosafety Law, several civil society organisation amongst them MoBioM formed a **committee to advocate for their right to grow non-transgenic cotton** varieties. They formed a critical mass of GMO opponents which are still actively involved in policy discussions. MoBioM, now FENABE, remained as a critical voice in national discussions representing the organic farmers.
- Serious contacts with the **Ministry of Agriculture prospected to support the organic producer organisation** in their attempts to get more control over the marketing of the O&FT cotton. In line with this suggestion, CMDT confirmed in writing to outsource this function to FENABE. However, due to the poor financial capacity of FENABE (lacking trade capital) they are not yet in a position to assume this function and pay the farmers.

Despite this rather positive outlook, there are however also considerable risks which put the O&FT value chain at danger:

- The farmer organisations impact on policy, production and marketing is very limited in a country with such a strong state organised conventional cotton sector like in Mali. This considerably limited the efficiency of the organic cotton project and thus the achievement of results. This situation probably won't change for the short term.
- **CMDT is interlinked with the agro-input market.** The organic farmer organisation FENABE has to be enabled to further **invest into trainings for organic agriculture** as CMDT probably won't do it. However, the new organisation FENABE would not be able to cover all costs by the O&FT cotton business only in the near future.
- A considerable amount of ODA funding had been invested in the Malian O&FT cotton value chain over the past years. If FENABE in collaboration with CMDT does not manage to produce more efficiently and to re-establish trust within the O&FT value chain, the support of the private sector and ODA donor institutions might decrease.

16.2 Recommendations

The financial support of SECO to the Mali Organic Cotton Project phased out by the end of 2016. Based on the present capitalisation of experiences and the lessons learnt, the following recommendations should lead to a sustainable development of the organic sector in Mali:

Considering the empowering effect and the broad positive attributions the organic and Fairtrade cotton project brought to Mali's smallholders, it is recommend to measure the success of ProFilBio not solely with regard to the metric tons of O&FT cotton sold, respectively the additional income generated, but also with regards to the added value and benefits generated to the farmer families involved. In order to assure these benefits in the long run, we recommend to continue with some specific support to the Malian organic cotton production:

- The steps initiated to conduct a policy dialogue on sustainable production and trade are promising. However it will need continued financial and moral support until a solid and enabling policy framework will be in place that supports organic farming in Mali. Organic agriculture delivers ecosystem services of public interests which should be rewarded by public funding. In Mali the benefit of organic production still must be highlighted and communicated to the government and the public. **Advocacy** revealed as key for the introduction of an organic value chain in a country not familiar with this production method, mainly in order to get at least the same attention and support (extension service) from the governmental agencies as the conventional cotton producers do. Further investment on organic value chains must strongly entail an advocacy component. HELVETAS should stay engaged in supporting the national advocacy activities of FENABE and continue facilitating networking with other national and international initiatives.
- **Support in marketing and brokerage** should be offered to CMDT and FENABE on demand by any entity disposing of a network in the sustainable cotton sector. This should happen at an affordable price in order to further stimulate the adoption of this service by either one organisation CMDT or FENABE.
- The most critical element to sustain FENABE is a **professional management**. To secure quality management, the current management team would benefit from continued and periodic coaching to discuss leadership and management issues with experts that bring in external and neutral views. FENABE and HELVETAS shall discuss suitable solutions for continued and need based coaching, if possible with local resources.

- **Once the privatisation of the Malian cotton sector would happen**, FENABE should be supported in exploring organic markets, in order to not miss emerging opportunities for the O&FT cotton value chain and further certified (rotation) crops. In addition **trade capital** will be key then as FENABE would need to prefund the seed cotton and pay the ginning bill etc.
- However, already today FENABE should be supported in getting **access to trade capital** for other crops they produce and sell to the national market and abroad.
- Having a business vision for the next three to five years that is shared with CMDT and the producers will be important. The business plan shall be updated continuously.
- **Climate change affects Mali's agriculture severely**. Organic farmers should be able to access support to further enhance the diversification of their production in order to cope with climate change impacts on the O&FT cotton production and to explore further income sources. The farmer family's should be supported in further diversifying their production and thereby their income sources.
- The solely **focus on cotton as cash crop poses a cluster risk**, which does not meet the original goal of the intervention to improve income and livelihoods of Malian smallholders. Any further value chain project should stimulate a diverse production system and focus on various market channels as from the beginning. Focussing only at one single export commodity is too risky.
- In addition the feasibility of **small business and service providers development in the area of organic production** e.g. fertiliser production should be further assessed.
- Organic agriculture is strongly knowledge based. **Knowledge exchange, extension, and trainings are key and need to be further supported**. Helvetas, or any other entity providing expert knowledge in the O&FT (cotton) sector, should offer on-demand knowledge management support to the O&FT (cotton) value chain.
- A value chain includes as per definition several actors. Facilitating the exchange amongst the value chain actors is still important as long as the value chain is not self-supporting. FENABE should be supported to the extent that the organisation might be enabled to facilitate this stakeholder exchange by its own. However trade fairs and platforms mostly run in English language and it needs extra efforts for the francophone O&FT cotton sector to stay linked with the fast developing business network.
- Although not yet a big challenge in Mali, the organic farmers need to remain attentive about GMO contamination mitigation.
- FENABE should mobilise funds to conduct scientific socio economic surveys in intervals among its members. Involving a renowned University to accompany the survey methodological will provide solid data to convince investors, donors or policy makers to make informed choices and decisions.

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V) ORGANIC AND FAIRTRADE COTTON PROJECT IN BURKINA FASO: "PROGRAMME D'APPUI AU COTON BIOLOGIQUE ET ÉQUITABLE AU BURKINA FASO": 2004-2016

By Stefanie Kaegi and Andrea Bischof

18 Summary

The organic and Fairtrade cotton project has been implemented in Burkina Faso by HELVETAS Swiss Intercooperation from 2004 to 2016 with the support of the Swiss State Secretariat of Economic Affairs (SECO) and complementary donor funding of SDC, ICCO, Bretagne, Bretagne/UEMOA, Agridius, FibL, and APROCA. The total project budget was CHF 9'997'552, out of which CHF 5'267'041 was financed by SECO, CHF 2'452'400 by Helvetas, and CHF 2'278'111 by other institutional donors. The project was implemented in 13 provinces of the 3 cotton regions in Burkina Faso.

Major achievements of the projects

- The aggregated annual number of farmers which participated in the O&FT cotton value chain from 2004/05 to 2015/16 was **52'317** (62% male producers). On average **2'690 men farmers** and **1'669 women farmers** produced organic cotton each year.
- Assuming that farmers stayed on average five years with the organic cotton production (according to entries and leaves reported), the number of **beneficiaries was about 10'500**.
- **In total 16'424 t** of organic certified seed cotton has been produced and sold. On average, this is **1'368 t of O&FT seed cotton annually**, respectively **0.31 t seed cotton** as per farmer and year. Since farmers could directly convert to organic, there was need for producing in-conversion cotton.
- Yields of O&FT cotton remained at a low level of **0.49 t seed cotton per ha**, compared to 0.81 t per ha in conventional production (ICAC 2014 and project reports 2004-2015).
- Over the years, a total of **32'149 ha of land has been certified** for organic production. On average this was **2'679 ha** per year, or **0.6 ha per farmer and year**. The area dedicated to O&FT production as per farmer has thus increased from **0.4 ha in 2004 to 0.6 ha in 2015**.
- The O&FT cotton production area increased to 5'286 ha in 2015, which is about **0,3 % of the total cotton production area** of Burkina Faso. In 2014 Burkina Faso turned out to be the **biggest O&FT cotton producing country** of West Africa producing 2'622 tonnes of O&FT seed cotton.
- **Economic impact:**
 - A simplified calculation considering yields, prices, premiums and additional costs for conventional agriculture results in a total net income on the project area of organic cotton of CHF **4'076'752**, compared to a calculated net income of CHF **-1'629'862** if the farmers would have produced conventional cotton on the same area.
 - The total **additional financial benefit** from the production and sales of O&FT cotton is accordingly CHF **5'706'614**, respectively **CHF109 as per individual farmer and year, or 178 as per hectare and year**. Therein not included are additional income from sales of rotation crops.
 - The total savings from not using agro-chemicals (CHF149/ha/year) during the 12 years of project implementation amounts to CHF 4788164 or an annual average saving of **CHF 91 as per organic cotton farming household**.
 - Organic and Fairtrade certification has been achieved since 2005. Thanks to the Fairtrade certification **social investments in the amount of 67'574** (=0.06 CHF/kg seed cotton) have been realised (**= CHF 7 as per farmer and year**).
 - The net margin of organic cotton (CHF 107) compared to conventional cotton (CHF minus 149) is significantly higher due to lower input costs and considerable higher sales prices.
- **Ecological impact:**
 - Based on a calculation provided by Textile Exchange (2016), with the conversion of 32149ha into organic (2004-2015) the project has contributed to save 8'495'720 CO2 equivalent, and to avoid the use 28'934kg pesticide and 3'756'486kg chemical fertilisers.

- In order to increase farmers income sources, several rotation crop value chains (e.g. soy, sesame) have been strengthened.
- Successful lobbying and advocating for organic agriculture led to:
 - Inclusion of organic cotton as a strategic crop of AICB in its new strategy 2015 – 2027.
 - Formulation of the new agricultural law (LOASPHF) in favour of sustainable agriculture.
 - Exemption from landholding taxes (2 FCFA/kg seeds) for organic cotton farmers for the next 12 years. With this, organic became an officially recognised production system for cotton.

Challenges

The business plans of the organic farmer organisation (MoBioM, later FENABE) foresaw costs breaking-even at a production of 5'000 t organic seed cotton. However, the maximum seed cotton quantity produced only reached 2'622 t in 2014, due to the following reasons:

- The introduction of genetically modified cotton in 2008 and the resulting contamination of organic cotton. This reduced the produced volumes by almost 70% (from 1013 t in 2008/09 to 291 t cotton fibre in 2009/10) and affected the availability of cotton seeds. After this setback fibre production recovered only very slowly. Untreated non-GM seeds had to be bought from Togo at high costs.
- With the introduction of GM cotton the official co-existence policy displaced organic cotton production to less favourable areas. This fact affected productivity increase in the long run.
- Privatisation of the cotton sector did not materialise and organic cotton remained an activity of the state cotton company which constitutes not only the sales monopoly for cotton, but also acts as the main input supplier for cotton. Accordingly, the interest of the cotton company to foster organic agriculture remained low. This resulted in late sales and payment of organic cotton, as well as limited investments into client relationships, which was one of the reasons for farmers to give up organic cotton production.
- Access to and the use of organic fertilisers remained low despite investigations of local research institutions and rural advisory service provided to farmers.

Learning

- Organic intensification bases on intense knowledge and thus requires effective advisory services. Continuous learning is thus key for extensionists as well as for farmers in order to develop an economic viability organic cotton sector. Since agrochemical inputs and advisory services of the related input sales companies play a minor role in organic agriculture, public funding is necessary to ensure research and innovation in agricultural practices.
- If conventional agriculture constitutes the main business of the leading market actors, civil society actors are key to advocate for a conducive policy framework for organic agriculture.
- The advisory and input services for organic agriculture should directly benefit from sales of organic cotton. This seems to be a precondition for the quality and efficiency of services provided.
- Farmers' adherence to organic production is key for the viability of an organic value chain, since in the first years, services provided to farmers are very expensive compared to the yields realised:
 - soil fertility and thus yields increase only after some time
 - rural advisory services for organic production are time consuming and a real investment as farmers often are not familiar with the production method. Furthermore produce often need to be sold as conventional during conversion period. More experienced farmers need less training and investments pay off with the time.
- Key elements that enhance farmers' adherence to an organic value chain include the following:
 - pre-financing and timely provision of inputs (e.g. seeds)
 - timely payment of the produce; at the sales point; at a premium sales price
 - health improvement as perceived by farmers

19 Content and abbreviations

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ABBREVIATIONS

GPC	Groupement des producteurs de coton (cotton producer groups)
GPCB	Groupement des producteurs de coton bio (organic cotton producer groups)
O&FT	Organic and Fairtrade
UNPCB	Union National des Producteurs de Coton de Burkina Faso
AICB	Association Interprofessionnelle du Coton du Burkina Faso (The national cotton organisation AICB)
ATB	Agents technique bio (Technical Advisory Staff for organic production)
ICS	Internal Control System
GM	Genetically modified (crops)

20 Introduction

20.1 The cotton sector in Burkina Faso

Cotton is of major economic importance for Burkina Faso. It is the primary agricultural export crop of the country and its second top export commodity after gold. Cotton production provides income to 20 percent of the active labour force of the country, about 1.5 million–2 million people. Due to agro-ecological conditions cotton is cultivated in the southern regions of the country, where rainfall is more frequent. Most cotton farmers are smallholders with a small number of large farms led by a rural elite. In 2005 Burkina Faso became the leading West African producer of cotton, ahead of Mali, producing 500,000 to 800,000 tons of seed cotton between 2005 and 2010. In 2006 and 2007, Burkina Faso was the leading cotton producer and exporter among all African countries (World Bank: 2011).

The cotton sector is split into three large production zones according to the working areas of the three cotton companies (Faso Coton, Socoma and Sofitex). Different to Mali, average yields for conventional cotton have not decreased over time, but remained more or less stable since the 1990ies. Nevertheless, most cotton farmer groups (GPC) got into debt because of increased use of agricultural inputs and soaring input prices. Furthermore, world cotton price decreased until 2000 and when it recovered slightly the Burkina producers did not notice any positive effect, as the FCFA was tied to the Euro. Under the given circumstances and dependencies the farmer groups were not able to organise their businesses in an efficient way.

20.1.1 Development of the organic and Fairtrade (O&FT) cotton production in Burkina Faso

Encouraged by the positive experience made in the cotton sector in Mali and Benin and of partners in Senegal, Helvetas started another organic cotton project in Burkina Faso with a regional approach. The O&FT cotton project aimed to organise the farmer groups in a more efficient way and to provide them an alternative to conventional cotton production allowing to reduce input costs, to increase sales prices, and to enhance producers' working conditions. Similar to Mali, the O&FT cotton was cultivated as a rain fed crop at a low level of mechanisation, mainly relying on manual work and yokes of oxen.

HELVETAS Swiss Intercooperation, Burkina Faso

Programme coton biologique et équitable

13 provinces d'intervention

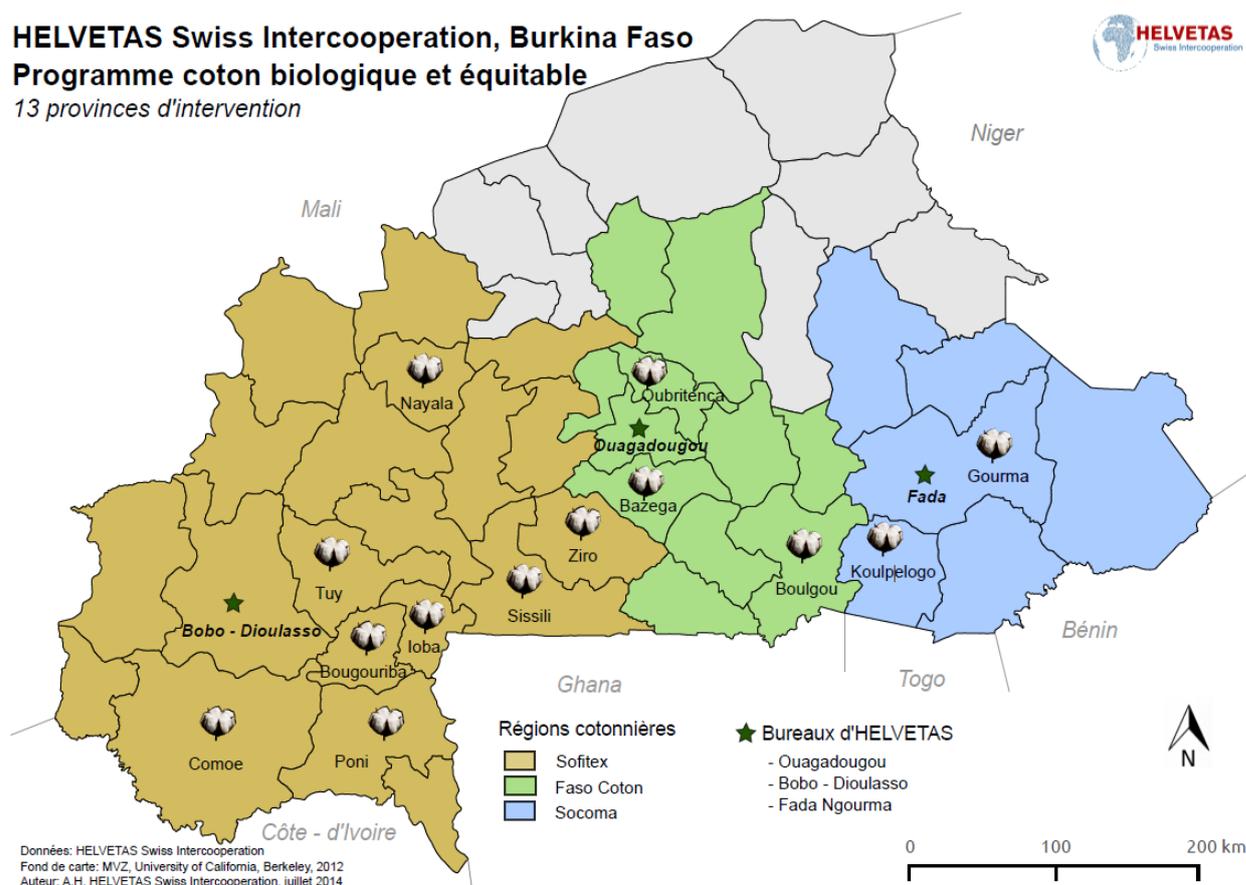


Figure 10 Organic cotton produced in 13 provinces of the three cotton regions in Burkina Faso (Annual report 2014)

Since the beginning of the organic cotton project in 2004, organic cotton has been produced in all three cotton zones of Burkina Faso's cotton companies (Annual report 2015).

FASO COTON zone in the centre: O&FT cotton is produced in the three provinces Bazega, Boulgou, Oubritenga. While Bazega and Boulgou belonged to the Po region and were areas suitable to cotton production, Oubritenga is of less agricultural potential.

SOCOMA zone in the East: O&FT cotton is produced in Gourma and Koulpelogo, while the whole region is called Fada.

SOFITEX zone in the West: O&FT cotton is produced in eight provinces out of three regions: Tiefora, Ioba, Dano and Nayala.

20.1.2 Donor and project support to the organic cotton value chain

The project has been funded mainly from SECO and Helvetas, but selected project components got finances also from ICCO, Bretagne/UEMOA, SDC, Agridius, FibL, and APROCA. The total funding accounts for a total of CHF 9'997'552 (CHF 5'267'041 from SECO). The total funding for the analysed time span of this study (2004-2015) was 9.7 million CHF, respectively 4.97 million CHF from SECO. The table below shows the funding as per implementing year.

Project funding per year (Burkina Faso; total CHF 9'997'552)

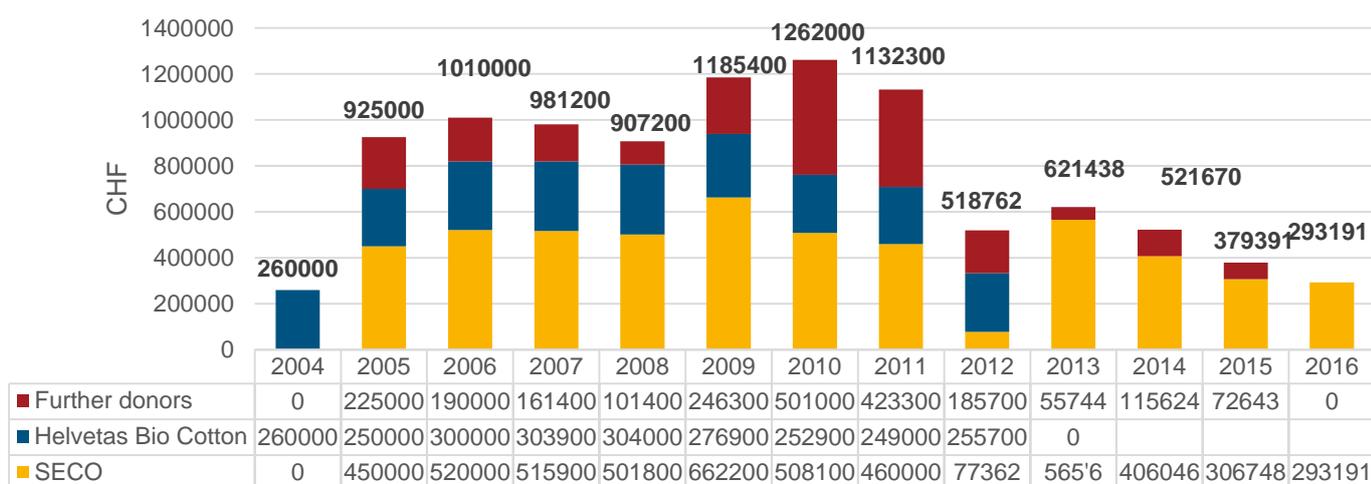


Chart 19: Project funding by donor from 2004-2016

20.2 Stakeholders of the O&FT cotton value chain in Burkina Faso

The cotton sector includes three main actors:

1. The cotton producers united in the “Union National des Producteurs de Coton du Burkina Faso” (UNPCB),
2. The private cotton companies (SOFITEX, FASO COTON, SOCOMA),
3. The “Association Interprofessionnelle du Coton du Burkina Faso” (AICB) that unites the UNPCB, the government and the cotton companies.

UNPCB the Union National des Producteurs de Coton du Burkina Faso



UNPCB is the national umbrella organisation of cotton producers in Burkina Faso. It was founded in 1998 and currently has 325,000 cotton farmers organised in 12,280 groups (GPC = “Groupe Producteurs de coton”). The institution comprises of unions

at provincial, department, and village level. UNPCB is an important shareholder of the cotton sector, having considerable influence on production, marketing, and on price policies. It holds shares of all three cotton companies: FASO COTON (10%), SOFITEX (approx. 30%), and SOCOMA (20%). The services of UNPCB to the organic farmers include

- provision of inputs (mainly cotton seeds),
- collection, transportation, and ginning of cotton (in collaboration with the cotton companies),
- advisory services based on technical agents (ATB = “Agents technique bio”) and intermediary farmers (one per farmer group)
- managing the internal control system (ICS) and supporting the certification process
- marketing of cotton.

L'organisation paysanne de la production cotonnière

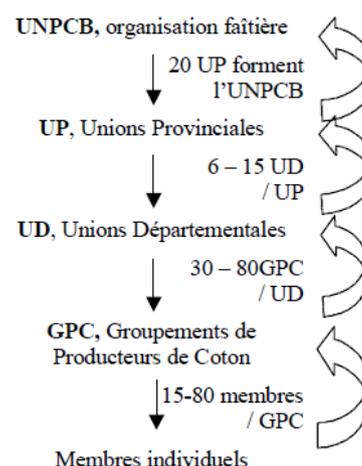


Chart 20: Organisation of the conventional cotton sector in Burkina Faso (ProDoc: 2003)

From the beginning, UNPCB has been the implementing partner of the organic cotton project, because the cotton companies – which are dominating the conventional cotton sector - had little interest to engage in the organic cotton sector. They generate a significant part of their income with the sales of inputs, such as agrochemicals and genetically modified seed varieties.

As implementing partner, the UNPCB bears the responsibility for production, certification, research, and marketing of organic cotton. From the beginning, UNPCB has been entrusted with the management of considerable project funds (Annual report: 2004; Fairtrade: 2015).

In 2011, UNPCB with support of the project established a separated business unit for the organic production, the so called **profit centre**. The profit centre is running with three O&FT value chain managers and employs one responsible for extension services as per zone and three to five technicians as per region. Although the profit centre organises the entire organic cotton production it has only little decision power when it comes to cotton sales, which is managed by a sales entity of UNPCB. The profit centre has thus no direct financial benefits from cotton sales (Felber: 2016)

In order to strengthen farmers' voice within UNPCB it was foreseen that two to three organic farmers would become member of the executive bureau of UNPCB. In 2015, two representatives should have been elected as members of the executive office, but due to an internal crisis at UNPCB 2015 these elections have not yet taken place. So far, only one farmer got consultative competences and might bring in the farmer's view in discussions about services offered and sales modalities. (Giron: 2016)

Farmer groups (GPCB): Organic cotton farmers are organised similarly as conventional cotton farmers in farmer groups (**GPCB = groupement des producteurs de coton biologique**). The GPCBs represent the lowest organisational level of UNPCB. Their number has increased from 32 in 2005 to 194 in 2014 (Annual reports 2005 and 2014). The GPCBs belong to one of the union of organic cotton producers. The GPCBs organise input delivery to farmers, primary seed cotton collection, the implementation of the internal control system, and rural advisory services.

The cotton companies: Until 2004, the cotton company SOFITEX hold a monopoly on the country's cotton sector. This monopoly position was given up because of increasing international pressure to privatise the cotton sector. As a result, since 2004, three cotton companies govern the cotton sector of Burkina Faso together with UNPCB:

- **SOFITEX:** owned by the Burkinabe government (35%), the French company GEOCOTON (formerly Dagrís) (34%), the UNPCB (30%), and the Burkinabe bank at 1%.
- **SOCOMA:** owned by UNPCB (20%), by GEOCOTON (51%), the transporter SOBA (20%), Agryta (5%) and the investor SYA (4%).
- **FASO COTON** is owned by UNPCB (10%), the Paul Reinhart AG (31%), the input supplier AMEFERT (10%), and the transporter SOBA (20%) and the Ivory Cotton/IPS (29%). (Fairtrade 2015)

The cotton companies offer extension services to conventional cotton farmers in their production zones, organise transportation, and ginning, as well as sales of conventional cotton. Currently, the three cotton companies hold a quasi-oligopoly on cotton sales, whereas the sales of organic cotton through UNPCB, which accounts for about 0.3% of total cotton sales, make an exception.

The cotton companies own all **ginneries** of the country. In order to gin organic cotton, UNPCB hired the ginning services of FASO COTON (from 2005-2010) and SOFITEX (since 2007). This beard two challenges:

- The limited influence of UNPCB on the ginning prices led to relatively high ginning costs for organic cotton (60'000-72'000FCFA/t seed cotton).

- The ginning schedule was made by the cotton companies. As long as the Paul Reinhart AG – a Swiss cotton trader that is highly supportive to organic cotton - engaged in the cotton sector via FASO COTON, organic cotton was ginned soon after harvest. After Paul Reinhart AG ceased its engagement with FASO COTON, organic cotton was ginned only at the end of the ginning period, which led to late sales and payment to farmers.
- Though produced in all three cotton production areas, organic cotton was ginned in one ginners only. Therefore transportation costs are particularly high for organic cotton. A study of Fairtrade International (2015) showed that the average transportation distances from farmers to ginners are the longest in Burkina Faso (384km) compared to other West African countries (70km). The only way to reduce transport costs would be to collaborate with ginners from other cotton companies situated closer to the organic farmers. However, this would again increase certification costs for additional ginners.

Learning 10 In Burkina Faso, the growth of organic cotton production is limited by the institutional setting of the value chain. The organic cotton production is organised in parallel to the conventional value chain and considered as a potential threat for the cotton companies' input supply business. Hence, as long as the cotton companies don't consider organic cotton as a business case, production can hardly grow. This became visible mainly after the Paul Reinhart AG ceased its engagement in the organic cotton trade via FASO COTON.

Learning 11: The disinterest of cotton companies to invest in organic cotton is reflected in late ginning of organic cotton that leads to delays in sales and payments to UNPCB. This leads to late payment to the organic cotton producers, which affects their household income and motivation considerably.

The national cotton organisation AICB (Association Interprofessionnelle du Coton du Burkina Faso) is the sector organisation at national level and unites the two main actors: UNPCB and the cotton companies. The AICB has a mandate to coordinate the sector, to determine conventional cotton prices paid to farmers and input prices, furthermore it allocates the research budget (1.5 FCFA/kg cotton). The committee of AICB is governed by four representatives of cotton producers, one representative of each cotton company, and two government representatives. The organic farmers are only represented indirectly in AICB through their representation in UNPCB. INERA and the ministry of trade facilitate the AICB and play a role as observers.

Learning 12: UNPCB has the role to represent organic and conventional farmers in AICB. The fact that UNPCBs profits more by commissions of conventional cotton sales than by the sales of organic cotton, might affect the interest of the Union to advocate for organic cotton at AICB level.

Financial institutions: There are several banks investing in the agricultural sector of Burkina Faso. They mainly provide credits to the cotton companies. In 2009, UNPCB also raised a loan in order to pay organic farmers for cotton that was not sold. This was an exception for UNPCB that usually finances its activities with own funds. Farmers themselves don't need to raise a loan for the O&FT cotton production, since all inputs are provided based on a pre-financing system which is supported either by the cotton companies or the UNPCB. Large international investments exist for financing the conventional cotton sector: In January 2016, the International Finance Corporation (IFC), a member of the World Bank Group, and the Global Agriculture and Food Security Program (GAFSP) provided a € 70 million trade loan to Burkina Faso's largest cotton exporter Sofitex against warehoused commodities, providing the company with liquidity to finance its cotton purchases. The cash will allow Sofitex to purchase seed cotton from over 160,000 farmers and export the fibres to international markets. A similar investment last year helped to secure the export of a record 750,000 tons of seed cotton (Global Trade Review, 2016).

The government through its ministries defines agricultural policies, controls and monitors the sector, and invests in infrastructure and research. There is a state-run extension system, which works in parallel to the extension services of the cotton companies. This public extension service is not well equipped and capacitated and therefore does not play any importance to the organic producers.

Learning 13: In Burkina Faso the extension services often are interlinked with input supply for conventional agriculture. For organic agriculture it is important that several sources of knowledge and innovation are tapped and that finances for advisory services that are not connected to input supply are made available. To this aim, a pluralistic rural advisory service system (=a diversity of service providers financed by a diversity of sources) should be supported in order to provide adequate extension services that may outlive a project.

The research institute INERA (Institut National d'Etude et de Recherche Agricole) is the national research institute focussed on cotton, aiming to improve cotton varieties and agricultural practices. The institution played an important role in the introduction of GM cotton in Burkina Faso in 2009 but also supported UNPCB in the creation of a GM free seed production and co-existence model as well. The project mandated INERA for several investigations related to organic cotton in order to provide local research results to the Burkinabe organic cotton community. Researches included studies on soil fertility, crop rotation, the use and preparation of organic fertilisers, and seed production. Yet, UNPCB did not financially contribute to these research activities, possibly because donor money was usually available and little business value is attributed to such researches.

Learning 14: INERA has been mandated by the o&ft cotton project to conduct several studies on organic agriculture. Since these project finances for research were not substituted by other (e.g. state) finances, there is a risk that research on organic agriculture will cease after the phasing out of the project.

Local cotton processors: Burkina Faso has some textile industry, all non-certified and serving the domestic markets. UNPCB annually sold about 4 t of organic cotton fibre to these local processors.

The CNABio (Conseil National pour l'Agriculture Biologique) has been established with support of the project and the objective to advocate for the interests of the organic farmers of Burkina Faso. The organisation is not directly interlinked with the organic cotton farmers, but advocates for organic agriculture, e.g. for the integration of organic agriculture in to the national agricultural law as well as the promotion of crops that are produced in rotation or combination with organic cotton (soy, sesame, shea and mango). CNABio acts as an umbrella organisation for all initiatives of Burkina Faso following an agro-ecological approach, coordinating their policy discussion.

International partners: Besides donors and development organisations which funded and technically supported the development of the organic cotton value chain in Burkina Faso, the following international actors have been involved:

- The trade of O&FT cotton was operated by the two **cotton trader companies** Paul Reinhart AG (2004-2009) and Devcot (2008 – 2010; and 2015/16). Reinhart AG was a proactive partner and played a key role mainly at the beginning of the project. As co-owner of FASO COTON, Reinhart contributed to the establishment of the O&FT cotton value chain and managed the marketing for organic cotton until 2009.
- The major **buyers of the O&FT cotton** were Hess Natur (2005-2009) and ALOK (2009-2016) for Victoria's Secret. The trade relation with Hess Natur came to an end when UNPCB guaranteed exclusivity to Victory Secret as of 2009.
- In order to certify the organic and Fairtrade trade compliance UNPCB mandated EcoCert respectively FLOCert. In 2009, UNPCB commissioned Certisys. Nowadays, certification is again done by EcoCert.
- The umbrella organisation of African cotton producers, the **Association of African cotton producers (APROCA)**, lobbied for policies conducive to O&FT cotton production in the frame of a regional programme to support the development of O&FT cotton in West Africa, which was launched in 2008 in collaboration with Helvetas.
- **SYPROBIO** (Systèmes de production biologique diversifiés), the international programme to enhance food security and rural revenues through diversified organic production systems has been implemented by the Swiss research institute for organic agriculture (FiBL) in collaboration with national research institutes and farmer organisations of Burkina Faso (INERA/UNPCB), Mali (IER/CRRRA & MoBioM), and Benin. SYPROBIO run from 2012 to 2015 and aimed at creating and sharing evidence for the benefits of new, resource saving agricultural technics in a participatory way (www.syprobio.net).

Learning 15: UNPCB was supposed to lobby for organic cotton production at national level. In view of its main function – to support and represent conventional cotton farmers – this advocacy approach was not effective. That is why, it was necessary to support also a civil society organisation like CNABio, which is not intermingled with any conventional business and therefore more qualified for advocacy on organic agriculture.

Today, AICB is in a legal dispute with Monsanto suing the company for damages to the amount of 83.9 million Dollar and announced to give up GM cotton production by 2018. (Reuters: 2016)

20.3.2 Advocacy achievements of the organic cotton project

The **Association of African cotton producers (APROCA)** assigned Helvetas to strengthen the policy capacities of UNPCB, while Helvetas entrusted APROCA to promote organic cotton on regional level. Since UNPCB pursued several objectives that are not fully coherent with the promotion of organic cotton, its advocacy activities in favour of organic agriculture remained weak.

In 2013, the project, however, succeeded in integrating representatives of organic producers into the executive office of UNPCB. Although, these representatives are not yet elected members of the umbrella organisation, they now participate in discussions on further development of the O&FT value chain, as well as on price setting mechanisms. With the next election, they shall become elected members.

In addition, UNPCB together with SECO /SDC and Helvetas, lobbied successfully for organic agriculture in Burkina Faso. As a result, organic cotton has been mentioned as a strategic crop of AICB in its new strategy 2015 – 2027. Furthermore, organic cotton producers have been exempted from landholding taxes (2 FCFA/kg seeds) for the next 12 years. With this, organic cotton has received a status of an officially recognised production system for cotton, which will be of support to the organic cotton value chain and further policy dialogue.

In addition, the new **National law for Agriculture (LOASPHF)** had been formulated in favour of sustainable agriculture: Since 2015, it includes organic as well as ecological agriculture, and indicates the government's responsibility to support ecological agriculture because of its positive influence on biodiversity and food security. This is an important achievement to the project, which has been possible thanks to the institutional strengthening and capacity development of CNABio provided by Helvetas.

21 The organic cotton value chain of Burkina Faso

21.1 Set up of the organic cotton value chain in Burkina Faso

The organic cotton value chain of Burkina Faso is organised as shown in Figure 12. The organic farmer groups, the GPCBs, collect the cotton and sell it to UNPCB. UNPCB resell the cotton to the trader. UNPCB is paid by the cotton trader and pays the cotton as well as the premium to the farmer groups. It directly deducts costs all services from the cotton price.

In order to produce certified O&FT cotton, producers rely on the following support services:

- 1) Access to production inputs (seeds, organic fertilisers, organic crop protection products) and to ginning services
- 2) Access to innovation and knowledge on organic agriculture via rural extension services
- 3) Access to certification by an accredited certification body using group certification and a well-managed internal control system (ICS)

This chapter discusses the effectiveness and efficiency of these services and how they affected or promoted the development of the organic value chain.

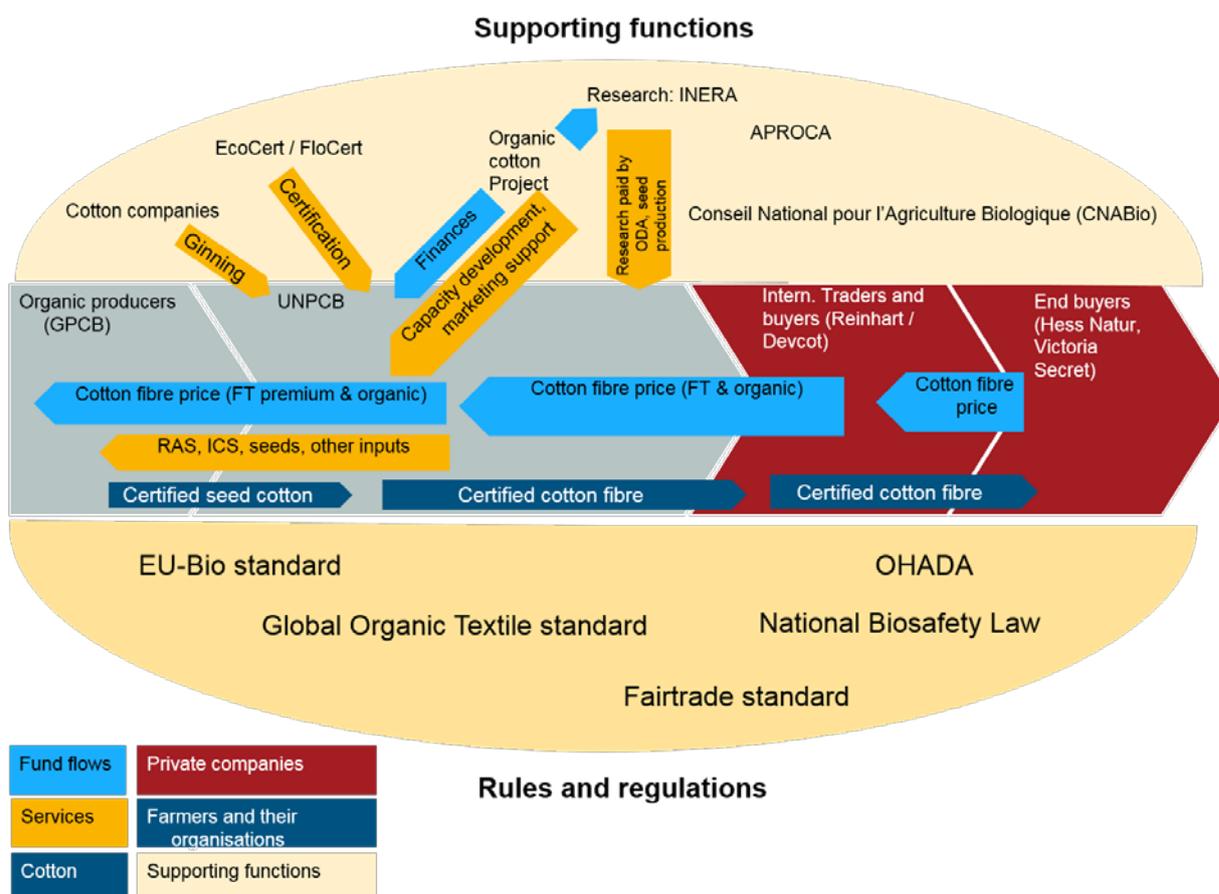


Figure 12: O&FT cotton value chain in Burkina Faso (Source: own figure by Kaegi: 2015)

21.1.1 Production inputs and ginning services

UNPCB supplied inputs to the cotton farmers. In the case of O&FT cotton it mainly is about seeds. Other means of production, such as plant protection products or tools such as sprayers for bio pesticides or chars, were as well supplied to farmers, depending on UNPCB's priorities or available subsidies from donor organisations. It was an advantage that UNPCB was able to pre-finance inputs by subtracting the costs for inputs from the cotton price paid later to farmers. This did not only allow farmers to easily access the inputs required, but also enabled UNPCB to control inputs, such as seeds.

Ginning was pre-financed and organised by UNPCB that therefore hired the ginning services of a ginnery of Faso Coton (2004-2009) respectively of two ginneries of SOFITEX since 2010. At the beginning ginning was done in an effective and timely way (Annual report 2005) but later on, organic cotton was only ginned at last, as the gins had to be cleaned before ginning the O&FT cotton (to avoid any contamination with GM cotton). This affected the O&FT cotton value chain twice: cleaning costs increased ginning costs for organic and ginning sometimes was so late that the required amount of seeds for the next cultivation period was lacking.

With regard to plant nutrition the project invested in trainings on the production and application of compost. The availability of organic matter, however, remained an issue in West Africa.

Learning 16: UNPCB as a large and financially potent organisation has the potential to pre-finance production inputs to farmers without relying on expensive loans. This ensures control over quality of production inputs and their timely availability – a core issue of the value chain.

21.1.2 Agricultural extension and certification services

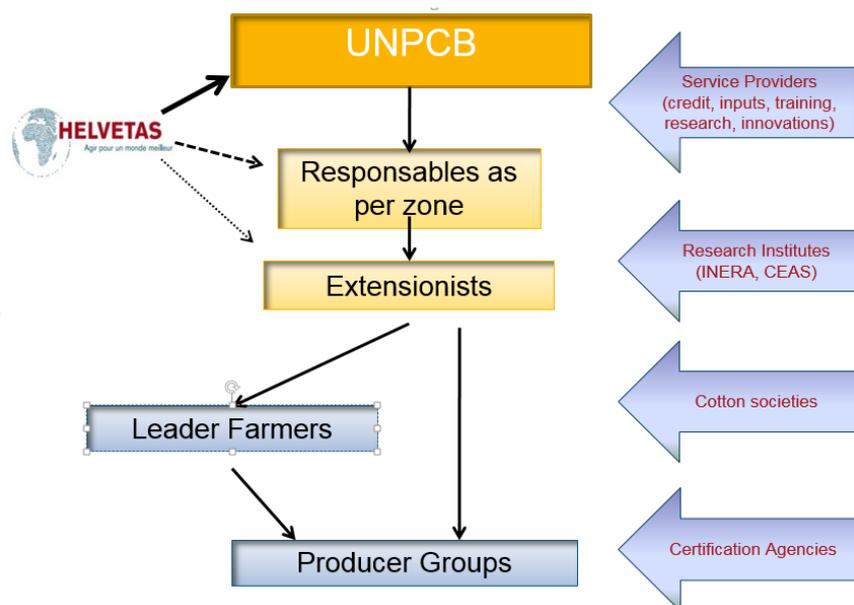


Chart 21: Organisational set-up of the extension and certification system (Felber 2009).

The Profit Centre of UNPCB managed the **extension system**. The system is implemented by one agronomist as per cotton production zone, three to five technical agents (ATB) per zone and one intermediary farmer as per GPCB. The latter creates the link between ATBs and organic cotton producers in order to limit costs for extension.

The Profit Centre also implemented the internal control system of the O&FT cotton production. The intermediary farmers were elected by the GPCB and responsible to visit and control fields regularly to ensure that technical advice reached out to organic farmers and that they comply with the requirements of the organic regulation. Considering that O&FT cotton has been produced and certified successfully in the past ten years, one can say that the extension and ICS system functions well. Extensionists had been paid a small incentive depending on their success rate in farmers passing the certification.

Learning 17: The profit centre is responsible for RAS, but has no benefits from enhanced cotton sales, which is run under UNPCB. As a result, RAS providers have no financial incentives to increase productivity of their clients. In order to ensure quality and efficiency of the services, internal and external incentives should be assessed carefully.

The project supported a diversity of research and innovation activities: the effectiveness of different bio pesticides had been tested, different techniques of compost production compared, gene-flow patterns from GM cotton to organic cotton had been analysed (in the frame of Syprobio), and studies on new rotation crops conducted (sesame etc.). Furthermore, studies on biodiversity, soil fertility, and socio-economic aspects of the organic cotton production had been carried out.

Nevertheless, farmers claimed that the quality of technical advice declined over time and that they did not get all necessary information from their technical advisor or intermediary farmers. Apparently the later selected technical agents had a lower education level than those selected at the beginning of the project. This affected the quality of the services. While the project considerably supported the capacity development of extensionists, it did not invest in curricula development of agricultural education or the establishment of networks with other service providers.

This role however was part of further collaboration amongst UNPCB and other donors promoting organic value chains in general. These initiatives provide continuous capacity development of technical agents.

Learning 18: To provide adequate technical advice, extension staff need continuing education. If training is funded entirely by a project the level of education can't be kept in the long run. Networks of service providers, participatory technology development, institutionalisation of trainings through curricula development, and collaboration with public institutions and ODA projects enhances continued capacity development. Furthermore, training has to be provided continuously and stringent with all levels of the extension system. Special attention must be put on the development of didactical skills of training providers. In the long run training curricula should be integrated into official national education curricula.

21.1.3 Production figures

During the project implementation, the production area used for O&FT cotton increased from 30 ha to 4927 ha in 2014, which is about 0,3 % of the total cotton production area of Burkina Faso.

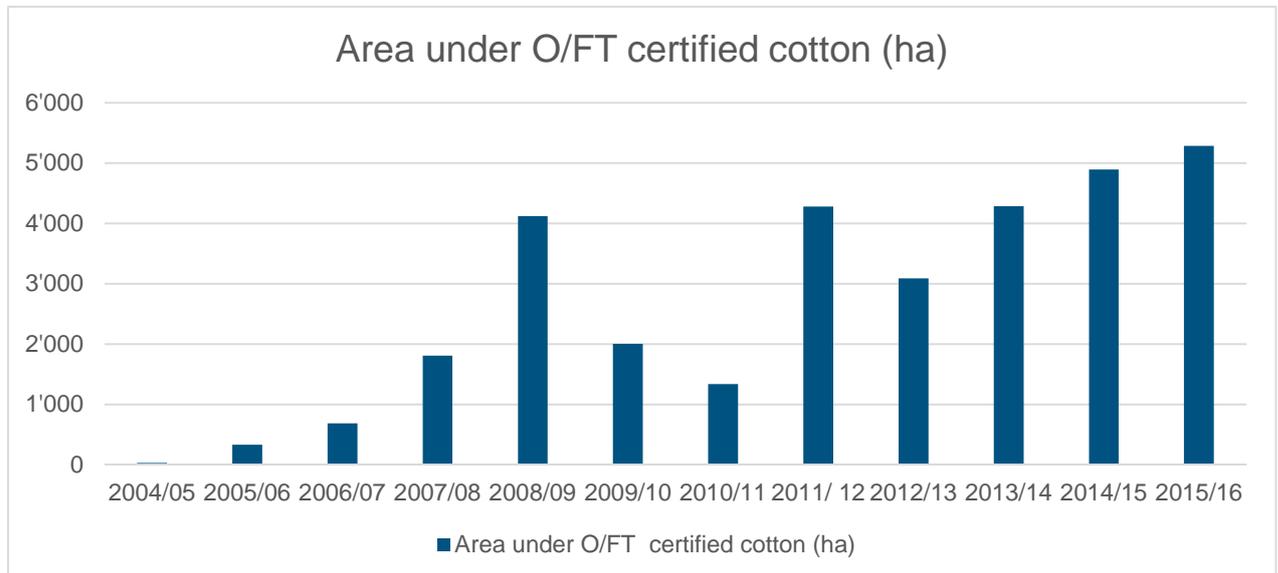


Chart 22: Area under organic cotton in Burkina Faso, 2005-2016 (Annual reports: 2004-2015)

At the beginning of the project implementation, the organic cotton production increased quite fast. But in parallel to the worlds slump in organic cotton production Burkina's' organic cotton production almost collapsed by 2009. The main reason was the introduction of GM cotton (see 20.3.1).

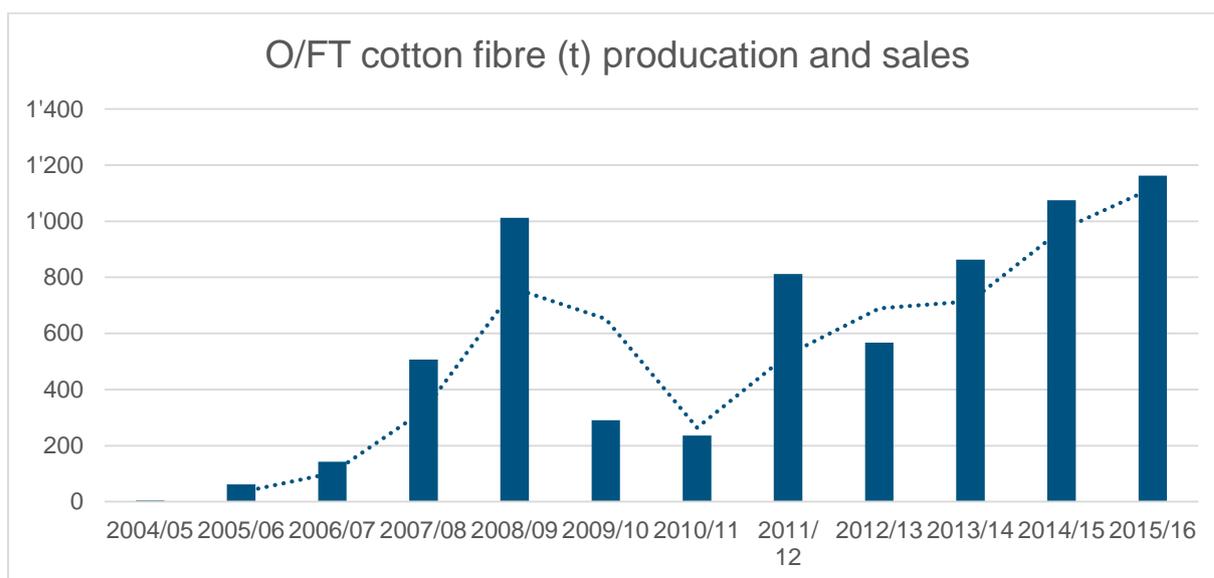


Chart 23: Organic fibre production (t) from 2004 to 2015 in Burkina Faso (Kaegi, based on Annual reports 2004-2016)

The impact on the organic cotton sector was disastrous. For the first time, the 2009 harvest of organic cotton got contaminated by GM cotton. About two third of the organic cotton harvest had to be sold as conventional instead of organic, due to GM contamination, and two third of the organic production area lost its organic status because the organic farms had to comply with a minimum distance of 100 m between organic cotton and other cotton fields. Some producers had difficulties to identify appropriate fields and other were forced to abandon their fields already sown after the installation of a GM cotton near to their field. In addition organic seed supply from ginneries became very difficult. For the season 2010, the production area in organic cotton had to be reduced to one third of what it had been before. Another reason for the drop was also the financial crisis in 2008 which resulted in cotton stocks and thus provoked a slowing down of production for the coming years.

To mitigate the negative impact on the organic cotton sector, INERA, with the support of the O&FT cotton project and the USDA-funded RECOLTE project, was mandated to produce about seven tons of GM free seeds on 40 ha cotton farms in order to secure some GM-free seed supply to organic cotton farmers. The service, however crucial for the whole organic value chain, continuously relied on official development assistance subsidies and could not fully ensure the supply of cotton seeds.

In 2010, the O&FT cotton project started to do “quick GM tests” at village level when the cotton was collected for the transport to the ginnery. After a series of tests, it became obvious that the prevention of GM contamination will have a considerable cost effect for the organic cotton value chain in Burkina Faso in the future. As a strategy to avoid the risk of contamination, organic cotton production shifted from some traditional cotton growing regions to new more marginal regions that were considered to have unsuitable agro-climatic conditions for conventional cotton. This led to decreasing yields in organic cotton. Certification processes became more complicated (having to include GM risk analysis, systematic GM testing of leaf and seeds) and thus more expensive. On top of that, separation of organic cotton from conventional cotton to minimise contamination in ginneries became more complicated, and ginning of organic cotton after 2009 could only be performed at the very end of the ginning season in only one ginnery nationally. This affected farmers’ motivation (due to late payments), increased transportation costs and led to loss of producer bargaining power.

In 2014, Burkina had to import 142 tons of uncontaminated cotton seeds from Togo, but this was still not enough to supply all organic cotton producers (total seed requirement was about 250 tons annually). Some organic producers were thus urged to shift to sesame instead of cotton. Still, two years later, seed availability for organic cotton remained challenging and unnecessarily expensive. As a result, the organic cotton value chain still relies on official development assistance subsidies.

Organic and Fairtrade cotton in Burkina Faso

Despite those challenges, the organic cotton sector has caught up with pre-2009 levels, but the growth trend, especially the growth trend in organic production volumes shows that the introduction of GM Cotton has been the worst set-back in the history of organic development in Burkina Faso.

The effect is noticeable in all production data over the time

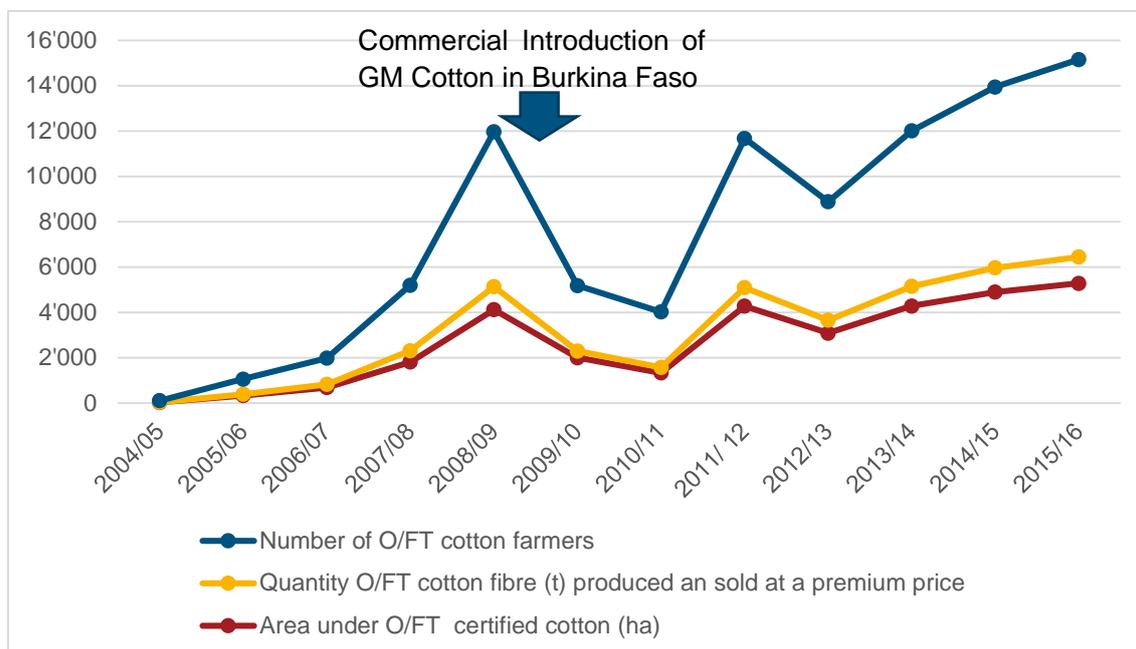


Chart 24: Effect of commercial introduction of GM cotton in Burkina Faso (Annual reports 2004-2015)

The number of farmers involved in the organic value chain increased from 72 in 2004 to 8'710 in 2015. Also the number of organic cotton producers was influenced by the GM cotton factor.

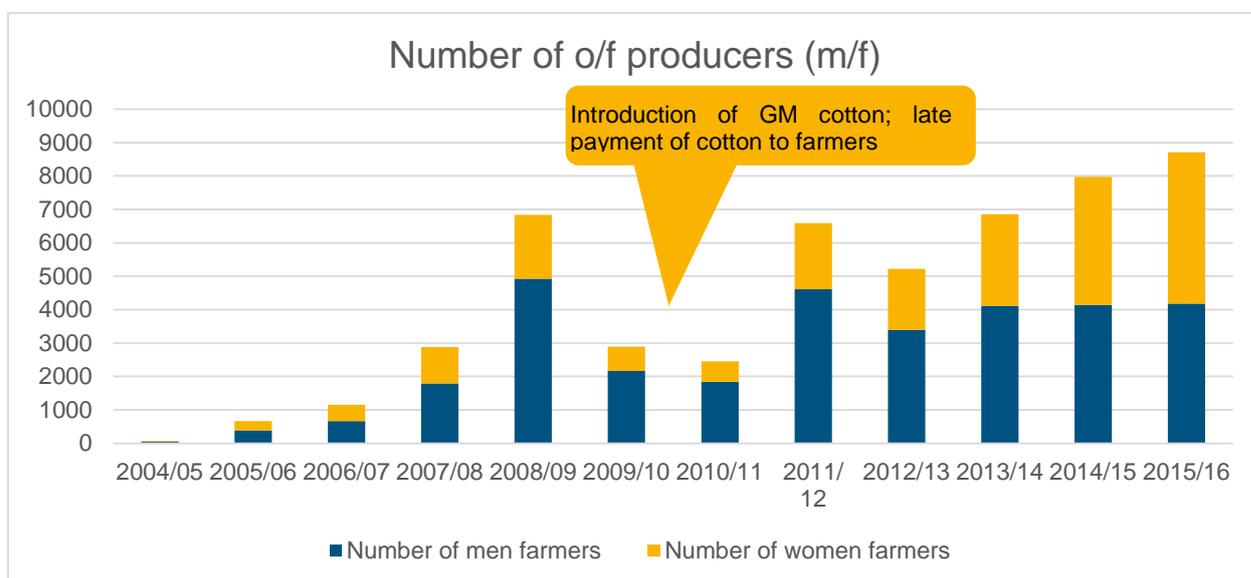


Chart 25: Number of o&ft female and male producers from 2004 to 2014 (based on Annual reports 2004-2015)

With regard to productivity, O&FT cotton was produced on relatively small plots of about 0,5 – 1 ha as per farm. Yields of the O&FT cotton remained more or less stable at 450 kg/ha respectively 200kg fibre/ha. Compared to national data on conventional cotton, this is about 50% of yields in conventional cotton production (ICAC: 2014).

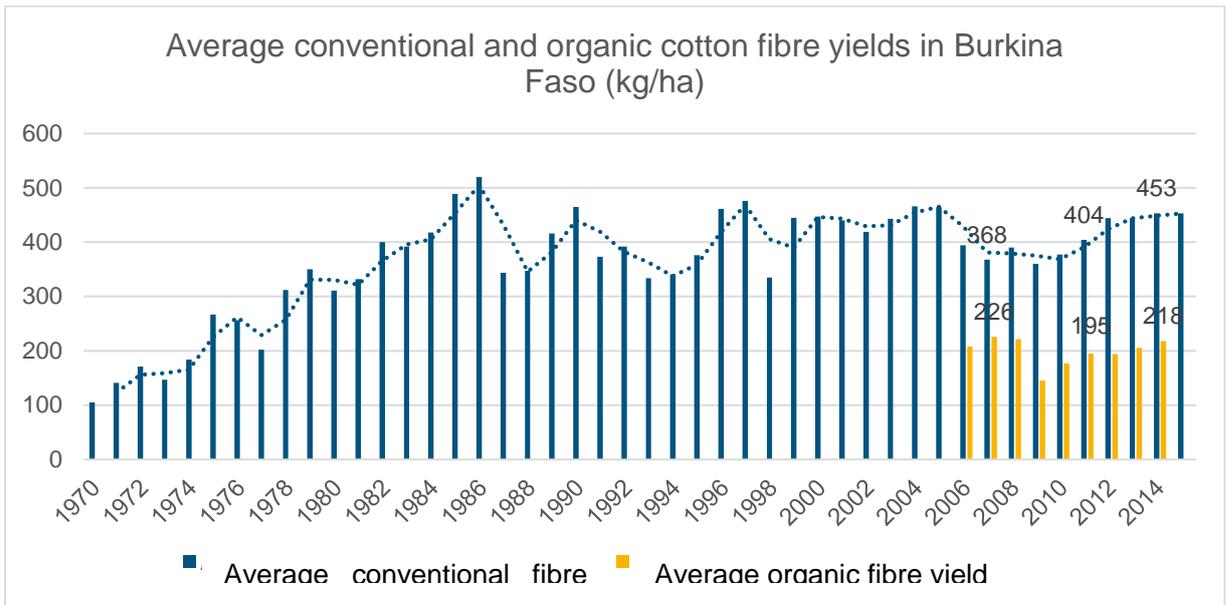


Chart 26: Average cotton fibre yield: organic compared to conventional (official national data) (ICAC: 2014; Annual report of the project)

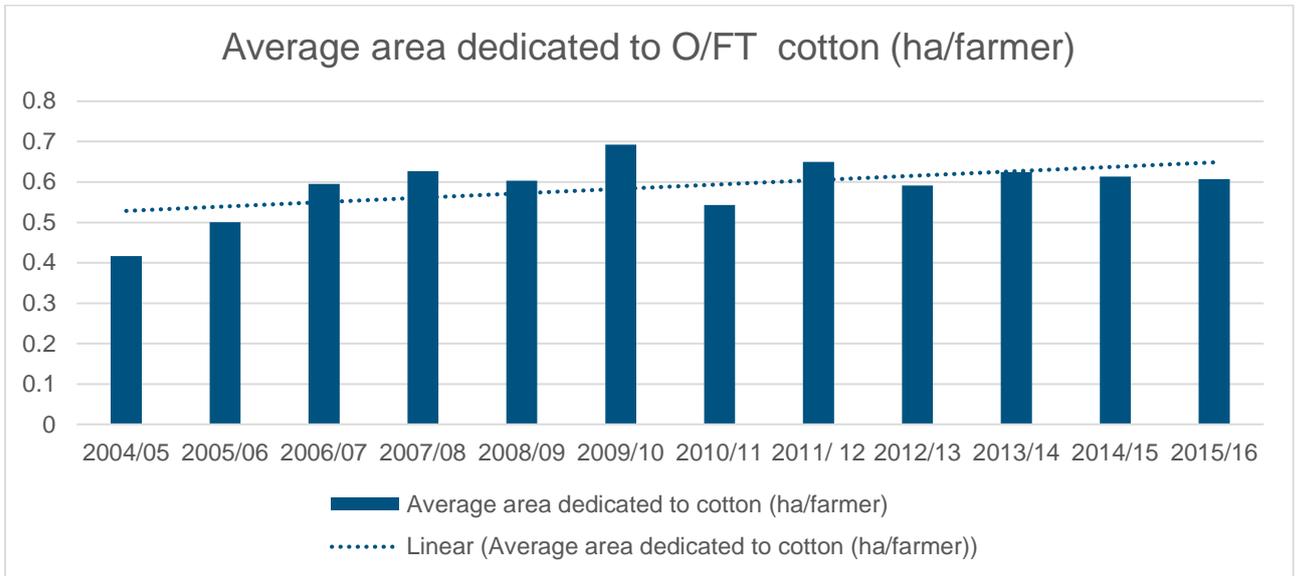


Chart 27: Average O&FT cotton area per farmer in Burkina Faso from 2004-2015/16 (based on Annual reports)

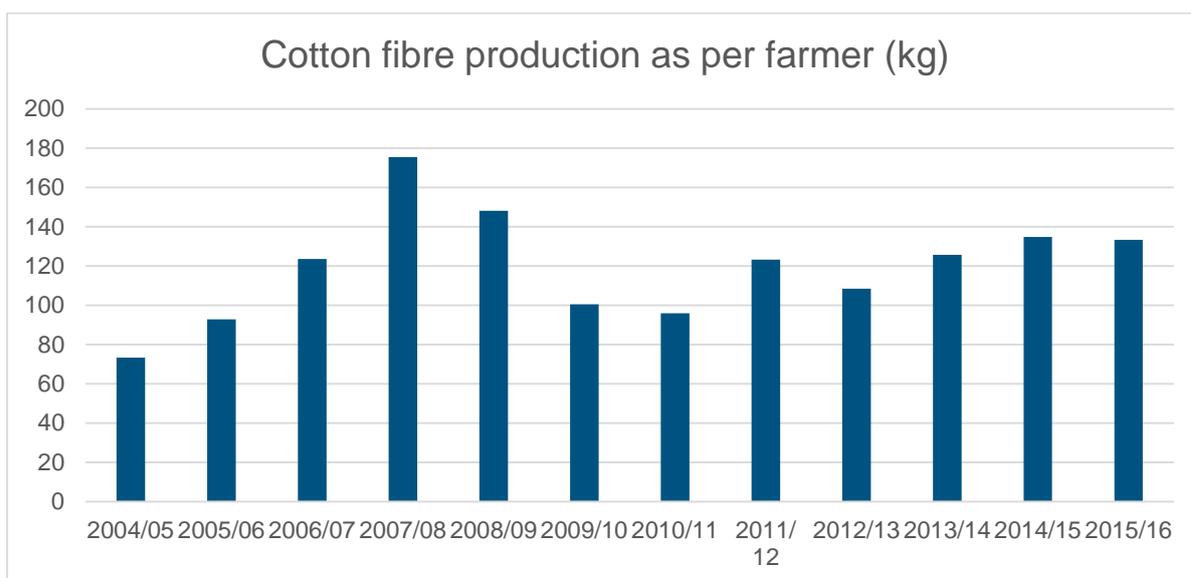


Chart 28: Production of O&FT cotton fibre per farmer (kg) in Burkina Faso from 2004-2014)

The introduction of GM cotton also paved the ground for further identity cotton programmes allowing the use of GM cotton seeds, such as the Better Cotton Initiative (BCI) and Cotton made in Africa (CmiA).

Learning 19: Comparing yields in organic with national yield data of conventional production might lead to the conclusion that organic cotton cannot compete with conventional. The o&ft cotton value chain, however, included comparably less equipped farms with a low investment potential, situated in less suitable area. Therefore yields of these farms were anyway low compared to average yields at national level. To get the real picture on the benefits of organic farming one has to compare farms of the same potential and evaluate the agro-ecological and social economic potential, instead of focusing on yields only.

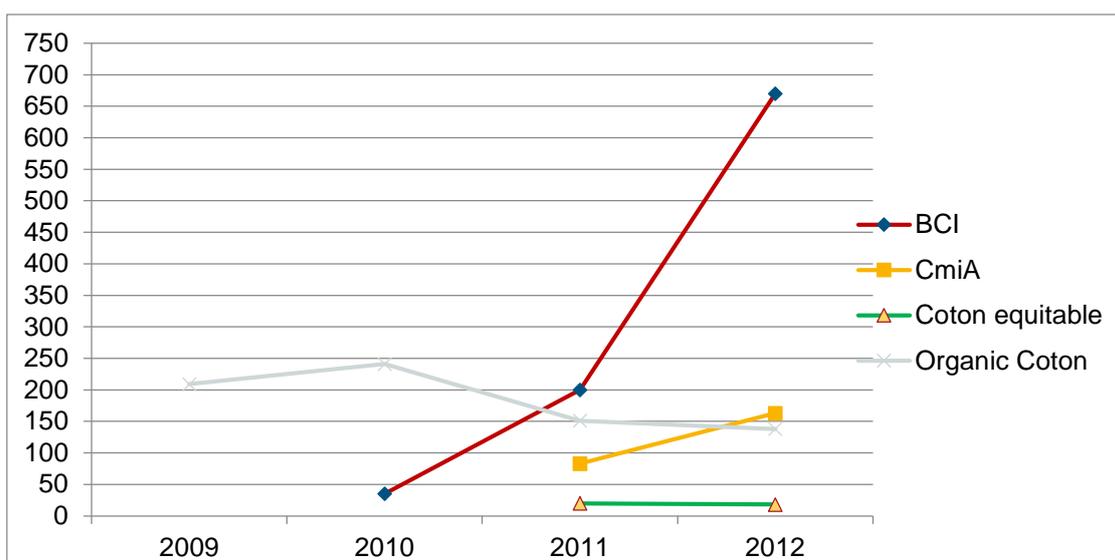


Chart 29: Evolution of diverse "sustainable" cotton value chains (in 1000 t) (Business Plan UNPCB 2013-2017)

With regard to O&FT cotton, in 2015 Burkina Faso turned out to be the strongest producing country of Western Africa producing 2622 tonnes of O&FT seed cotton.

21.1.4 Marketing of O&FT cotton

Until 2008, the Paul Reinhart AG managed the export and trade of organic cotton in collaboration with the Organic & Fairtrade Competence Centre of Helvetas. After Reinhart AG ceased its engagement in organic cotton in West Africa, UNPCB became responsible for the entire value chain from production to marketing. The project's marketing strategy strived for long-term partnerships with international traders and brands in order to assure farmers benefit from a better price and premium, which particularly could compensate the lower yields than in conventional production. Higher profitability in organic cotton production, however, can only be reached if O&FT cotton is sold at a premium price. The project intended that the profit centre of UNPCB would assume the responsibility for marketing. Therefore, the profit centre got appropriate training and support by the project to build a client network. However, for short term financial reasons the profit centre of UNPCB concentrated completely on Victoria's Secret as exclusive client and thereby gave up all other client relationships. The long term contract with Victoria's Secret of course was a lucky incidence and provided planning reliability to UNPCB and the producers. However, it bore a cluster risk for the O&FT cotton value chain of Burkina Faso.

Furthermore, the benefits of cotton sales were made by another entity of UNPCB and staff of the profit centre never got any economic incentive to push the sales - and therefore the production of O&FT cotton.

The conventional cotton was marketed via the cotton companies, which pay a commission of 4FCFA/kg to UNPCB for its support. This commission was the major income source of UNPCB. In the case of organic cotton, where UNPCB was responsible for the cotton sales, UNPCB did not get any commission but the sales price of the O&FT fibre, which it fixed nota bene on its own. There was little transparency on the margins of UNPCB. With the income that UNPCB generated through O&FT cotton sales, UNPCB funded all services delivered to the O&FT farmers. There is little information available, to what extent O&FT cotton sales contribute to the earnings of UNPCB.

In 2008 it was foreseen that **APROCA** would act as a **broker for all organic cotton** produced in Africa. However, due to low quantities produced, UNPCB never made use of this service.

Hence, for O&FT cotton, UNPCB created a parallel structure to the conventional cotton value chain which is only possible as long as the share of organic cotton remains low (0.3% in 2015) not competing with the conventional business of the cotton companies.

By 2007 cotton marketing became challenging, as production was soaring and UNPCB could not find buyers for part of the cotton produced in 2007 and 2008 (chart 27). In 2008, UNPCB therefore took out a loan to pay farmers for cotton that had to be stocked.

However, after 2009 due to several reasons (economic crisis, introduction of GM cotton, Indian's cotton policies), availability of organic cotton decreased worldwide and selling became easier. In 2009, UNPCB faced a higher demand on O&FT cotton than it was able to offer: 600-700 t by Victoria's Secret, 600-700 t by Hess Natur and some more tons by other interested buyers. However just in these years, the introduction of GM cotton affected the O&FT value chain in Burkina tremendously and UNPCB faced **difficulties to supply sufficient non GM seeds** to the organic cotton farmers. As a result, production in 2009 and 2010 remained low (Chart 28).

The project encouraged UNPCB to make use of the increased demand and to strive for long-term partnerships with a diversity of clients in order to reduce risks and to provide predictability in a highly volatile market. UNPCB, however, decided to sell the whole O&FT cotton production to only one client: Victoria's Secret. This decision is understandable as total cotton production was low and the contract with Victoria's Secret offered a comparable high price (almost double of the average price paid for organic) furthermore, they guaranteed an annual purchase of 820 t of organic cotton fibre until 2015. Additionally, Victoria's Secret paid transportation costs and provided pre-financing to about 70% of their cotton volume. However by 2015 the purchase agreement with Victoria's Secret (ALOK) came to its end and UNPCB - not used in marketing as this was not necessary before - again relied on the support of the O&FT cotton project, which facilitated a strategic collaboration with the French cotton trader Devcot.

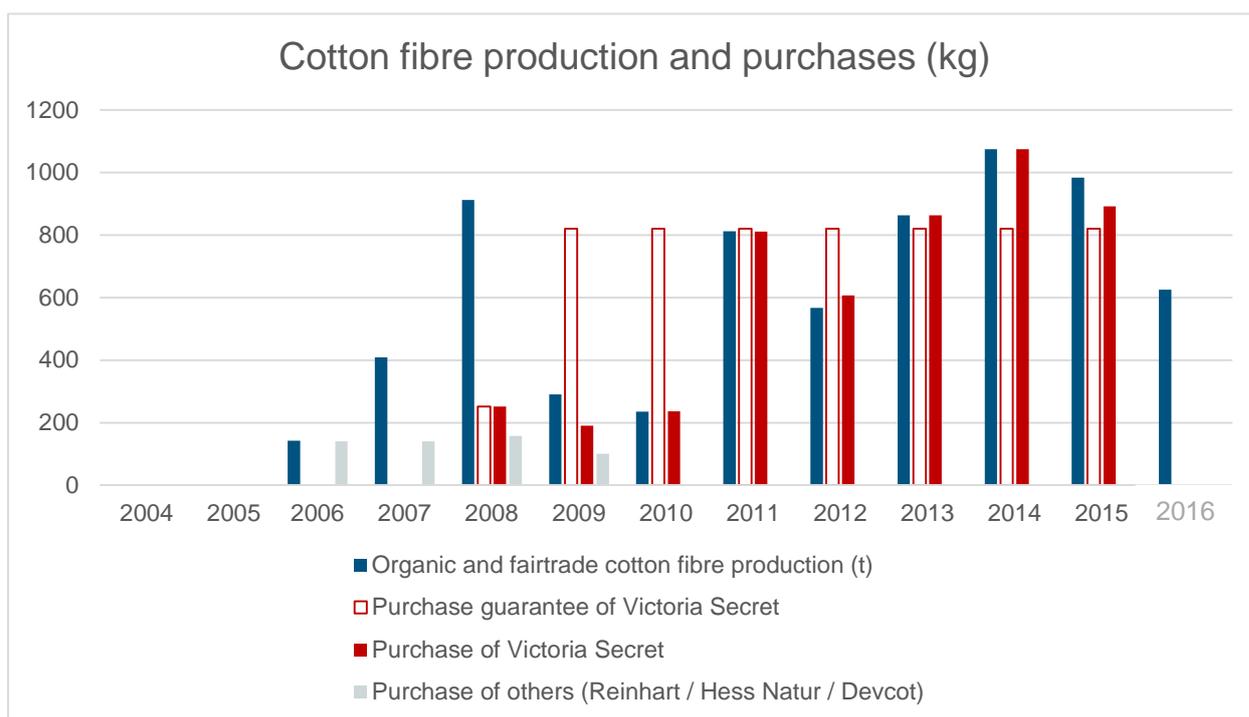


Chart 30: O&FT cotton production, market requests, and sales (Based on interviews and Annual reports)

21.2 Economic self-reliance of the organic cotton value chain in Burkina Faso

In the second phase the project started to integrate costs for the ICS and rural advisory services into the value chain budget of UNPCB, in order to cover costs by the income through cotton sales (ProDoc 2008-2011). The business plan was elaborated jointly amongst the farmer representatives, UNPCB, Paul Reinhart AG and Helvetas. Taking into consideration three scenarios concerning the development of extension service and ICS costs between 2007 and 2011. All assumptions based on a low fluctuation of organic farmers and therefore

- a continuous increase in farmers' know-how,
- a constant improvement of the production system and soil fertility,
- Decrease in workload of extensionists.

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Furthermore, the project expected intermediary farmers to be funded at 50% by UNPCB (as a small compensation; no salary) and 50% directly by the farmer groups (5 FCFA/kg seed cotton). It was calculated that the maximum expenditures for ICS, certification, and rural advisory services as per kg of seed-cotton should not exceed 50 FCFA/kg seed-cotton in order to keep the business of UNPCB economically viable. This calculation based on the assumption that one day 13'500 farmers will produce 5'000 t of seed-cotton. The foreseen scenarios, however, did not come true. Even the cotton quantity of the worst scenario had not been realised.

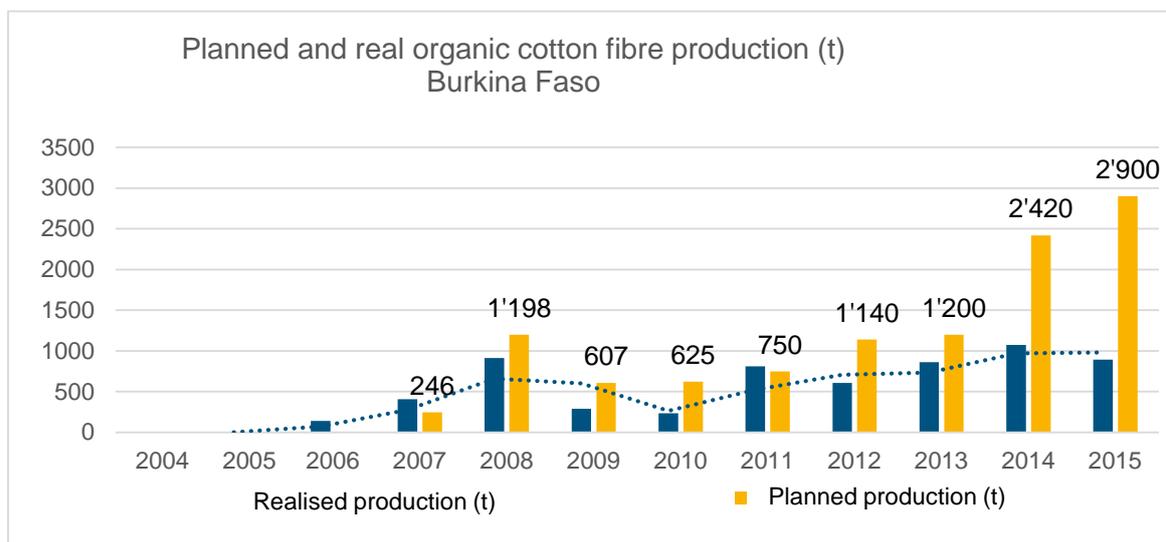


Chart 31: Planned and realised organic cotton fibre production (Business Plan 2010-2015; Annual reports 2004-2015)

Although the ratio of producers as per ATB increased, service costs as per kilo seed cotton increased as well from 106FCFA/kg in 2007 to 183FCFA/kg in 2010 because the number of extension staff remained the same while production fell, thus as per unit service and therefore production costs increased.

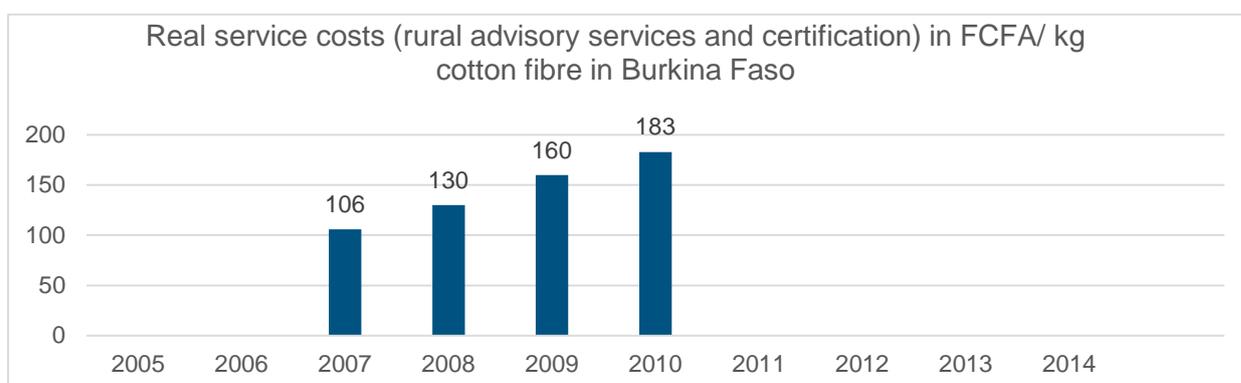


Chart 32: Service and certification costs from 2007-2010 (Annual reports); missing data from 2011-2014.

Organic and Fairtrade cotton in Burkina Faso

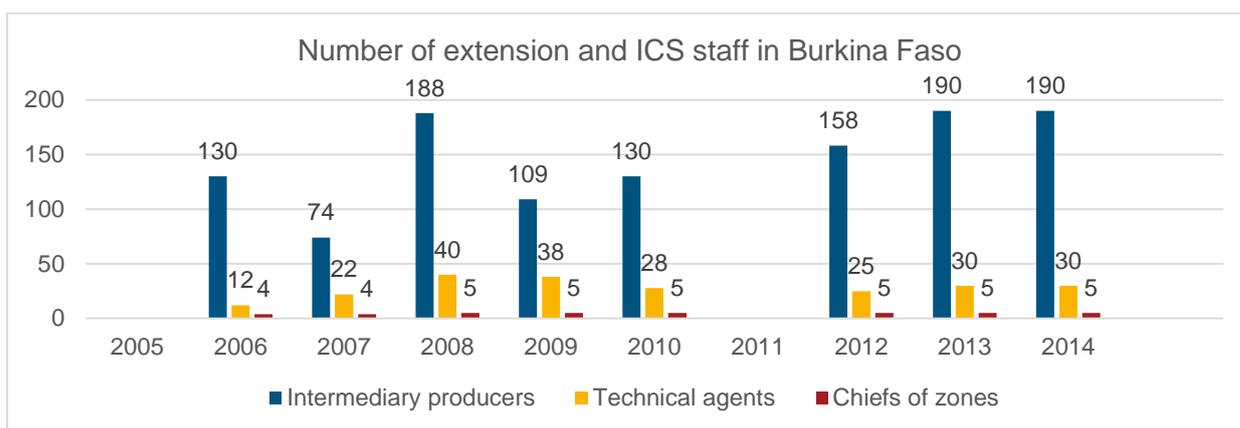


Chart 33: Number of extension/ICS staff for organic cotton from 2005 to 2014 (Annual reports); missing data in 2011

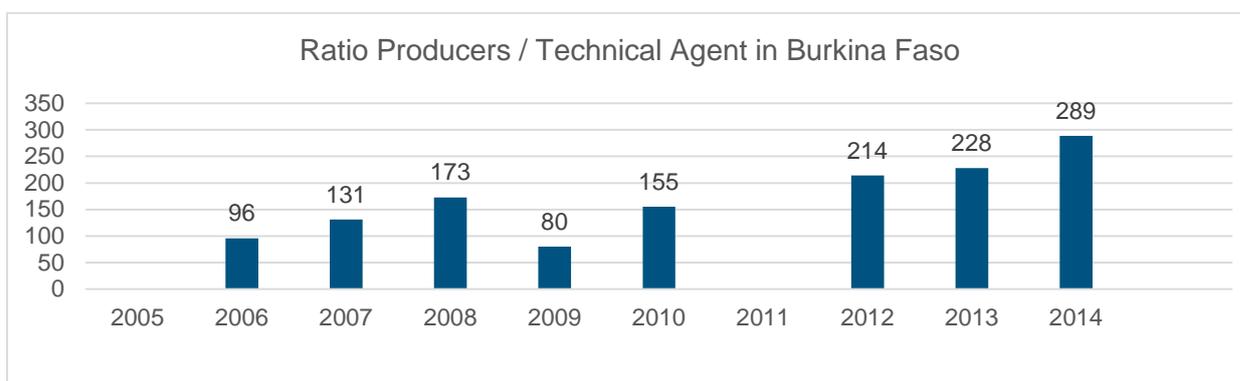


Chart 34: Number of organic cotton producers as per technical agent, 2005-2014 (Annual reports); missing data in 2011

In order to reduce service costs as per cotton entity, it would have been necessary to either increase productivity or the production of organic cotton. But both did not happen due to:

- Wide spread introduction of GM cotton in 2008, the related contamination and therefore decertification of organic cotton areas;
- Increased certification costs over time due to the additional costs for testing of GM cotton contamination of seeds, plants and fibre and for cleaning of ginneries after processing GM cotton (since 2009);
- Lack of commitment by farmers due to late and partly insufficient seed supply (due to the introduction of GM cotton as well) and late payments for cotton;
- Displacement of organic agriculture to areas with comparably low agricultural potential because of political interests to produce conventional and GM-cotton in most fertile areas;
- Limited capacities of organic farmers to invest into well-developed organic production systems in terms of labour, organic fertilisers, and technical means;
- Unreliability of farmer's willingness to pay the intermediary farmers for their service;
- Remaining low productivity in organic cotton production, due to the limited capacities of the intermediary farmers to promote most adequate organic production systems;
- Political interest of UNPCB and cotton companies to limit organic cotton production to a certain quantity in order to avoid losses in their conventional cotton business;
- Limited improvements in the production systems due to the limited adherence of farmers to organic cotton production as result of the above mentioned challenges;

Learning 20: Farmers' adherence to organic production over time is key to avoid losses in investments, respectively to reduce the share of expenses for extension and certification services and thus to assure sustainability of an organic value chain. To motivate farmers to stay in the organic value chain, a pre-finance system to pay timely provision of inputs, as well as timely payments of farmers, is key.

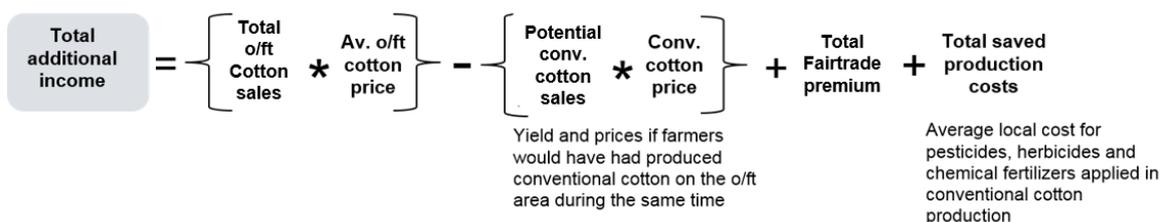
Despite these challenges and the increased costs for extension and certification, UNPCB was able to integrate all production cost including certification and extension into sales price. This was possible thanks to the high price ALOK (Victoria's Secret) paid to UNPCB for the organic cotton fibre (680 FCFA / kg seed cotton). The price even allowed to cover higher service costs than foreseen in the business plan. However, the business partner ALOK turned out to become a cluster risk for the value chain. After the expiration of the buying contract in 2015 expenses for technical support are not any longer covered. Thus, future need to show, whether UNPCB will continue to finance extension services by its own or whether it will fall back on funding support of further ODA projects.

Learning 21: The business plan was repeatedly too optimistic: the assumption of the development of the organic cotton production, didn't come true, as the business plan did not reflect all interests of UNPCB's business which also haven't been transparently communicated by UNPCB. Such a lack of ownership was difficult to predict. Furthermore, due to the in transparency of UNPCB's finances the necessary savings for future investments had not been made. Without savings, future challenges of the o&ft cotton value chain can hardly addressed.

22 Effects of the O&FT value chain – economic, social, ecological

22.1.1 Economic impacts at household and project level

To estimate the overall economic impact of the project investments, a simplified calculation has been applied in absence of solid statistical data at farm household level. The net income from organic cotton includes yield, price paid to farmers from which certification and extension costs have already been deducted, and the Fairtrade premium for community projects. The resulting net income is then compared with the net income from conventional cotton production that includes yields and conventional cotton prices, as well as the average additional cost for conventional production (insecticides, herbicides, pesticides and fertilisers).



For simplification, this calculation bases on the following assumptions and data:

- The costs for seeds, ginning services, taxes, transportation, soil cultivation, harvesting are treated as being the same for conventional and organic cotton.

- It is not realistic to compare the yields of organic cotton with the national yield data of conventional cotton provided by ICAC (2014) because organic cotton is largely produced in marginal areas, whereas conventional cotton production is located in the most fertile areas. Therefore, the conventional cotton yields of ICAC (2014) are adjusted based on a factor provided by an Impact Assessment conducted in Burkina Faso in 2008 (Pineau: 2009). Accordingly conventional cotton yields are 1.63 times higher than organic cotton yields.
- The additional costs for conventional cotton production (insecticides, fertilisers, herbicides and pesticides) bases on data provided by project staff in 2016 (119'502 FCFA / ha respectively 149 CHF / ha).
- An average exchange rate of 0.00166 (FCFA/CHF) has been used for all years.

The number of farmers involved in the organic value chain considerably increased from 72 in 2004/05 to 8'710 in 2015/16. Each of these farmers produced on average 120 kg fibre on 0.59 ha land. In total, 44'500 organic cotton farming years (summarised annual number of farmers) have been supported by the organic cotton project.

The simplified calculation results in a total net income on the project area of organic cotton of CHF **4'076'752**, compared to CHF **-1'629'862** if the farmers would have had produced conventional cotton between 2004/05 and 2015/16 on the same area. The total additional economic benefit from the production and sales of O&FT cotton is accordingly CHF **5'706'614**, respectively **CHF 109 as per individual farmer and year**, or **CHF 178 as per hectare and year**.

The average cost of agro-chemical application of conventional cotton in Burkina Faso has been used to calculate the cost savings resulting from not applying agro-chemicals in organic cotton production. The average cost savings per hectare and year is about 149 CHF, respectively **CHF 88 per organic cotton farming household**. The total savings from not using agro-chemicals during the 14 years of project implementation amounts to **CHF 5'489'325 (included in above calculations)**.

Further, the Fairtrade certification enabled the producers to assess Fairtrade premiums (34 FCFA/kg seed cotton), which amounted to **380'071 CHF** in total, respectively 11CHF as per hectare and year (included in above calculations).

In the calculation not included is the additional income from sales of rotation crops.

The total additional income provides a return of 56 cents per invested Swiss Franc (total CHF 9'997'552) respectively **57 % return as per invested Swiss Franc** (CHF 5'706'614/ CHF 9'997'552= CHF 0,57). In other terms, the economic impact of the project investment is positive for the target group.

Environmental impacts presented in chapter 3.8.3 related to increased carbon stocks, saved water, saved energy and reduced CO2 emissions are not monetarised and defined as additional income.

Furthermore, it is acknowledged that part of the invested capital was targeting the development of the organic sector as a whole and not only benefitting the organic cotton value chain actors but the organic sector as such.

In addition, the organic cotton project allowed smallholders to produce a cash crop without running into debts. 35% of organic farmers that participated in a socio economic assessment (CDE: 2009) mentioned that they have no need to draw on credits anymore since all production means were provided on a pre-financing basis via UNPCB to cotton production (included in below cotton price). They considered this fact more important than the higher share of profit. In particular farmers with less fertile soils were able to get a higher profit from organic cotton than from conventional cotton (CDE: 2009).

Another important benefit of the organic cotton project is the access of the national cotton society and the farmer's cooperatives to the international market. Between 2004 and 2012 the project organised so called 'stakeholder meetings'. They took place alternately in Switzerland and in Burkina Faso or Mali. These meetings brought together the producers, processors, traders, brands and the project implementer for an intensive exchange mainly on quality, volumes and price. An important side-effect of that meetings was the mutual awareness raising and trust building - a precondition for long term production and purchase agreements.

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Table 2: Overview of production, sales, income and financial benefits of organic and conventional cotton production (Kaegi, data based on interviews and projet reports)

Cotton production, price premiums and calculated additional income per organic cotton farmer (data based on interviews, project reports, impact assessments and ICAC documents)

Year/Season	Quantity O/FT seed cotton (t) sold at a premium price	Number of O/FT cotton farmers	Area under O/FT certified cotton (ha)	O/FT seed cotton yield (t) per ha	Price paid to farmer for O/FT cotton fibre (CHF/kg)	Income of O/FT cotton fibre sales per hectare (CHF/ha)	Fairtrade premium for community investments CHF/hectare (34 FCFA/kg)	Total income on project area (farm income plus fairtrade premium) CHF*** /project area	Calculated conv. seed cotton yields (t seed cotton) per ha****	Price paid to farmer for conv. cotton fibre (CHF/kg)	Income of conv. cotton fibre sales per hectare (CHF/ha)	Average costs for using fertiliser, insecticide and herbicide per ha (CHF)**	Income of conv. cotton fibre sales per hectare minus input costs (CHF/ha)	Calculated income for the case that farmers produced conv. cotton on the total project area (CHF)	Total additional income from O/FT cotton compared to conv. cotton on total project area CHF***	Total additional income /farmer (CHF)	Total additional income / ha (CHF)	Total saving per farmer from refraining from chemicals (CHF) / farmer
2004/05	13	72	30	0.429	0.407	72	10	2'446	0.700	0.349	100	100	-99	15	2'431	34	81	41
2005/06	150	663	332	0.452	0.407	75	10	28'517	0.737	0.291	88	100	-99	-3'885	32'402	49	98	50
2006/07	347	1151	685	0.507	0.508	105	12	80'297	0.826	0.274	93	100	-99	-4'654	84'952	74	124	59
2007/08	1'235	2886	1'809	0.683	0.452	126	16	257'304	1.113	0.241	110	100	-99	18'698	238'607	83	132	62
2008/09	2'470	6837	4'123	0.599	0.452	111	14	514'391	0.976	0.274	110	100	-99	41'768	472'623	69	115	60
2009/10	709	2893	2'004	0.354	0.452	65	8	147'659	0.577	0.274	65	100	-99	-69'647	217'306	75	108	69
2010/11	575	2456	1'334	0.431	0.759	134	10	192'346	0.702	0.332	96	198	-198	-137'081	329'427	134	247	108
2011/12	1'981	6589	4'279	0.463	0.540	102	11	484'028	0.754	0.407	126	198	-198	-310'531	794'559	121	186	129
2012/13	1'383	5224	3'088	0.448	0.581	107	10	361'448	0.730	0.407	122	198	-198	-236'766	598'214	115	194	117
2013/14	2'105	6860	4'285	0.491	0.623	125	11	585'959	0.801	0.390	128	198	-198	-301'373	887'332	129	207	124
2014/15	2'622	7976	4'894	0.536	0.623	137	12	729'874	0.873	0.374	134	198	-198	-316'510	1'046'384	131	214	122
2015/16	2'834	8710	5'286	0.536	0.540	119	12	692'482	0.874	0.390	140	198	-198	-309'896	1'002'379	115	190	120
Total/ (Weighted) average	16'425	52'317	32'149	0.49	0.55	115	11	4'076'752	0.81	0.35	109	149	-170	-1'629'862	5'706'614	109	178	105

* Ginning factor 0.41

** The average additional costs for conventional/ha in FCFA are adjusted regional values provided by ICAC Reports. These values have been compared to the impact assessment 2008, and reduced accordingly.

The indicated values are 50% of the national average costs for pesticides, insecticides and herbicides in FCFA.

***Change rate used for all years: 0.00166

**** The calculation of conventional yields bases on the impact assessment of 2008 that indicates a factor 1.63 for conventional cotton yields compared to organic cotton yields.

Sum
Concerns O/FT cotton
Concerns conventional cotton
Average
Weighted average

Further production data are given by the tables below:

Table 3: Comparison of net margin amongst different cotton production systems in Burkina Faso (Tiombiano: 2016)

Year 2014/15	Yield /ha	Price (FCFA)	Value of production	Input costs (FCFA)	Margin after reimbursement of inputs (FCFA)	Labour (FCFA)	Net margin (FCFA)	Net margin (CHF)
Organic cotton	536	375	201'000	35'009	165'991	67'502	98'489	163
Conventional cotton	937	225	210'825	85'165	125'660	79'330	46'330	77
GM cotton	1050	225	236'250	98'550	137'700	79'683	58'017	96

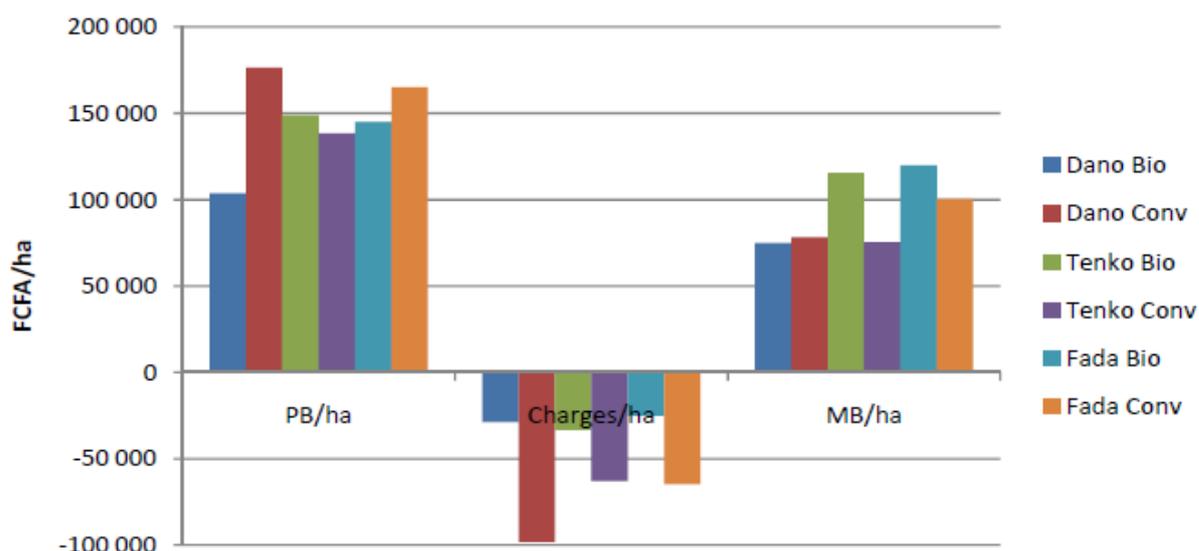


Chart 35: Expenditures, income and net income for organic and conventional cotton in diverse regions of Burkina Faso (CDE: 2009)

22.1.2 Social impact

The socio-economic studies (CDE: 2009, ICI: 2013) revealed a range of social impacts of the organic cotton value chain:

Social projects financed with the Fairtrade premium: The Fairtrade premium was paid to the GPCB, which themselves decided upon investments to make. Until 2010, 67 social projects (small shops, storage and fodder houses) have been built according to the priorities of cotton farmer groups.

Empowerment of cotton producers through trainings and advice: All farmers participating in the organic cotton value chain received regular trainings on organic agriculture via intermediary farmers, on demo-plots or directly through the technical agents. Through the collaboration with Syprobio, the O&FT cotton farmers were integrated into a participatory research process, where they learned and tested new, adequate farming methods.

Improved living conditions, in particular health: a socio-economic assessment of O&FT farmers done in 2010 showed that O&FT farmers benefitted from healthier work conditions than conventional farmers. For many farmers, the motivation to produce O&FT cotton bases on this non-financial benefit.

Learning 22: Improved working and health conditions are important benefits of organic agriculture. They are difficult to measure and probably surpass the mere economic benefits.

Social projects financed by buyers: Long term purchase agreements often entail that buyers (brands or retailer) become aware of the situation of the producers families in the country where they source their cotton. In some cases this lead to an additional engagement of the buyer (often in the frame of their Corporate Social Responsibility engagement) to support the development of the producers and their families. In Burkina Faso for instance the purchaser Hess Natur, a German eco textile brand, funded school lunches in the producer's communities.

Gender: UNPCB did not put specific emphasis on gender and social equity when selecting technical field staff. In the mainly patriarchal society of Burkina Faso, participation of women in cotton production was almost inexistent at the time the project set off. And UNPCB did not put specific emphasis on gender and social equity aspects when selecting its technical field staff and collaborating with farmers. Nevertheless, the involvement of women farmers into organic cotton value chain was a declared goal of the project, which had been reached successfully:

The project allowed women to enter the cotton value chain from which they have been excluded before. In the course of time, women participation accounted for 21 - 48% of organic producers. Furthermore, the standards for Fairtrade certification required at least one female representative in decision making positions, means in GPCBs as well as at higher levels. Accordingly, out of the seven O&FT representatives in the executive office of UNPCB, three were women. With regard to subsidization of production inputs, the project decided to favour female farmers, in order to strengthened their inclusion into this cash crop value chain and to rise an option for women for income generation (Annual report: 2012).

Learning 23: The social requirements for Fairtrade certification had a positive impact on gender equity and women empowerment in the organic cotton value chain. Thanks to certification UNPCB had to include women into the executive office. In general, including women into this cash crop value chain is a considerable social effect of the project.

Poverty orientation: The project selected the production zones jointly with UNPCB according to a set of criteria:

- Availability of project staff and networks, which led to the Fada region as SDC was implementing projects in that region when the organic cotton project set off.
- Agro-climatic potential for cotton production, which led to the Tiefora and Ioba regions.
- Regions of natural reserves to which organic production could be cultivated close without affecting. This led to the Boulgou region.
- The two regions Nayala and Oubritenga have been selected later, when conventional cotton production decreased in these regions and organic cotton was considered a suitable way to keep cotton production at a certain level. As these zones were considered as unsuitable for conventional cotton due to its agro-climatic conditions it was expected that there was also a lower risk for GM contamination of organic. While in Nayala, organic cotton production has developed quite well, in Oubritenga the future of cotton production remained at risk.

In addition, the specific villages and provinces were selected based on the interest of farmers to change to organic cotton production.

In this way, the organic cotton project in Burkina Faso reached out to comparably disadvantaged producers. This affected the size of the produced volumes and productivity. Yields in organic cotton production remained significantly lower than in conventional production.

However, it should not be disregarded, that it was a declared aim of the project to create opportunities for income generation, to fight the indebtedness and poverty. Furthermore, there were reasons that reinforced the challenges to increase productivity:

1. The cotton companies hold a **concession monopoly**. They decided where it was allowed to produce organic cotton. Since the cotton companies did not benefit from high productivity in organic agriculture, in some areas the least fertile fields had been allocated to organic cotton.
2. In addition, the relatively high **share of women farmers** had an indirect negative effect on productivity, as within farmer families often the least fertile lands were allocated to women. Furthermore, women producers often had less access to equipment and labour force than male farmers.
3. Organic farmers produced cotton on relatively **small plots**. They either possessed very small plots or they had to use a bigger share of their land for subsistence agriculture.
4. Most of these farmers had **low potential to invest** into their production. Yields therefore remain low.

Remarkable, many of these farmers stuck to the organic cotton production as it implied further benefits for them.

Learning 24: Compared to measuring yields and economic effects, little effort had been made to monitor the social benefits of the value chain. Measuring this impact, however would have been crucial to further promote the Fairtrade standard among the value chain actors.

22.1.3 Ecological impacts

From an ecological point of view the organic cotton project had considerable impact on the available knowledge and experiences on organic agriculture at local but also at national level. This was mainly due to **research and innovation** generated in the organic production system, which was substantially supported by the project and later intensified through the collaboration with Syprobio. Several studies and tests on bio pesticides, crop rotations, and seed production have been conducted. The Syprobio website (www.syprobio.net) serves as source of knowledge and innovation for the technical advisory system of UNPCB and will remain after the project's end.

A study on **soil fertility** done by INERA revealed the huge potential of the integration of legumes into the crop rotation as well as the application of organic manure in order to improve soil fertility and to increase soil organic matter to up to 5% (Annual report, 2010). The overall effect of the organic cotton value chain on soil fertility remained less than expected, due to the low investment potential of farmers in terms of labour and access to organic manure. However, the organic method led to a complete renunciation of harmful agrochemicals and therefore definitely contributed to soil fertility and producers health. As new crop to farmers and for increased diversity, sesame and soy had been integrated into the crop rotation.

In particular in the region of Po, organic cotton production areas have been established close to protected natural reserves. Compared to conventional production organic presumably had less negative impact on the **biodiversity** of the neighbouring ecosystems (Annual report 2010).

The project, itself did not conduct any studies nor Life Cycle Assessments, as valuable sources explicitly relevant for organic cotton are already available thanks to institutions like FiBL (2017) or PE International for Textile Exchange (FiBL: 2017; Textile Exchange: 2014). Organic cotton performs better than conventional when it comes to its global warming potential, acidification potential, eutrophication potential, blue water consumption, and primary energy demand but also with regard to its potential for adaptation and mitigation. The soil organic matter is key and any measure to enhance soil organic matter can be seen as adaptation and mitigation method.

A study done by Soil Association in 2015 calculated that changing the world cotton production from conventional to organic could reduce the global warming potential of cotton at 46%, mainly by avoiding synthetic fertilisers and pesticides that consume a lot of energy in its production. Organic farming thus reduces CO₂ emissions by eliminating synthetic fertilisers, and at the same time reduces atmospheric concentrations of this gas by storing it in the soil. (Soil Association: 2015)

23 Conclusions

Social and economic perspective: Observations and reports indicate that overall the human and social capital of organic farmers has increased compared to pre project situations. Organic farmers have institutional and economic advantages compared to conventional cotton farmers. Yet it is acknowledged that overall organic production methods require higher labour inputs and new skills and ways to approach production. No further exposure to agro-chemicals positively impacts people's health.

The human and social capital of the organic farmers increased thanks to their involvement in the project and their access to national and international markets, networks and donors. As elaborated in chapter 22.1.1 farmers benefitted economically from the project: they earned **CHF 109 as per individual farmer and year**, or **178 as per hectare and year** more than if they would have had produced conventional cotton.

Although, the institutional setting of the O&FT value chain is anchored within a national cotton body (UNPCB) the organic value chain is still far from being sustainable. The simple fact that the organic cotton value chain constrains UNPCB main income source, namely the input sales, considerably affects the organic business case.

In addition, the profit centre - the organic business unit within UNPCB - has no decision power. Even the best extension capacities of the organic business unit is not able to change this situation as long as UNPCB does not fully support the growth O&FT cotton sector. Yet, the farmer's organisation cannot influence **price and clients**.

For the productivity of O&FT cotton production the responsibility was completely with UNPCB. Productivity did not increase as expected (see Chart 31) and production dropped after 2010. The main reason for this was not a lack of capacity within UNPCB, but the missing continuity in cotton sales, the late payment of farmers by CMDT, and the marginalisation of O&FT cotton production to unproductive areas. The latter was also in consequence of the high participation of women producers that often have only access to the lowest fertile lands to produce 'their' organic cotton. Furthermore, organic farming was mainly done on low productive areas, where also conventional production did not reach the country's average of yields.

With regard to the project setup the project started without having a clear strategy on how to integrate the operation costs into the value chain. At the beginning operational costs were paid completely by the project. Later on they were fully integrated into the value chain, however, it turned out to be quite difficult to elaborate realistic business plans, which would have required full transparency of the UNPCB organic cotton businesses.

Environmental perspective: Textile Exchange published recently the Cotton Market Report 2016. This report provides a powerful reference to demonstrate environmental impacts of global organic cotton production. Waiving agrochemicals completely from the organic farming system has positive environmental impacts on soil, water, fauna, human health and saved at least of 5.8 million Swiss Francs of Burkina Faso's organic farmer's money (149/ha CHF on average).

However, the first phase of the project did not stimulate intensification sufficiently. As the production of organic fertilisers (compost, etc.) remained difficult, due to lacking organic material and transport means, **production method remained at an “organic by default” level and productivity did not increase**. Enhanced crop rotation and diversification of the production had been supported in the second and third phase of the project. This turned out to be crucial not only for the sustainability of the production system but also for the sustainability of the farmer’s income.

23.1 Outlook

The organic cotton project in Burkina Faso developed fast and well at the beginning. A first decrease in number of cotton farmers and thus in fibre production happened in 2009 and 2010 when GM cotton in Burkina Faso had been introduced (see chapter 4.3.2 and 4.5). The related non-availability of seeds and the shift of the production area towards marginal areas hampered the development of the organic cotton value chain considerably. Nevertheless, also with a lower cotton price than the price paid by Victoria Secret, the value chain has the potential to become self-supporting. The current business plan (2016) calculates a break even at the production of 2000t cotton fibre (=4472t seed cotton). This is expected to be produced by 2019.

The following points are in favour of a positive development of the organic cotton value chain in future:

- UNPCB derived considerable economic benefits from the sales of organic cotton to Victoria’s Secret.
- UNPCB is a large producer organisation with national influence and good relationships to the cotton companies; if UNPCB is really interested in producing organic cotton it is the right player to provide a completely integrated value chain and to scale the production.
- National cotton companies tolerated the transport of O&FT cotton for ginning from one cotton (company) region to another. As long as business remained small they have no reasons to be opposed to the organic cotton production.
- UNPCB’s capacity developed to the extent that it is able to manage the production of organic cotton without any need for considerable additional investments into its capacities and the overall institutional setting of the value chain.
- There’s a considerable number of farmers (about 8’000) still interested in the production of O&FT cotton. If buyers are available they will find ways to maintain the O&FT cotton value chain.
- The recent backlash in the GM cotton production could favour the organic cotton production.
- The Catholic Relief Service (CRS) started to collaborate with UNPCB in organic cotton production. The programme therefore will get additional financial support in the near future to fund the shortfall emerged from the loss of the biggest client Victoria’s Secret.
- In the frame of the project RECOLTE, UNPCB together with INERA is planning to produce certified seeds for organic production.

Despite this rather positive outlook, there are also considerable risks which put the O&FT value chain at danger:

- Although O&FT cotton provided economic gains the mere number of challenges could demotivate UNPCB to continue the O&FT cotton business: the **permanently imminent GM cotton contamination**, the difficult non-GM seed supply, the challenge of the O&FT cotton sales, and certification. Furthermore, the co-existence of GM cotton and O&FT cotton will always bear **additional costs for the O&FT cotton value chain**.

- A considerable part of marketing activities and thus costs had been covered by project funds and supported by experts from Helvetas Switzerland in collaboration with the cotton traders and UNPCB. After the phase out of the project UNPCB will be urged to cover these activities and costs all alone which is difficult at the moment where Victoria's Secret discontinued its purchase contract. It is very possible that UNPCB will search for further external funding to cover these costs rather than shaping its business.
- The **motivation of UNPCB to establish new client relationships remained low**. This became evident in 2015, when Victoria's Secret did not buy the entire amount of O&FT cotton produced and UNPCB had to find additional buyers.
- Time will tell if DEVCO will replace the Victoria's Secret/MAS/ALOK group in terms of volume and price. But it's for sure that the small client portfolio bear a cluster risk for the O&FT cotton value chain.
- Although the project supported UNPCB in the development of a transparent price model and the introduction of a fair negotiation process in stakeholder meetings, **UNPCB was not used to negotiate accordingly** and to follow up on the client relationships. They did not fix prices before harvest, nor did they determine a price model in the purchase contracts. This probably resulted from the comfortable situation of the long term purchase contract with Victoria's Secret. However, this situation will change now and UNPCB will be forced to sell the O&FT cotton at a lower price.
- In the past, production plans often were too optimistic. Although there are valuable explanations for the derivations from the production plan, **unrealistic production goals** bear additional costs and put at risk the whole value chain.
- The phenomena of farmer fluctuation would need to be thoroughly analysed. All should be done to keep fluctuation at a low level.
- The director of UNPCB has been imprisoned in autumn 2015 due to an **internal crisis in of the cotton business**. This affected the O&FT value chain negatively: the contract with Victoria's Secret was not continued as foreseen. In addition it paralysed processes like business planning and the election of organic farmer representatives into the board of UNPCB which was foreseen. The future management of UNPCB will decide upon the O&FT cotton's future.

23.2 Recommendations

The support of the organic cotton project funded by SECO will phase out by end of 2016. For reasons mentioned in chapter 23.1 the future of the organic & Fairtrade cotton value chain in Burkina Faso is still uncertain. Nevertheless, there are several activities that could enhance the continuity of the O&FT value chain, production and sales. These activities should not subsidy value chain activities, but enable actors to access knowledge and experiences of Helvetas or other service providers:

- 1) **Facilitate links to cotton traders and buyers.** In case of need this broker service should not completely be paid by ODA funding but UNPCB should have the option to buy this service on the basis of a consultancy. Experienced staff of Helvetas but even better a motivated cotton trader could offer this brokering service. As the identity cotton market runs somehow separately from the conventional cotton market, it will be crucial for UNPCB to get further access to the network of identity cotton and to maintain contacts with potential buyers. However trade fairs and platforms mostly run in English language and it needs extra efforts for the francophone O&FT cotton sector to stay linked with the fast developing business network.
- 2)

- 3) **Facilitate exchange and access to research and innovation.** Continuous learning and research is key to maintain the organic production systems in the long run – in particular in a rapid changing agricultural context as the one in Burkina Faso. Helvetas could support exchange among diverse organic cotton value chains on research and development by facilitating necessary linkages upon need.
- 4) **Climate change affects Burkina Faso's agriculture severely.** The organic farmers should be able to access support to further enhance the diversification of their production in order to cope with climate change impacts on the O&FT cotton production, but also to explore further income sources. The solely focus on cotton as cash crop poses a cluster risk, which does not meet the original goal of the intervention, which was the improvement of income and livelihoods of Burkina Faso's smallholders. In case of unforeseen upcoming challenges e.g. with regard to GM contamination, the adaptation of the internal control system to the new organic regulations, or other specific services UNPCB should be enabled to require specific support of Helvetas or similar consulting agency at an affordable price.

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VI) ORGANIC AND FAIRTRADE COTTON IN KYRGYZSTAN: BIO COTTON PROJECT (BCP): 2003-2016

By Rudolf Luethi and Stefanie Kaegi

25 Summary

The organic and Fairtrade cotton project (Bio Cotton Project: BCP) has been implemented from 2003 to 2016 with the support of the Swiss State Secretariat of Economic Affairs (SECO) and INGOs (Helvetas, ICCO, HIVOS). The total project budget was 6,74 million Swiss francs. SECO financed 79% and Hivos, ICCO and HELVETAS Swiss Intercooperation contributed 21% of the project's financial portfolio. The project was implemented in Jalalabad Region in the Fergana Valley, namely in Suzak, Bazar-Korgon and Nookan.

Achievements

- The aggregated number of farmers that participated in the value chain from 2004/05 to 2015/16 was **9'620** (78% male producers). The highest number of organic cotton farmers was 1'500 in 2016.
- Assuming that farmers stayed on average five years with organic cotton production (according to estimated entries and leaves) the number of **involved producers was about 1'924**.
- **In total, 6'346 t** of organic and in conversion seed cotton (3'190 t in conversion seed cotton has been sold. This accounts for **0.66t of organic and in conversion seed cotton per farmer and year**.
- Diversified selling practices (side selling) of farmers did not allow to calculate average yields based on the available sales data. Instead, data collected during the impact assessment in 2009 indicate organic cotton yield levels of 2.6 tons of seed cotton (BCP-EC: 2009).
- Over the years, a total of cumulated **18'925 ha** of land has been certified for organic production out of which 5'592 ha were dedicated to cotton. The average area dedicated to O&FT cotton was 396ha as per year respectively 0.6ha as per farmer. O&FT cotton area as per farmer decreased over the time from 1 ha in 2002 to 0.5 ha in 2015 – this reflects a general trend in Kyrgyzstan towards other crops than cotton.
- In order to diversify and increase farmers' income sources, value chains of rotation crops (e.g. chickpea) have been strengthened.
- Based on a calculation provided by Textile Exchange (2016), with the conversion of 5592ha into organic (2004-2015) the project has contributed to save 1'477'746 CO₂ equivalent, and to avoid the use 5'033kg pesticide and 653'404 kg chemical fertilisers.

Economic impact

- A simplified calculation considering yields, prices, premiums and additional costs for conventional cotton production resulted in a total net income of CHF 4'627'157 in organic cotton project area compared to a calculated net income of CHF 4'203'074 if the farmers would have produced conventional cotton on the same area.
- The total **additional financial benefit** from production and sales of O&FT cotton was **CHF 588'539** respectively **CHF 61 as per individual farmer and year**, or **CHF 105 as per hectare and year**. Therein not included was the additional income from sales of rotation crops.
- The total savings from not using agro-chemicals (CHF58/ha/year) during 12 years of project implementation amounted to CHF 291'071 respectively to an annual average saving of **CHF 93 as per organic cotton farming household**.
- The organic certification has been initiated in 2004 and Fairtrade certification was added in 2008. Thanks to the Fairtrade certification **social investments in the amount of 83'037 CHF** have been realised, corresponding to **CHF 20 as per farmer and year**.

The production and marketing of certified organic cotton through a value chain approach was innovative in the context of Kyrgyzstan and the central Asian region. Significant efforts and resources were directed towards technical, institutional and entrepreneurial capacity building. BCP has built a unique reference evidencing that cotton can be produced environmentally friendly, free from agro-chemical inputs and on commercial basis in a competitive international market system.

BCP was able to build a network of more than 1'300 organic cotton farmers, organised in 29 farmer groups and federated by the BioFarmer Cooperative – also referred to as the Agricultural Commodity and Service Cooperative (ACSC).

Lessons learned:

- A market oriented value chain approach with well-defined push and pull elements contributed to build new references and alternative avenues for the Kyrgyz agriculture and cotton sector.
- Overall the design and planning documents have set the right focus and directed the project's outcomes towards institutional, economic and environmental sustainability. Two risks were inadequately prioritised or mitigated: a) stable access to working capital to build stable trade relations between BioFarmer cooperative and cotton producers; and b) the importance of marketing of rotation crops as a business strategy to reach economic sustainability at cooperative level.
- The introduction and ownership of the BioFarmer cooperative's business plan has significantly contributed to building entrepreneurial leadership.
- The cooperative had to go through a difficult learning process in understanding farmer's behaviour pattern and coping strategies when selling the cotton harvest. In absence of service providers in the prevailing market system and to ensure loyalty of farmers, a high number of services had to be built into the cooperatives function, in particular also pre-financing services.
- The strong orientation and focus on the cash crop 'cotton' has orphaned rotation crops and the related marketing activities at an early stage of the project.
- Having a reliable and committed international buyer for O&FT cotton was a key success factor to develop the value chain and the BioFarmer cooperative. For the rotation crops, no equivalent buyer could be identified so far.
- The decision to found and capacitate two new organisations (BioFarmer and BioService) was economically inefficient and the definition of roles by the organisations required considerable resources. Nevertheless, the existence of two organisations contributed effectively to the development of the organic and Fairtrade sector in Kyrgyzstan.
- A key challenge was to build a cooperative management with sufficient entrepreneurial spirit and skills to mobilise and manage organic cotton production of over 1'300 small scale farmers according to international production and trade standards. An adaptive management approach, backed by a pool of internal and external resource persons and experts, have helped to react and overcome several crisis situations.

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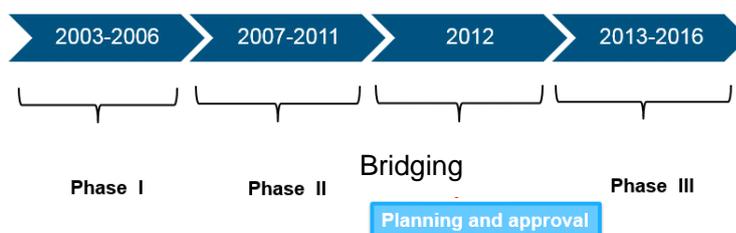
ABBREVIATIONS

ICS	Internal Control System
BCP	BioCotton Project
ASSC	Agricultural Commodity and Service Cooperative
O&FT	Organic and Fairtrade
BioFarmer	The organic cotton farmer cooperative
BioService	Service provider for organic agriculture

27 Introduction

In 2003, the Swiss State Secretariat for Economic Affairs (SECO) together with the Humanist Institute for Cooperation with Developing Countries (Hivos) and HELVETAS Swiss Intercooperation initiated the Bio Cotton Project (BCP), also referred to as “Organic Cotton Production and Trade Promotion Project in Kyrgyzstan”. From 2008 onwards, ICCO (Interchurch Organisation for Development Cooperation) subscribed to the vision of developing organic agriculture in Kyrgyzstan and became a co-founding partner of the project.

The BCP project experienced three phases as follows:



The focus of the first phase (2003–2006) was on awareness rising, capacity building and market research to develop export oriented value chains and to overcome challenges related to converting the exhausted conventional cotton production to an organic production and marketing system. Cotton was selected as the driving commodity to build an international value chain due to historic prevalence in the south of Kyrgyzstan, as well as due to a purchase guarantee from a cotton retailer in Switzerland, thus providing access to higher priced premium markets in Western Europe. The initial role of the BCP project was to mobilise expertise and to provide knowledge, information and services to existing actors and stakeholders along the cotton value chain.

The second Phase lasted from 2007 – 2011, after an extension of 1 year. 2012 was a bridging year to review and plan the third and final phase. The role of the project has changed away from being a direct service provider, to a facilitator that supports and strengthens existing or newly established value chain actors and stakeholders.

At the onset of phase 2, two new organisations, the Agricultural Commodity and Service Cooperative (ASSC), in this document referred to as BioFarmer, and the Bio Service Foundation, referred to as BioService, were established. The BioFarmer can be defined as a federation of organic cotton farmer groups which were established during phase I of the project. Thanks to a changing policy framework, the Bio Farmers’ Union was renamed Agricultural Commodity and Service Cooperative (ACSC). Under this new legal organisational structure, the BioFarmer cooperative was tax exempted and able to trade (buying from its members and selling to third parties) organic and non-organic products, in particular cotton.

BioService was defined as a service provider towards organic farmers of the BioFarmer cooperative and any other farmer organisations, micro enterprises, regulators of current and emerging organic farming systems as well as national and international donors and value chain actors. Both organisations have developed their respective business development plans for the period 2013 – 2016 with cost covering to be reached in 2015.

Phase III was defined as the consolidation and handing over phase with the goal that the producer organisation BioFarmer and the service provider Bio Service operate sustainable businesses in an organic market system which is populated by an increasing number of actors from the private and public sector and is embedded in a conducive environment.

During phase III, the role of the project evolved towards:

- a) Consolidation and strengthening of the organisational capacity of BioService and BioFarmer,

- b) Supporting and coaching of business development of BioFarmer and BioService,
- c) Advocating for an enabling policy and market environment that supports the emerging organic sector in Kyrgyzstan, through mobilising existing and new players in the organic sector.

27.1 Why Bio Cotton Project and cotton as a target commodity?

During Soviet times the Kyrgyz Republic produced more than 200'000 tons of seed cotton on an area of about 75'000 ha. Shortly after the breakdown of the soviet system in 1989/90, cotton production areas decreased to one third of the pre-soviet era and so did the yield.

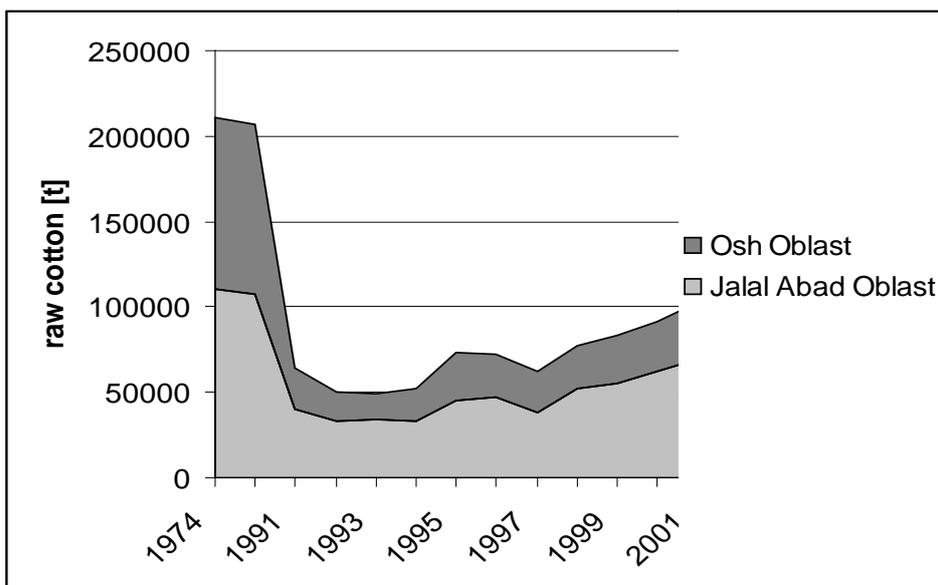


Chart 36: Harvested seed cotton in the Kyrgyz Republic, 1974, 1980, 1991- 2001(ProDoc: 2002)

In 2003, half a million people in the two Oblasts of Jalal Abad and Osh made their living directly from cotton, while one million people – i.e. almost 20% of the national population – depend partly on the crop. In Jalal Abad agricultural production represents 50% of the Oblast's gross domestic product. Major contributors to the agricultural gross domestic product are meat (23%), milk (13.8%) and cereal production (21.7%). With 9.5 %, cotton ranked on position four. Since the collapse of the Soviet Union, the area under cotton dramatically decreased in the two main cotton producing oblasts, Jalal Abad and Osh as illustrated in figure 3.

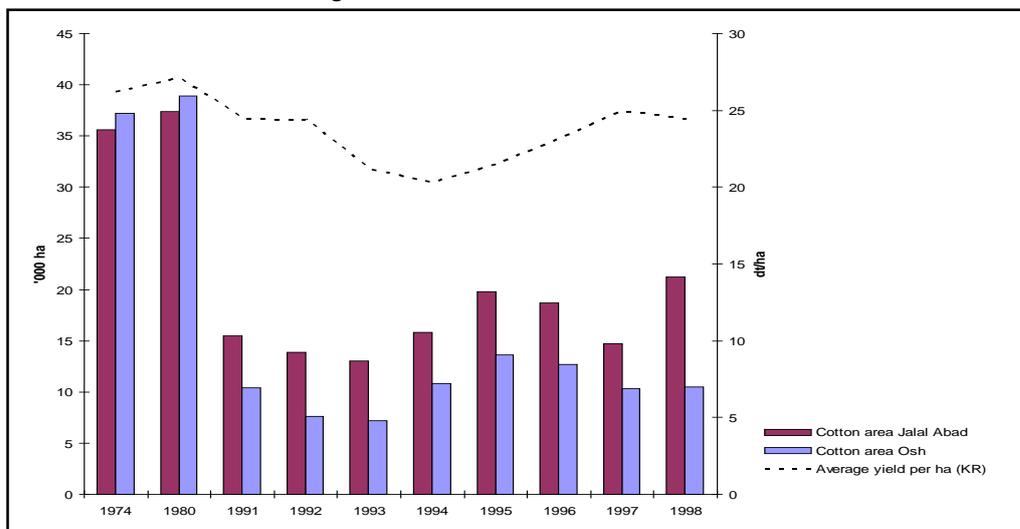


Chart 37. Areas under cotton and average yield per ha (1974, 1980, 1991-1998) (ProDoc: 2002)

“In the late nineties, 14 ginneries were processing seed cotton, six of them alone in Nookan Rayon, Jalal Abad Oblast. Kyrgyzstan exported more than 90% of its cotton fibres. While in 1997, the domestic textile industry processed still 4'000 tons of fibre, the quantity decreased within four years to 1'600 tons. (...)

Back in 2001, Kyrgyzstan exported 27'100 tons of cotton fibres to Russia (60.9%), Germany, Austria and Switzerland (at 10% each). In addition Kyrgyz cotton was exported to the USA, China, Iran and Turkey (Ministry of external trade and industries: 2002 in ProDoc: 2002)

By 2003 Kyrgyz farmers were able to obtain 78% of the cotton stock market price index set in Liverpool. The remaining 22% were absorbed by local traders with 1- 3%, custom clearings and transport to Riga covering 8- 12% and the trader ex-Riga taking 8 - 12% of the price margin. (...)

Worldwide, cotton-producing areas have not increased much since the 1930s, but the average yield has increased almost three times due to intensive use of mineral fertilisers and pesticides, irrigation and the use of high yielding varieties, increasingly being genetically modified seed. (...)

“Traditionally commercialised cotton varieties had low resistance to common cotton pests. Insecticides used against the cotton pests make up to 25% of the global insecticide consumption and about 10% of the overall pesticide market. Intensive use of toxic pesticides (insecticides, herbicides, fungicides) are harmful to most living creatures including human beings as well as the environment. Proven negative effects of agro chemical use are evidenced by soil, air and water pollution resulting in short and long term hazards to all living creatures. Intensive cotton production, as it is practised in Uzbekistan, Tajikistan, Kazakhstan and the Russian Federation, is at the origin of the environmental disaster of the Aral Sea. Within 20 years, the Aral Sea shrank to 30% of its original size due to excessive use of irrigation water, and soils are salinized, poor in organic matter content and polluted from overuse of mineral fertilisers and pesticides.” (ProDoc: 2002)

Back in the late nineties, Helvetas supported organic cotton projects in different countries of the South. The Helvetas' strategy in the working area of Sustainable Management of Natural Resources (NRM Strategy: 2003) aimed at food security and the promotion of environmentally sound and sustainable production, processing and marketing systems. Helvetas was implementing a three-year pilot project in production of organic cotton in Mali, Western Africa (2002 – 2004). The project had a purchase guarantee from Migros and Switcher⁵, thus providing an important incentive to build a value chain between Mali organic cotton producers and Swiss retailers. A similar set-up was envisaged for the Kyrgyzstan context where 10% of cotton was already traded to buyers (e.g. Paul Reinhart AG) based in Switzerland.

The Swiss Federal State Secretariat for Economic Affairs and Helvetas have agreed to collaborate in the sector of trade promotion (quality standards, labelling, networking of trade partners, etc.) and competence building in the Kyrgyz organic cotton sector. The mid-term goal was to create and develop a market in Switzerland for O&FT cotton produced in developing and transition countries. (ProDoc: 2002)

27.2 Genesis of organic cotton project in Kyrgyzstan

In 1994 the Kyrgyz Swiss Agricultural project (KSAP) of Helvetas began in the area of two mountainous regions (Oblasts) to establish rural advisory services and system. In this 'field laboratory' solutions to urgent problems were developed in a participatory way. Another project of the first hour was the Business Promotion Project supporting women, in generating income with small-scale businesses.

⁵ A major Swiss retailer and a Swiss retailer specialised on textiles

The pragmatic working approaches of Helvetas ‘searching together for solutions’, ‘striving for equality between men and women’ and ‘acting with economic and social responsibility’ while ‘taking care of the environment’ turned out to be valuable in Kyrgyzstan, a country of the former Soviet empire. Helvetas, as a partner in the ongoing rural transition process, contributed to eradicating poverty with a focus on improving living conditions of economically and socially disadvantaged people. In this role, Helvetas and its development partners identified the cotton sector in southern Kyrgyzstan, as a development challenge with high potential in reaching disadvantaged smallholder farmers and in creating employment and development impact in the southern regions. Chart 38 shows the problem tree which was developed at the origin of the first project formulation process, the „Organic cotton production and trade promotion in Kyrgyzstan” project back in 2003.

27.3 Why cotton, why value chain, why organic?

- Cotton was established during the soviet period and well anchored in the farming system and rural communities of southern Kyrgyzstan. Cotton was of economic relevance to southern Kyrgyzstan.
- Cotton was an export cash crop with established trade links to international markets, including Switzerland. Cotton was processed locally in ginneries and textile factories.
- Actors in the cotton supply chain generated considerable employment and used to be economic drivers during the soviet period. After the fall of the Soviet Union, the cotton sector was no longer competitive enough to maintain its scale in the context of international market competition.
- Helvetas experiences in other countries on organic and Fairtrade cotton value chains with Swiss buyers provided convincing elements to replicate the value chain approach as a mean to reduce poverty and stimulate local economic and trade development.
- Cotton production and productivity was at 25 percent of the early soviet situation due to exhausted soils and high dependency on external inputs. Major agro-chemical inputs were expensive and no longer affordable for small holders.
- Cotton farmer’s income was reduced due to high input cost, depleted soils, low productivity and low sales prices.
- Wheat or maize were no longer accessible through imports local demand for staples increased. This resulted in increased competitiveness compared to the cotton crop.
- The land reform resulted in a high number of individual smallholder farmers with limited knowhow on sustainable farm management.
- Cotton production in the region show devastating negative environmental impacts (Aral Sea).

Above factors provide evidence on how responsive the project design was to address poverty alleviation in a context of economic transmission by introducing:

- A market oriented value chain development and sustainable trade practices
- Sustainable production guided by environmental and social standards
- Institutional capacities related to international sustainable production and management standards

Learning 25a: A sensitive context analyses has led to a meaningful intervention in the Kyrgyz cotton sector by developing an international organic cotton value chain.

Learning 25b: A market oriented value chain approach with well-defined “push and pull” elements has contributed to build new references and alternative avenues for the Kyrgyz cotton sector.

Learning 25c: The selected value chain approach for organic crops complies with the newly established smallholder farming systems, and addresses the challenges of the economic downturn of the cotton industries in Kyrgyzstan.

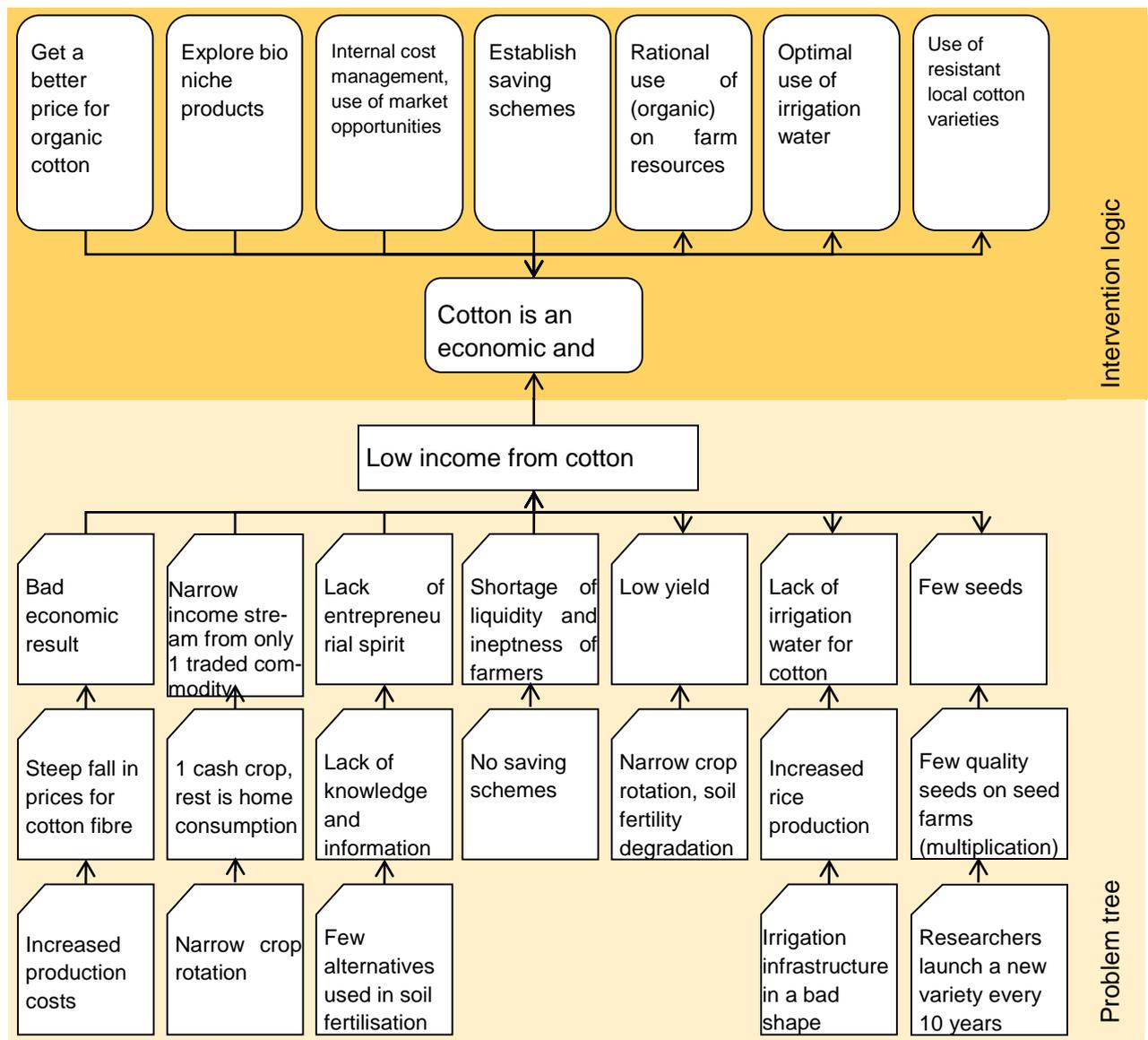


Chart 38: Problem tree and intervention logic leading to the first organic cotton project in Kyrgyzstan (Source: Helvetas, Initial project formulation document: 2002)

Obviously it is a long way from the initial problem tree to a fully operational organic cotton producer cooperative which is nowadays including more than 1300 organic cotton farmers with more than 3030 ha under organic certified production, and able to export 359 t of organic and in conversion cotton fibre through a well-established international value chain. This was mainly possibly thanks to a dynamic development process, committed development partners and their long term investments.

27.4 Key features of the Bio Cotton Project

1. A long term commitment of donors and implementing agencies to build sustainable international value chains. A main characteristic of such sustainable value chains is that market actors respect economic, social and environmental standards and are ready to remunerate social and environmental services provided by value chain actors.
2. Adaptive Management is built into the project management structure. This involves periodic reviews, internal and external evaluations, regular monitoring and reporting, as well as intensive exchange between market actors, implementers, donors and government agencies.

3. A systematic approach broken down into three main steps: Building awareness and capacity of stakeholders of the organic cotton supply chain on sustainable production, marketing and organic and Fairtrade certification systems (phase I)
4. Building institutional capacity of the producer organisation and service providers to operate in an international context by complying to recognised social (Fairtrade), environmental (organic) and economical standards (phases II and III)
5. Consolidate achievements and prepare institutions for taking over full operational responsibility, scale up and advocate for good practises among local and national government and development partners (phase III).
6. Shift from a technical and project driven approach towards a market driven and public private partnership approach which is guided by business development plans.
7. A commitment to include smallholder family farms into the project setup and cooperative design, by accepting increased complexity and loss of efficiency.
8. Attempt to move from marketing of a single commodity (cotton) to multiple commodities at international level.
9. Embedding sustainable production and trade practices at oblast and national level. BCP introduced the concept of organic agriculture in 2003 in a pioneer effort in Central Asia and has contributed significantly to the ongoing policy dialogue and the formulation of the Kyrgyz Organic National Action Plan.
10. Attempt to strengthen resilience to contextual stress such as the international economic crisis in 2008-2010 which resulted in strongly fluctuating world market cotton prices. The other main stress were the political and ethnic tensions from 2010 - 2012 with negative impacts on economic development, and in particular to the cotton sector in south of Kyrgyzstan.

The following Table 4 provides an overview and comparison of the goals, objectives and outcomes from phase I to phase III, 2003 -2016. The last column show trends on how objectives and outcomes have changed over time and shaped the directions of project interventions. Table 4. Evolution of projects goal, objectives and expected results, phase I to III (Source: Project documents, 2003 to 2016)

Level	Phase I, 2003-06	Phase II, 2007-10	Phase 3, 2013 - 16	Trend
Overall Goal	The project promotes organic farming in Central Asia, and trade of organic cotton and other organic products on the international and domestic markets, allowing interested farmers to make their living.	The project promotes organic farming in Central Asia, and trade of organic cotton and other organic products on the international and domestic markets, allowing a growing number of interested farmers to make their living.	An emerging organic sector in Kyrgyzstan produces a significant and growing volume of organic products which are marketed at fair prices along stable value chains to the national and international market.	From piloting organic agriculture and Value Chain development towards organic sector development and upscaling of organic product volumes in domestic and international markets.
Phase Objective	To prepare, organise and support the commodity chain of organic cotton to enable the production and the export of an increasing quantity of certified organic cotton through vertically integrated trade channels, mainly to the international market, and of other organic productions mainly to the domestic market.	With the support and facilitation of BCP, a sizeable volume of certified organic and Fairtrade cotton and other (organic) products are supplied to international and domestic markets. This is managed by a sustainable local structure for organic farming and trade, which actively promotes the respective value chains.	The producer organisation ACSC and the service provider BioService operate sustainable businesses in an organic market system which is populated by an increasing number of actors from the private and public sector and is embedded in a conducive environment.	From a project driven towards a commercial and market system driven approach through building organisational and entrepreneurial skills of new market actors and service providers in phases II and III.

<p>Outcome 1</p>	<p>Organic farming and organic products are promoted in Kyrgyzstan, the EU standards for organic products are met, and the marketing of organic cotton, and other organic products, is supported</p>	<p>“A farmer-based local structure for organic farming and trade consisting of an association and a support unit that are closely collaborating is set up, functional and well managed.”</p>	<p>Diversification of the production basis of ACSC and increase of cost-efficiency and value addition during production and processing;</p>	<p>From technical to organisational capacity building to finally reach a sustainable and farmer owned professional business organisation and dynamic service provider able to support diversification and value addition of the cotton value chain.</p>
<p>Outcome 2</p>	<p>The capacities of local stakeholders of the commodity chain of organic cotton are enhanced</p>	<p>“Organic and conversion farmers have access to the needed services provided or facilitated by the local structure for the production of a sizeable volume of certified organic and Fairtrade cotton and other (organic) crops.”</p>	<p>Development and implementation of competitive business strategies of ACSC and BS and reinforced partnerships with the private sector;</p>	<p>From project driven capacity building towards developing demand driven market actors and services providers which are able to partner, compete and economically sustain in an open market.</p>
<p>Outcome 3</p>	<p>The production of organic cotton is supported</p>	<p>The support unit manages the processing and marketing of certified and Fairtrade cotton, and other (organic) products, in the long-term interests of organic farmers.</p>	<p>Stimulate the demand for organic services which are offered by Bio Service, and the demand for organic products from Kyrgyzstan, targeting local, regional and global markets;</p>	<p>The project’s initial support function is transferred to newly created organisations, Bio Farmer and Bio service. BioFarmer becomes a market actor and BioService a service provider. The project remains in the function of a market system facilitator and management support unit</p>

Outcome 4	An adapted technology for organic cotton production is developed through applied research and is made available for dissemination	The farmers' association promotes organic farming and organic products in Kyrgyzstan among farmers, consumers, authorities and other stakeholders."	Capacity building of the partner organisations which will allow them running cost-efficient and profitable businesses; and	A shift from technology development to promoting/advocating for the organic and Fairtrade production system which is sustained by organisational strengthening of market actors (BioFarmer Cooperative) and service providers (BioService)
Outcome 5	-	The potential for the expansion of organic cotton production and organic farming in Kyrgyzstan and in Tajikistan is assessed.	Support to the political, social and economic environment in Kyrgyzstan to develop and implement a comprehensive strategy for developing the organic sector.	From analysis and piloting towards organic sector development through strategic intervention, advocacy and policy dialogue.

Another interesting dimension is the comparison of how risks were perceived by the project designers at the beginning of every new phase. The overview is provided in Table 5 and column "Trend" provides an interpretation on how risk perceptions have changed over time.

Table 5. Comparison of Risk assessments in phase design documents I-III

Risks assessed in the three Project Documents				
Risk areas	Phase I	Phase II	Phase III	Trend
Framework conditions	Loss of certified plots in case of reallocation of land.	Political unrest in the Fergana valley interferes with farming activities	(E) Political and social instability in the country reduce stakeholders' ability to invest into the innovative sector	Increasingly mentioning political instability. Control and access to land was a concern in phase I but no longer in phase II and III.
	A change of policy, such as the supply of subsidised fertiliser to farmers may ruin the efforts of the project (if such policies incite farmers to abandon organic farming).	Export of cotton is hindered by new regulations, VAT is fully charged on cotton export	(E) Uncontrolled spreading of GMO in the country	Policy changes have rather been interpreted as risk towards the organic value chain. Genetically modified seed increasingly threaten sales of organic cotton products.
		Ethnic and / or kinship relations undermine the local organisation		Governance and ethnicity related risks occurred with the introduction of building local institutions but did not appear as risk factor in phase III.
		Corruption		
Institutional Capacity		Farmers are not willing to establish the OFA Along with this risk, we also mentioned a poor collaboration between the farmers' association and the support unit, which is more an operational risk	(I) Management capacities of local partners cannot sufficiently be strengthened to operate VC independently (I) BioService cannot take over marketing function; dependency on project remains.	Organisational capacity, management and marketing capacity have been rightly identified as important risks for the BioFarmer Cooperative. The possible lack of business opportunities was seen as a risk for Bio Service to survive without project support. Surprisingly the access to working capital occurred as a risk only at the last phase....

			<p>(I) BioService cannot acquire sufficient business mandates to run cost-covering.</p> <p>(I) Investors/financial institutions not ready to invest into producer organisations</p>	
Farmers / production	<p>During the transition phase, farmers will have a yield reduction due to reduced cotton area (crop rotation) and less fertilisers. The risk is that their income will be reduced accordingly.</p> <p>Farmers consider the expected advantages of the project as insufficient as compared to the constraints linked with organic farming</p>	Farmers are selling certified cotton to third parties	(I) Loyalty of farmers remains low; high fluctuations of farmers and low delivery rate keep cost level (too) high.	Commitment and loyalty of cotton farmers towards the cooperative is perceived as a major risk throughout the three phases. Nature of the risk evolved from being technical towards being behavioural.
		Farmers are cheating / not applying the rules of organic farming	(E) Appearance of faked “organic” products from products in the international market	Loyalty towards organic farming and cooperative rules require attitudes and strict controls – ICS
		Labour migration does substantially reduce farm labour / number of new organic farmers		Migration patterns seem not to remain a major risk for organic agriculture for the final phase
				The conversion effects did not hamper the growth of the cooperative.

	<p>The lack of organic matter farmers represents a major constraint for many interested farmers</p> <p>Decreasing world cotton prices may push farmers to abandon the crop for economically more interesting alternative crops</p> <p>The climatic factor is always present in agricultural production. The risk is twofold: on the one hand for research (too favourable or too unfavourable conditions do not allow the elaboration of a suitable technology package, on the other hand for production (yield loss in case of draught or flooding).</p> <p>The cotton producers themselves identified this as one major technical problem; so far seeds used in Kyrgyzstan were always treated.</p> <p>The cotton Farmers suggested that the supply of P and K in the soils may</p>	<p>Organic farming is not attractive for the farmers</p> <p>Farmers have no access to adequate machinery and equipment</p> <p>Attractive alternative crops for the rotation can't be identified and sold to premium markets.</p>	<p>(E) Adverse climatic conditions severely affect agricultural production. Yields remain low.</p> <p>(E) A general price hike for agricultural commodities reduces attractiveness of organic production</p>	<p>Initial concerns that organic farming was not attractive enough to mobilise farmers was false or compensated by changes triggered by the project support, like seed supply on advance basis, access to premium market, cash and carry payment, technical counselling, etc.)</p> <p>Technical risks were replaced by market and institutional risks, indicating that technical issues could be resolved through testing new methods, training, counselling.</p> <p>Climate related risk are largely out of control, however introduced crop rotations resulted in a division of risk and promoted diverse income streams for smallholders.</p> <p>Diversified production patterns (rotation crops) and marketing patterns remain a risk throughout the project.</p>
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	become a problem in organic farming.			
Training		Trained advisors and inspectors are not ready to work within the frame of the support unit (BF cooperative)		A risk mainly perceived in the transition from a project to a market system structure.
		Trained advisors and inspectors do have unrealistic salary expectations		A valid risk which was not maintained for the last phase although it remained valid.
Market	The EU discriminated third countries by introducing standards aiming at protecting domestic production (Greece, Spain). One of the key partners along the commodity chain pulls back, e.g. due to a change of policy, or to a decreasing demand on the international organic cotton market. Pulling back of a partner in the vertical commodity chain.	Buyers on the European market lose interest in Kyrgyz organic and fair-trade cotton (demand for certified organic cotton from Kyrgyzstan decreases)	Product prices and quality are not competitive on the global organic market	The market and quality related risks persist throughout the three phases. However, the perceived risks move from market demand side towards competitiveness of Kyrgyz organic cotton and other products (price and quality).
	The quality of the cotton produced in Kyrgyzstan does not meet the requirements of the market.	The demand for organic products from the crop rotation does not exist		Market related risks for rotational crops persist whereas quality related concerns /risk, except for GMO, could largely be eliminated.

Organic and Fairtrade cotton in Kyrgyzstan

	Purchasing power in Kyrgyzstan remains low, which hampers the emergence of a domestic market for organic products	The cotton price further decreases	Strong price fluctuations influence the farmers to shift production to other crops.	Cotton world market prices always fluctuate but due to crop rotations organic farmers are more resilient to this risk than in the past
		Processors and traders are not ready to collaborate with the local structure (cooperative)		The absorption capacity of local markets for organic products and the credibility of the cooperative was no longer mentioned as a risk in phase III.
		Organic cotton is fumigated while crossing Uzbekistan territory		Technical risks of the international value chain were not mentioned anymore.

27.5 Project investments

The overall investment on BCP for all three phases amounts to 6,7 million Swiss Francs. The total budget for the analysed time span of this study (2002-2015) was 6.4 million CHF, respectively 4.9 million CHF from SECO. SECO financed 75% and Hivos, ICCO and HELVETAS Swiss Intercooperation contributed 25% of the project's financial portfolio.

On an annual average, 496'000 CHF were allocated to the project with a significant increase at the beginning of the second and third phase.

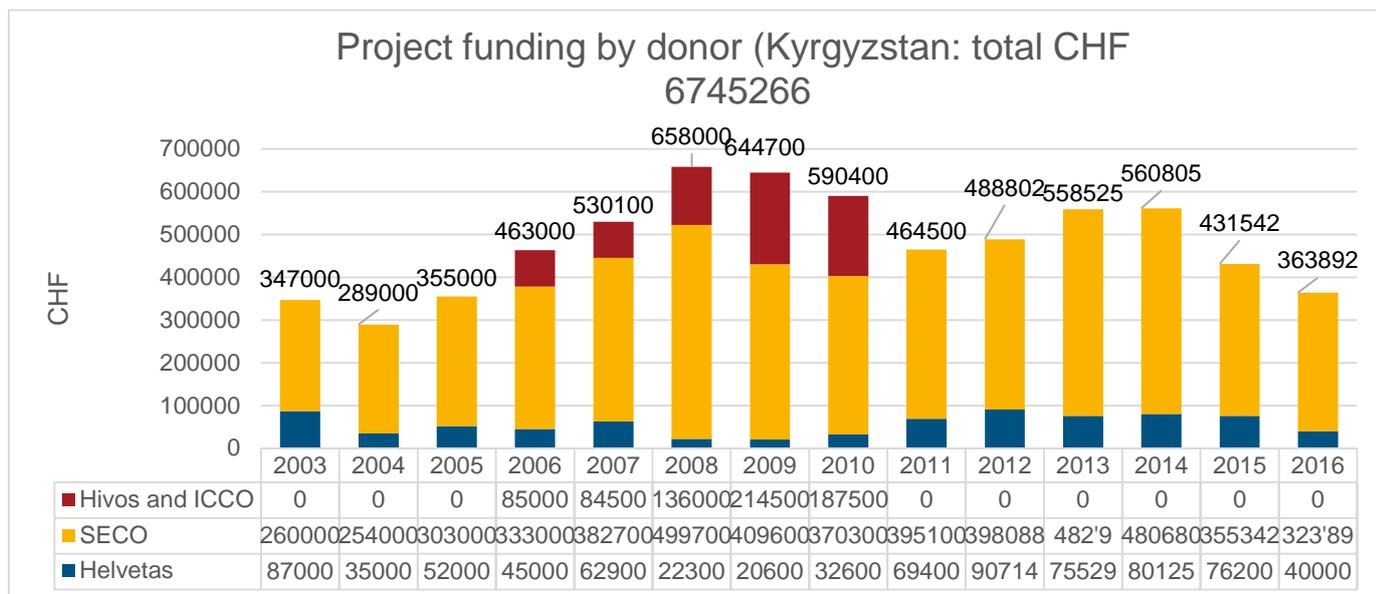


Chart 39: Project funding per donor from 2003-2016 (Source: Helvetas Annual Budgets 2003-2016)

Phase one (4 years) absorbed 22% of the investment, phase two 46% (6 years, including bridging years) and the last phase (4 years) 32% of the overall investment. 2012 was perceived as bridging phase to review and carefully plan the final third phase.

Learning 26: Design, planning and risk assessment:

- Overall the design and planning documents have set the right focus and directed the project outcomes towards institutional, economic and environmental sustainability.
- Two risks were inadequately prioritised or mitigated: a) stable access to working capital to build stable trade relations between BioFarmer and cotton producers; and b) the importance of marketing of rotation crops as a business strategy to reach economic sustainability at cooperative level.

Learning 27: Higher investments during the initial phase into:

- More and early market research and marketing activities on rotational crops might have generated long term economic benefits for farmers and the BioFarmer cooperative.

Learning 28: High investments during the phasing out phase:

- Due to institutional experimentation and re-orientation, a lack of entrepreneurial spirit during the first and second phase, the last phase required relatively high portions of investments (32%) to keep up with ambitious goals set by the business development plans.

Learning 29: High dependency on project support

- The initial strong project driven approach was unfavourable to develop an entrepreneurial spirit in the early stage of the project. Significant improvements occurred in phase three with the introduction of the cotton plus approach and the strict application of the business development plan.
- The introduction and ownership of the business plan has significantly contributed in building entrepreneurial leadership and reaching financial sustainability.

Learning 30: Long term commitment and coaching

- The long term commitment of donors and private sector combined with adaptive management allowed to build a solid business case that sustained major economic and political crisis.

28 Project implementation

In Kyrgyzstan cotton production takes place in the south of Kyrgyzstan, in Jalal-Abad and Osh, in the Fergana Valley, and in Batken. Organic cotton is produced in three districts of the Jalalabad region: in Suzak, Bazar- Korgon and Nooken. These are the most intensive cotton production areas of Jalal-Abad region.

The geographic target area and number of districts remained constant throughout the project intervention period and is illustrated by Figure 13 Figure 13.



Figure 13: Project area (Source: <http://www.nationsonline.org/maps/kyrgyzstan-political-map.jpg>)

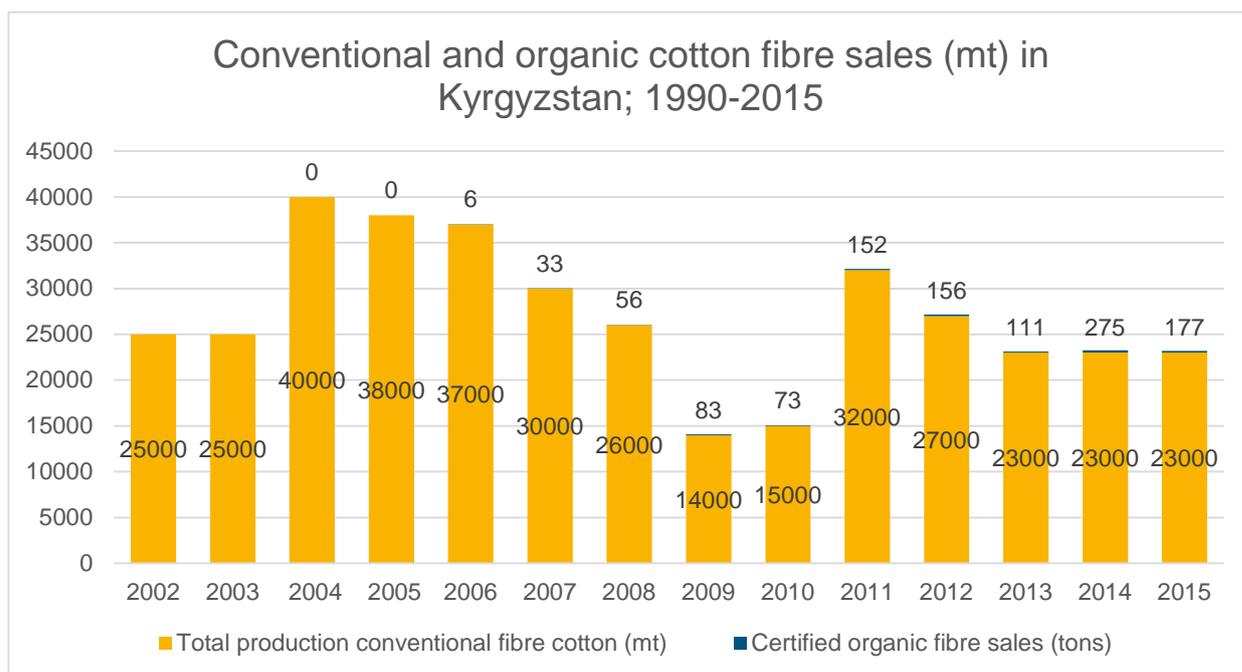


Chart 40: Conventional and organic cotton fibre production (mt) in Kyrgyzstan from 1990-2015 (Stefanie Kaegi based on ICAC: 2014 and BCP Annual Reports 2004-2015)

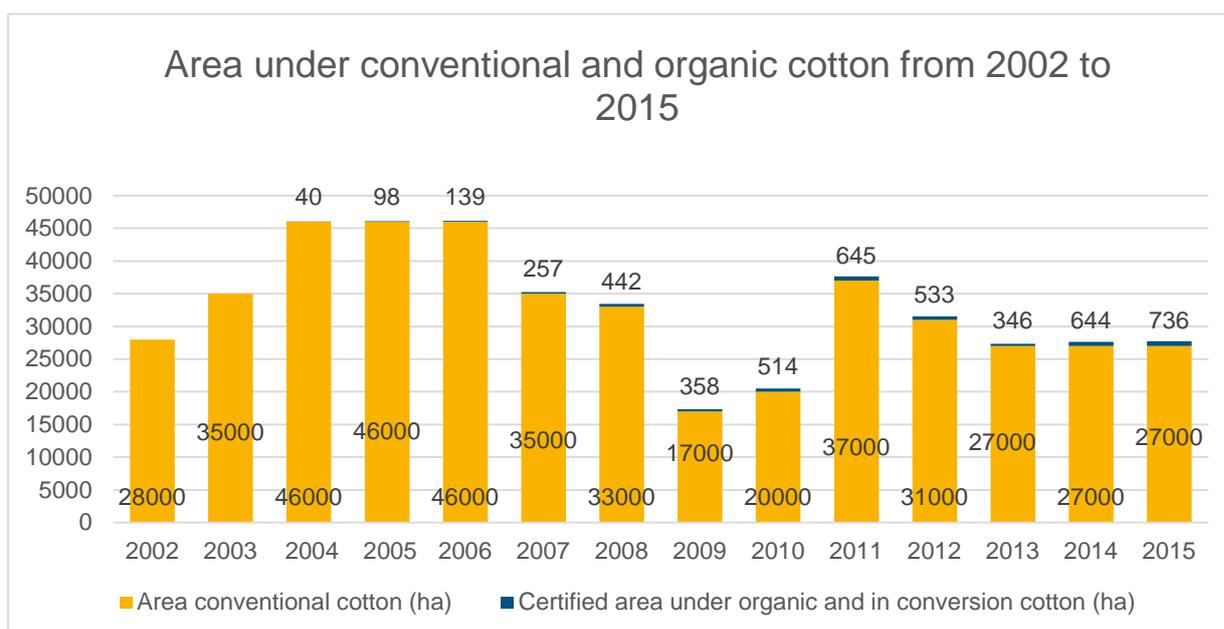
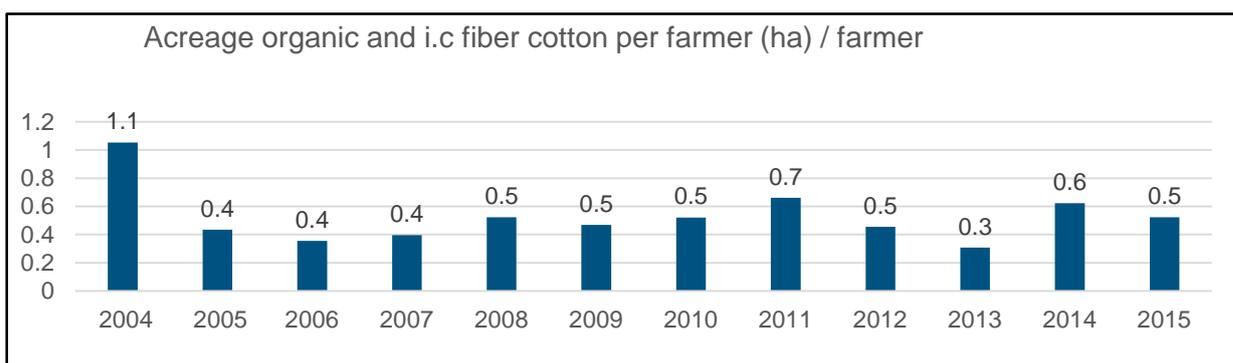


Chart 41: Area under conventional and organic cotton from 2002-2015 (Kaegi based on ICAC: 2014 and BCP Annual Reports)

For long, cotton played and continuous to play a particular role in the agriculture production system of Southern Kyrgyzstan. The common past of cotton producers, their education and work, and an omnipresent surrounding that favoured cotton production contributed their shares to the still important role of cotton in Central Asian agriculture. The average yield of conventional cotton fibre has remained more or less constant at around 800kg/ha over the past years (from 1990 to 2015).

However, since the collapse of the Soviet Union, the area under conventional cotton dramatically decreased. As a result production of cotton fibre decreased from 40'000 t to less than 15'000 t in 2009 respectively 22'000 t in 2015 (ICAC: 2014). Unfavourable input prices, a lack of cotton promoting policies, government incentives for wheat production to enhance food security, and deteriorating world cotton prices led to this decline (Ferrigno et al. 2014).

Organic cotton fibre on total fibre production accounts for 1.6 % of the country's total cotton production. Conventional cotton farmers produce on irrigated fields of about 0.5 ha and organic farmers on 0.3 to 0.5 ha on average per household. Project data show about 10% lower yields for organic than for conventional cotton. This, however, is statistically not significant (CDE: 2010). In the first two years of conversion yields normally decrease, whereupon they start to increase steadily as an effect of the use of manure. The availability of sufficient amount of manure is probably a limiting factor to stabilise or



increase yields for a number of organic farmers.

Chart 42: Acreage under organic and in conversion cotton .fibre production per farmer (Kaegi based on annual reports)

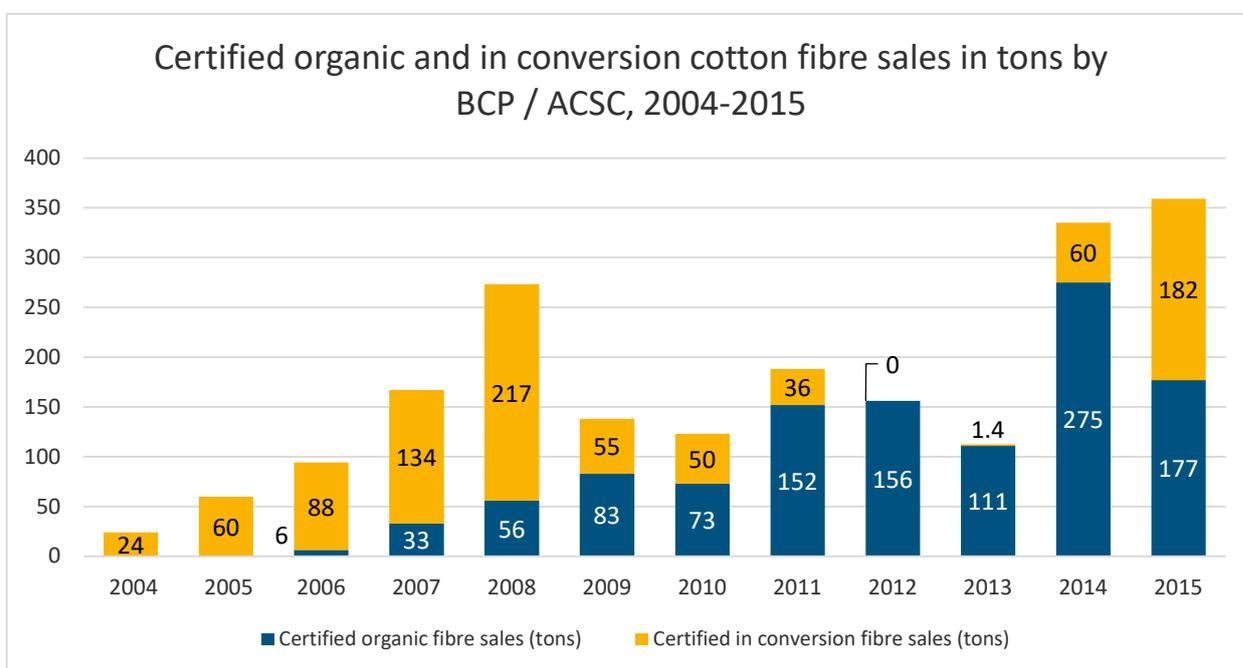


Chart 43. Certified organic and in conversion cotton fibre sales in tons by ACSC (Source: Kaegi based on BCP Annual reports)

During the project implementation, the volume of sold and exported production increased from 24 t cotton fibre to 359 t, and the number of organic farmers from 38 farmers to 1'394 farmers in 2015. A part of these farmers ceased cotton production during project implementation but stayed with the cooperative for the production and sales other organic crops as shown in Chart 44.

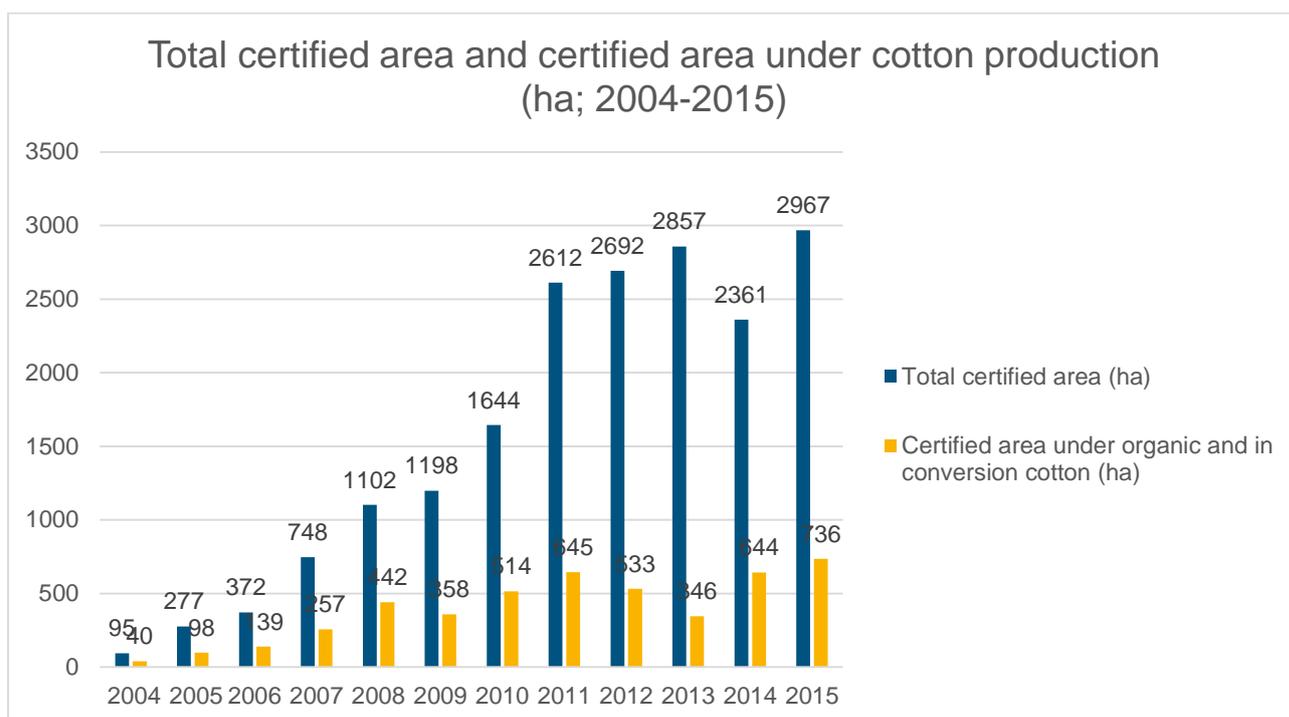


Chart 44. Organic certified area (ha) and area under cotton production 2004-2015 (Source: Kaegi based on BCP Annual Reports)

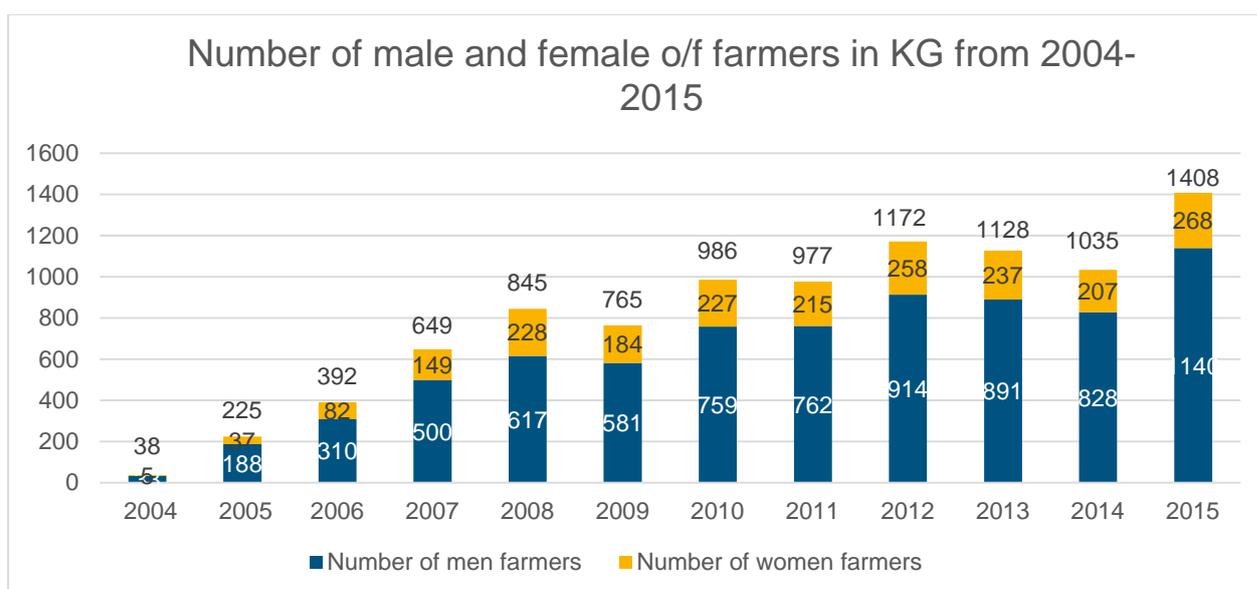


Chart 45. Number of organic farmers 2004 – 2016 (Source: Kaegi based on BCP Annual reports)

Overall the number of organic farmers has increased constantly. Two declines were experienced from 2008 to 2009 and again from 2012 to 2014. This is explained by:

- insufficient price difference between organic and conventional cotton. This was the case in 2009 and 2010 when the price for conventional cotton went up whereas the fixed price for organic remained static;
- lack of trade capital of BioFarmer: Organic farmers sold their cotton to local traders without premium because BioFarmer did not have sufficient capital to purchase all organic cotton directly and timely at the ginnery;

- business decision of BioFarmer to work only with motivated and committed cotton producers. Defaulting members were dropped out and new farmers, motivated in cotton cultivation, were recruited (2013 and 2014).

28.1 Major interventions at the farming system and household level

The BCP project initially intervened directly with farmers and farmers groups. From phase two onwards either BioService or BioFarmer cooperative provided technical or material inputs to organic cotton farmer groups. There was a constant discussion on the roles and responsibilities of the two organisation. From 2014 onwards BioFarmer internalised almost all services (except ginning, external certification) in order to save costs in the long run. This, however, required resource intense capacity development of BioFarmer.

The major interventions and services provided to organic cotton farmers are as follows:

- Training cycle on organic farming ranging from improving soil fertility management through crop rotations (pulses, vegetable, fodder) and use of manure and compost, organic pest and weed management, water and irrigation management.
- Economic household farm management
- Farmer organisation
- Internal Control system and external certification
- GMO risk management and prevention
- Organising and distribution of GMO free quality seed on a pre-financing basis
- Logistic and contractual arrangements with seed producers and ginneries
- Marketing of cotton and rotational crops
- Management of the Fairtrade Fund out of which advance payments are made to members with liquidity problems. Based on the Fairtrade fund the cooperative also acts as an insurance and covers the risk of occasional seed or crop failures. Affected farmers are relieved from refunding the seed advance.



Photo 1: Farmer trainings to prepare organic plant protection medicine Source: BioFarmer, 2014 (Source: Helvetas Project Progress reports)

28.2 Social, economic and environmental changes at farming system and household level

This chapter highlights some of the major social and environmental changes that occurred at farm level. Changes have been assessed quantitatively through farmer interviews and by observations as well as by periodic project reviews and reporting. In 2009, the Centre of Environment and Development /University of Bern conducted a first impact assessment with a well-balanced focus on quantitative and qualitative indicators and data collection (CDE: 2009). A similar study with a stronger focus on qualitative data was mandated to BioService in 2015 (BioService: 2015)

The following list and references are non-exhaustive and concentrate on some of the key changes which have been documented over the years at farm and household level or organic farmers:

- Increase of agro biodiversity by introducing rotational crops (pulses, vegetables, fodder, cereals). Prior to organic farming, cotton monoculture was the standard. In some cases corn and alfalfa was intercropped with cotton. With the introduction of organic agriculture alfalfa has gained a major share (increase from 18 to 60%) of land under crop rotation. The share of corn is massively reduced (77% to 33%). Pulses have never gained much ground but some vegetables like water melon, squash, marrow which have recently gained on importance (CDE: 2009).

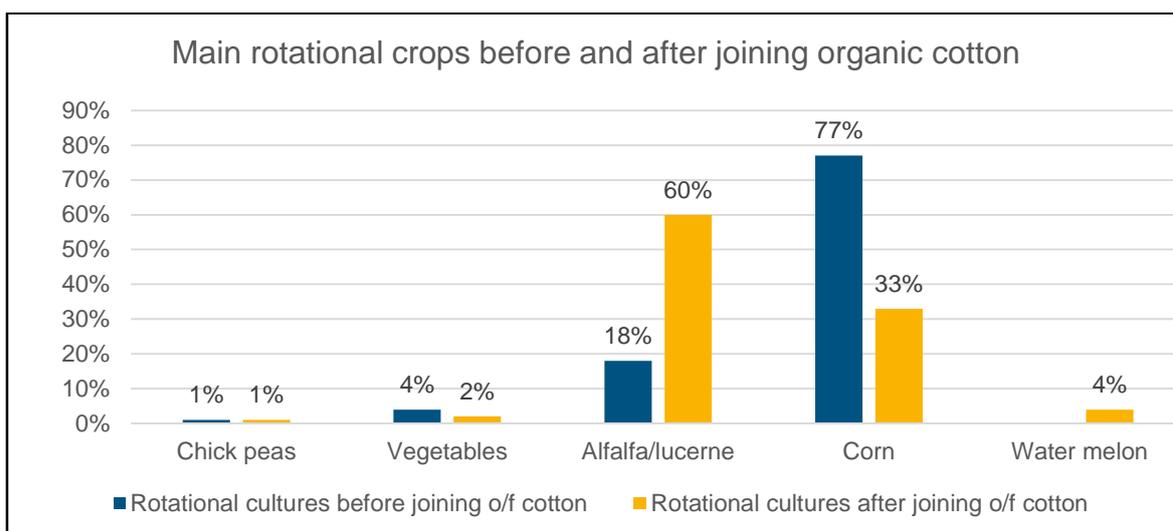


Chart 46. Changes in rotational crops before with the shift to organic agriculture (Source: CDE: 2009)

- Improvement of soil fertility thanks to an increase in organic matter content and living biomass in the soil – in this case the negative effects of cotton monoculture are reversible and an investment in sustainable soil management for current and future generations. In the impact survey conducted in 2015, 253 (72%) of 351 respondents answered that soil fertility is improving through crop rotation and 59 (17%) persons said soil fertility improved after application of green manure. 39 (11%) respondents marked the importance of increased water efficiency, reduction of erosion and leaching of nutrients. (BioService: 2015)

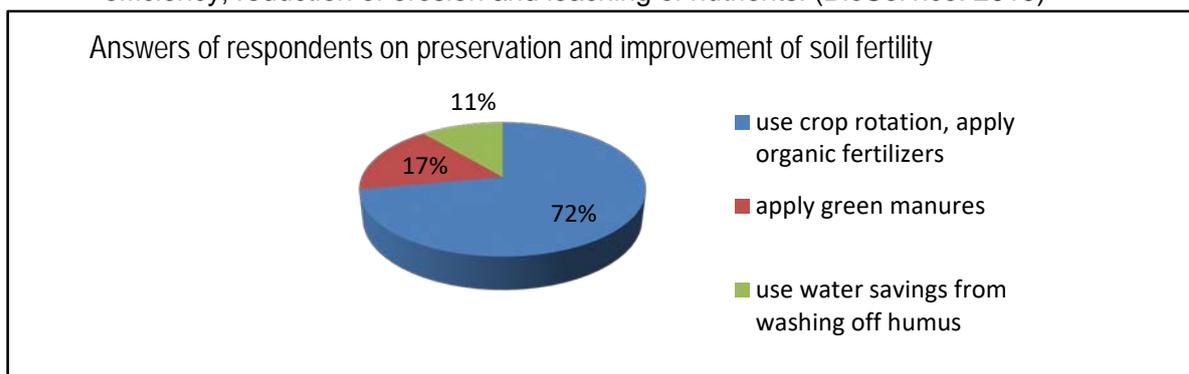


Chart 47: Farmers' practice and perception on preserving and improving soil fertility (Source: BioService: 2015)

- Improvement of water retention capacity through better soil structure resulting in higher water use efficiency.
- Positive side effects from increased livestock numbers triggered by better access to microfinance and availability of high value fodder (alfaalfa).
- A significant proportion of alfaalfa in the crop rotation is reported to have positive side effect such as less weed pressure after a three years cycle of Alfalfa cultivation. Compared to cotton, Alfalfa is a labour extensive crop and correlates positively to the high out migration pattern, which often leaves women and elderly people as the only work force on the farms.
- More diverse income pattern thanks to crop rotations is leading to better liquidity at household level. In the same go, organic farmers depend to a lesser degree on external inputs leading to substantial lower demands on cash and saves cost.
- Less expenditures due to lower external inputs (fertiliser, pesticides) leads to economic independence and overall higher gross margins of organic compared to conventional cotton farms.

- An economic comparison of organic and conventional farmers in Jalalabad Oblast (BCP EC: 2009) shows that all crops of the diversified production result in higher gross margins per hectare thanks to reduced costs despite higher labour inputs. In addition, organic farmers are less dependent on a single crop and are more resilient to climatic and market changes.

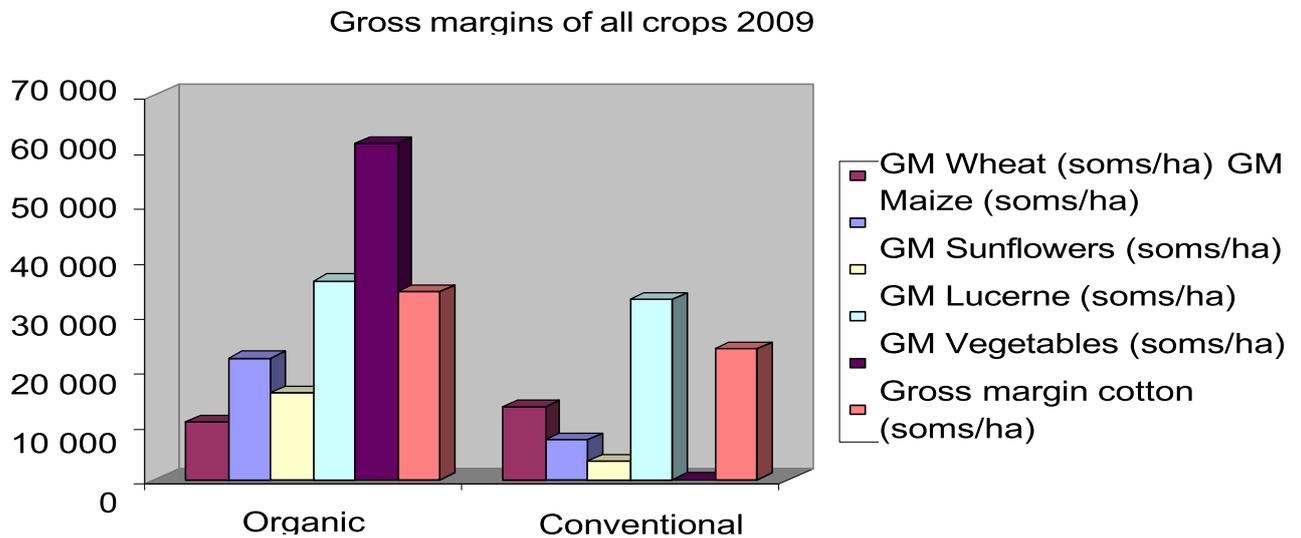


Chart 48. Gross margins of organic and conventional crops, KGS/ha, (Source: HELVETAS, Economic comparison of organic and conventional farmers in Jalalabad Oblast 2009)

- The economic comparison between organic and conventional farmers shows that in 2009 organic farmers were overall performing better than conventional farmers. The differences are more obvious in mountainous zones, where organic farmers reach a clearly higher gross margin from cotton. In intensive zones, conventional farmers are getting comparable gross margins from cotton production, however higher incomes of a higher shares of rotational crops make the income gap between conventional and organic farmers even bigger (see Chart 48).

Learning 31: Organic agriculture has overall positive effects to the prevailing target population and area. The intervention packages are well suited to smallholder mixed farming systems (agriculture, horticulture & livestock). Livelihoods of organic farmers have become more resilient. Agro-biodiversity, organic matter and living soil biomass is maintained and improved. Water use efficiency is increased. Health hazards of organic farmers reduced significantly.

Learning 32 Mainstreaming of organic agriculture has not yet taken place and yet the share of organic fibre on total fibre production remains at 1.6 %. However, the number of organic farmers has constantly increased and today other development initiatives have started to invest and to promote the organic sector.

Learning 33: Fluctuations in numbers of producers occurred due internal and external factors – loyalty of farmers has improved over time by more reliable service packages such as providing seed on advance, purchase through „cash and carry“, advisory and marketing services for cotton and rotational crops along with other advantages organic production is offering to its applicants.

Learning 34: At project and BioFarmer level marketing was cotton centred. Marketing efforts on rotational crops at national and international markets could not yet make full use of the economic potential of rotational crops grown on 75 % of o&ft certified farm land.

Learning 35: Organic cotton is not the most suitable "messenger crop" to promote and advocate for organic production at national level. Selected organic rotational crops like fruits, vegetables or dairy products are more appealing messengers to promote organic agriculture products at a local consumer base.

29 Institutional development of the O&FT cotton value chain

29.1 The value chain actors

During the three phases, **organic smallholder farmers** remained in the centre of the project and as such the main beneficiary group. Other stakeholders of the cotton value chain were the input suppliers (seed, bio control laboratories) and service providers such as ginneries, oil mill, the local traders or middle men, exporters and wholesalers as the main clients of the organic cotton. At the project begin, none of the service provider was capacitated to train farmers on organic cotton production and neither the government nor the private sector knew how to setup and operate an internal control system for organic and Fairtrade certification. In other words, local competence had to be built from scratch and BCP has taken up this challenge back in 2003. BCP made a major contribution to what today is called a growing awareness on the development of the organic sector in the country.

This chapter provides an overview of how the institutional landscape and the stakeholders of the O&FT value chain evolved.

Farmer groups: From the outset, the project and later on BioService organised organic farmers in groups of about 20 to 50 farmers each. The aim of establishing farmer groups was to interact with cotton growers and to build their capacity efficiently. Clustering and bulking the distribution of inputs (seed, organic pest control, training, counselling) as well as collecting and transporting the output (seed cotton) to the ginneries was another task of the farmer groups to reduce transaction cost and by this to improve competitiveness of Kirghiz O&FT products.

The share of women as group members was in the range of approximately 20%. Until today, the farmer groups assume the following functions:

- Self-control regarding the compliance with rules on organic farming;
- Social collateral for accessing capital of microfinance institutions (e.g. from *Agrokreditplus*);
- Joint delivery of cotton at the ginnery in case the farmer group members have only small production plots;
- Sharing of experiences and knowledge; learning from each other; contact for field advisors and ICS agents;
- Sharing of labour during peak work load.

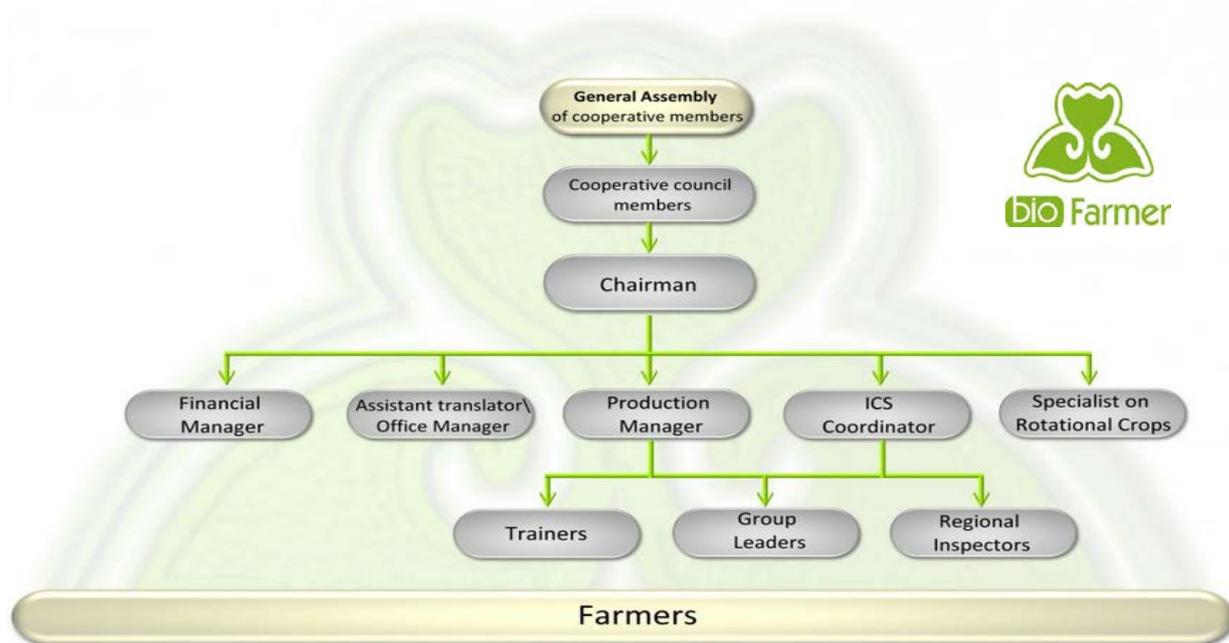


Chart 49: Organisational chart of the BioFarmer Cooperative (Source: www.biofarmer.kg)

In 2007 the farmer groups founded their umbrella organisation, the **“Agricultural Commodity and Service Cooperative (ACSC)”** or **“BioFarmer Cooperative”** with an organisational structure as shown in Chart 49.

Each farmer group is represented with one elected farmer in the general assembly of the BioFarmer Cooperative. The assembly is organised annually and elect representatives of the farmer groups as members of the council. The council elects then the chairman who is responsible for the management of resources (human, financial, equipment and structures) and operations as defined in the statutes. The chairman is also responsible for the public and business relations such as the promotion of organic farming at local and national level, as well as representing the farmers in the project steering committee and in policy dialogue with the government.

Until the end of 2013, BioFarmer mandated the **service provider BioService** for providing the key services for organic cotton production and marketing, such as offering rural advisory services, managing internal control and external certification, as well as marketing of organic cotton and rotational crops. With the cotton+ strategy, defined in 2013 and initiated in 2014, BioFarmer gradually internalised these important support functions with the goal to reduce operating costs, optimise quality control and to reach its financial goals (100% self-financing) defined in the business development plan.

The services and support functions were successively integrated as main functions of the BioFarmer cooperative as follows:

From 2008 - 2011:

- Supporting farmers in accessing loans offered by Agrokreditplus on the basis of social collaterals. This was possible thanks to the formal structure of the organic producer groups.

From 2009 onwards:

- Procurement and provision of agricultural inputs, such as quality seeds, through an interest free pre-financing system to farmers. BioFarmer ordered quality seed from a former state seed farm to guarantee GMO free seed in order to significantly reduce risks of GMO contamination.
- Insurance for seed failure: farmers with seed failures were relieved from paying back seed advance.
- Marketing (buying from farmers and selling to exporter or trader) of O&FT and in conversion cotton. This function could only be performed after the enforcement of the new national cooperative law that allowed cooperatives to trade products of its members.

From 2010 onwards:

- Training of farmers on organic production methods and certification requirements and training of trainers and ICS agents: BCP has capacitated BioService and later BioFarmer to conduct trainings on O&FT certification and organic agricultural practices. These trainings as well as the ICS are today completely financed by BioFarmer through a 5% service fee deducted from the buying price. Cost for training BioFarmer staff was paid by BCP funds to ensure continuous access to innovation on improved organic farming methods. In future a budget for such training be made available to maintain competent and motivate staff within the cooperative structure. The costs might possibly exceed the cooperative's financial capacity and continuous public funds may be to ensure continuous access to relevant research and innovation.

From 2014 onwards:

- Operation of the internal control system and contract management of third party certification bodies for organic and Fairtrade certification.

From 2015 onwards:

- Responsibility for logistics and storage during and after harvesting.
- Product development through piloting and promotion of more profitable rotation crops, e.g. medical and aromatic plants, quinoa or the oil plant kunjut, pulses and vegetables. Efforts to market rotational crops in high end export markets have not yet succeeded. Nevertheless all products could be sold in local markets without a premium price and contributed to more diverse income patterns as compared to a monoculture cotton production.

The side selling by members remained to be a challenge for the BioFarmer Cooperative. Due to various reasons, some O&FT cotton producers sold their organic cotton opportunistically to other local traders or ginneries. Opportunistic selling and low loyalty of organic cotton growers slowed down the development of the organic value chains. It induced high overhead costs like the seed capital and investments into farm certification which at the end did not contribute to increased trade volumes and income of the BioFarmer cooperative.

Over the last three years the cooperative improved its services towards farmers which increased farmer's loyalty and allowed for a more stable growth of cotton fibre production, better quality fibre, and eventually a better economic results of the cooperative.

BioService Public Fund was founded by BCP in 2007 with the aim to provide professional services to organic farmers and their cooperative (see list above). BioService was built by experts trained under BCP and RAS Jalalabad, a local rural advisory service providers established in the frame of a Swiss development cooperation project. BioService is nowadays a recognised and competent service provider for organic farming, organic and Fairtrade certification and sustainable agriculture and marketing in the country.



Since 2014, BioService provides services to BioFarmer only on mandate basis. It secured its market niche by providing services to diverse other O&FT value chain initiatives and clients all over Kyrgyzstan. Today, BioService assumes an important role in the growing organic sector in Kyrgyzstan and has oriented its competences and services strategically towards donors, INGOs and private companies in the sector of fruit and vegetable processing at a ratio of 60% business and 40% donor mandates.

International traders and buyers: From the outset, the Switzerland based cotton trader Paul Reinhart AG collaborated with the BCP and merchandised the organic, fair-trade and in conversion cotton from Kyrgyzstan. The company sold the O&FT cotton fibre mainly to Elmer&Zweifel, but also to Migros, Aldi, Frankenstolz, Heimtex and others. The long-term collaboration with the Paul Reinhart AG and the very committed buyer Elmer&Zweifel was the **main success factor** for the development of the O&FT cotton value chain in Kyrgyzstan. The Paul Reinhart AG was buying all O&FT and in conversion cotton produced by organic farmers, processed by certified ginneries and traded by the BioFarmer Cooperative.

The changing organisational landscape along the organic cotton value chain

As shown above, the organisational landscape along the organic cotton value chain has evolved during the 14 year of project implementation.

Figure 14 and Figure 15 show a changing institutional landscape between phase II and phase III and indicate a move towards more market orientation as the main functions are increasingly performed by private stakeholders. The coloured boxes show different stakeholders of the organic cotton value chain⁶ and the arrow bars their main functions. The business development plan introduced with high ownership of BioService and BioFarmer at the beginning of phase III indicates that from 2015 onwards, all costs will be covered by incomes generated by the BioFarmer Cooperative.

⁶ Often also referred to as market system

The role and functions of the Bio Cotton Project have been described in chapter 27.4 and Table 4. The establishment of new actors and service providers such as the BioFarmer and BioService was decided back in 2007 when no private sector actor had sufficiently well-developed visions on how organic value chains (cotton and rotational crops) could become viable business strategy and option. BCP has developed the organic cotton value chain based on existing international traders and buyers having a vision on the increasing demand for sustainably produced raw materials and responsible investments into agriculture and food systems.

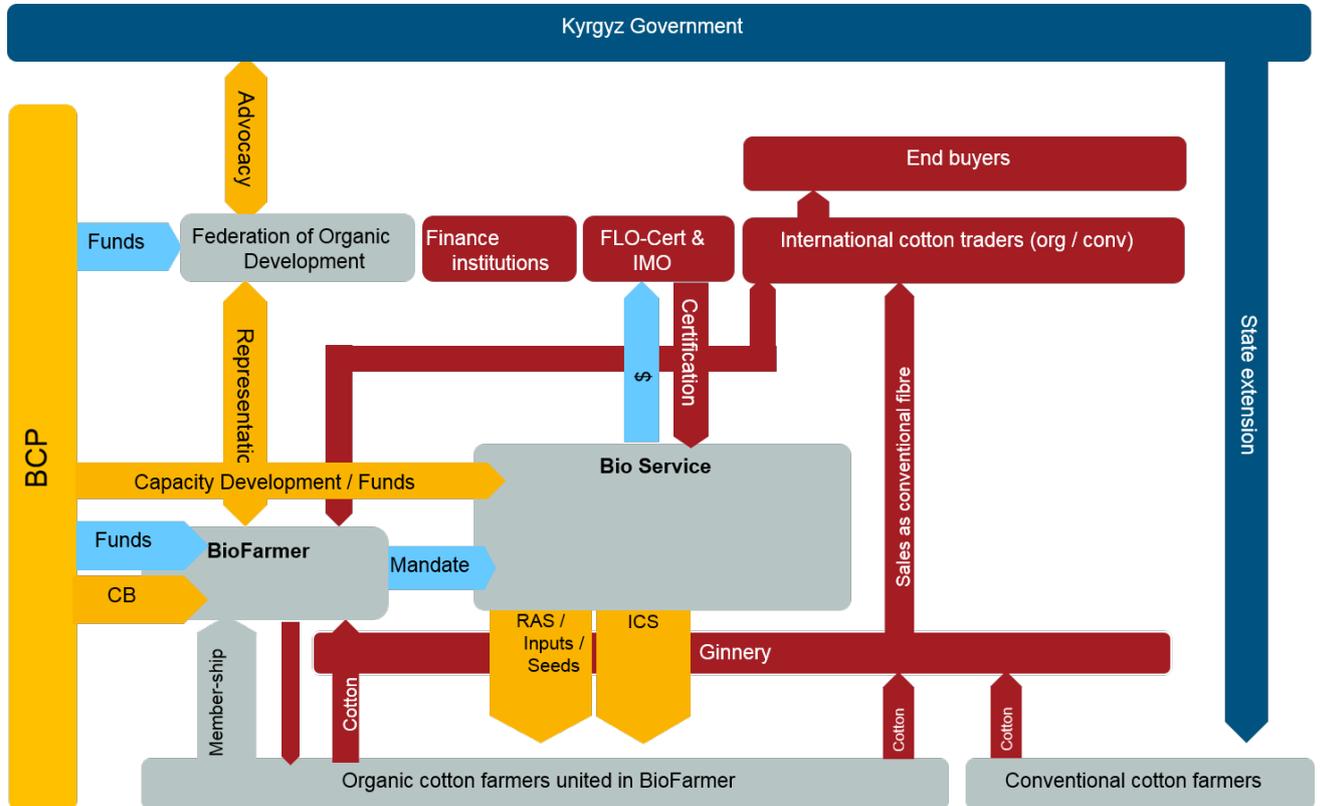


Figure 14 Institutional setting of the VC from 2007 to approx. end of 2013, when Bio Service had a more prominent role in providing certification services. (Source: Own figure by Kaegi)

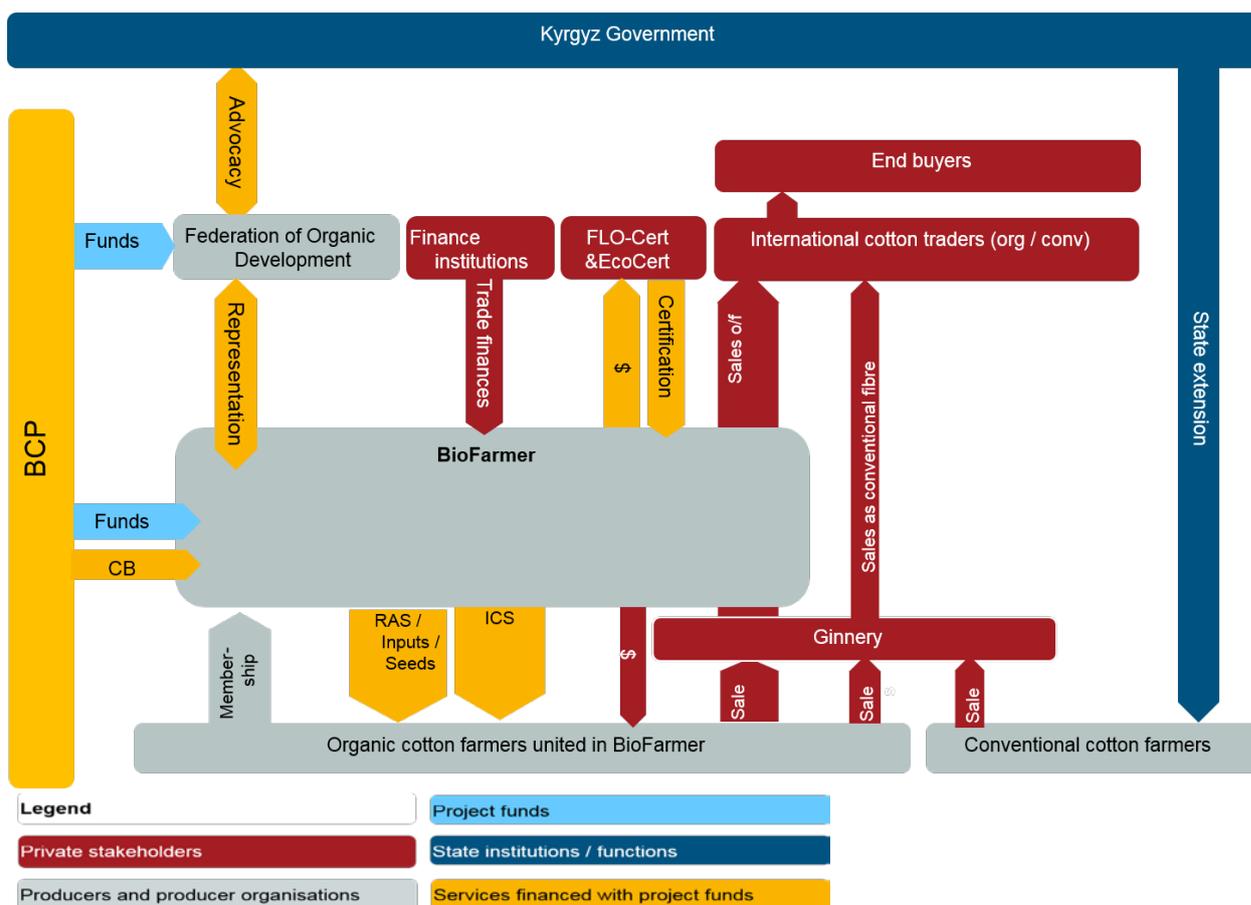


Figure 15. Institutional setting of the VC from phase III 2013/14 onwards (Source: Own figure by Kaegi)

29.2 The support functions of the organic value chains

Advisory services

RAS Jalalabad (Rural Advisory Services of Jalalabad): Until 2007, BCP mandated the service provider **RAS Jalalabad** to provide extension services and logistical support to the O&FT farmers. This was the period when BCP offered governmental service providers capacity development on organic farming. However the performed services did not meet expectations of farmers as well as BCP at that time.

Therefore BCP decided in 2007 to create a specialised private service provider (BioService) for organic farming and marketing only. BCP facilitated the transfer of organic competences from project staff and RAS Jalalabad to BioService, the new organisation. Today, BioService and RAS Jalalabad are both private service providers and offer similar competences to donor financed projects, private companies and farmer groups in the different sectors. RAS Jalalabad provides mainly services to conventional farmers whereas Bio Service concentrates on farmers and communities interested and committed towards organic agriculture.

International certification agencies: BioFarmer and BioService initially collaborated with IndoCert (2004-2008), then with IMO Switzerland, and since 2013 with IMO Turkey. With the switch to IMO Turkey, BioFarmer could reduce certification costs thanks to a 50% reduction of the transportation costs of international inspectors. As the Fairtrade certification has to be done with FLO-CERT Germany, the same cost saving opportunity did not exist for FLO inspection visits.

The decision on the certification body for the organic certification was with BioFarmer, who itself looked for synergies with the organic value chain project in Tajikistan.

Ginning services

Kyrgyzstan disposes of up to 32 cotton ginneries⁷ with a total capacity of 250'000 tonnes of seed cotton and a ginning turnout of 30.9 to 32.4% cotton fibre (Ferrigno et al. 2014). In conventional cotton production, the ginneries are more than service providers as they purchase seed cotton from farmers and sell cotton fibre cotton seed to national and international traders. Overall, most of the ginneries have overcapacities and outdated but functioning equipment's. For the organic cotton value chain ginneries are providing a service to the BioFarmer cooperative, by storing seed cotton, ginning seed cotton and compressing cotton fibre to bale for exportation.

From 2004 to 2012, BioFarmer collaborated with one single ginnery, the Intercotton group that unfortunately closed all operations in 2013 due to underperformance. In 2013, BioFarmer mandated the Ginnery Cotton Textile Factory and in 2014, Limatex. Since 2015, BioFarmer has service contracts with two ginneries namely the Limatex and the Cotton Textile Factory. The two companies are in geographical proximity to cotton growers and have capacities to ensure timely and specific processing standards for organic cotton. Both ginneries are well equipped and ensure good lint quality. One ginnery operates with roller gins and produces better fibre quality. The other ginnery operates a seed gin which ensures a better cleaning of the cotton. The collaboration with the two ginneries currently runs smooth.

The ginneries do have to clean their facilities before ginning organic cotton in order to minimise GMO contamination risk. They do not charge extra for this service because:

- a) both ginneries run significantly below their full capacity and welcome organic cotton although the processing equipment requires specific cleaning of processing units and separated processing of organic cotton;

- b) Compared to conventional cotton processing, ginneries have much less risk with organic cotton as BioFarmer cooperative is organising working capital and is managing producers and buyers relation.

In the O&FT value chain, cotton is bulked at farmer group level and delivered to the two O&FT certified ginneries. BioFarmer staff responsible for internal control weigh the cotton at the ginnery. The farmers get part of the payments directly at the ginnery.

In the past when the cooperative lacked sufficient working capital, farmers were only paid once the seed cotton was ginned and sold to the trading exporter. This practice increased the risk that farmers would sell their certified cotton to traders or ginneries which were ready to pay cash at the point of transaction. That is why, in some years 20 to 50% of certified O&FT cotton was sold through the conventional market channels. This indicates that some farmers prioritise liquidity higher than increased income from selling at premium price.

The price of ginning is fixed in a contract between BioFarmer and the ginnery. Ginning costs remained relatively stable and BioFarmer stated that they had always been at a reasonable level. Also here the overcapacities of most ginneries ensure high competition that results in competitive service rates. BioFarmer pays ginning after cotton sales and deducts these costs at the settlement of the final payment to farmers. This late payment modality is a crucial element for the BioFarmer's cash flow management.

⁷ Secondary data of different sources indicate different numbers

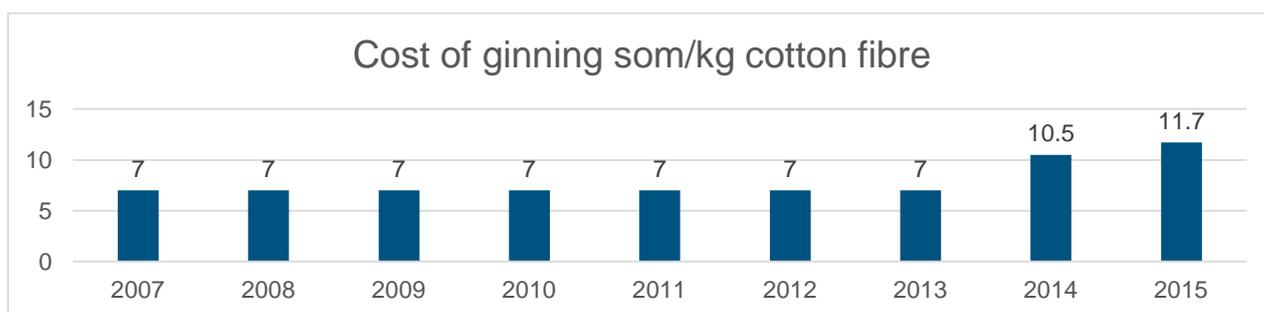


Chart 50. Cost of ginning per kg of processed cotton fibre (som / kg) (Source: Kaegi based on interviews and BCP annual reports)

Financial services

The working capital requirements for international organic cotton value chains in underdeveloped market systems is known as being a key limiting factor to sustainable business growth. Chart 51 shows the time lags between capital outflows and inflows and indicates a high requirement of working capital to secure essential operations of cotton producers, as well as for BioFarmer to perform functions and to provide services at different stages of the cotton production and trade process.

Over the project duration, BCP and BioFarmer explored various options to mobilise sufficient working capital. The following list describes tested options and sources of capital that were explored by the project and the cooperative:

- 1. Purchase on credit** and payment to farmers only when cotton fibre is paid by international buyer (1-3 months after harvest).
This option failed in the context of Kyrgyzstan where farmers themselves face liquidity problems and local traders compete by offering cash payments at the point of harvest and transaction.
- 2. Pre-financing by the cotton trader:**
In 2005 and 2006 Paul Reinhart AG offered pre-financing for certified cotton. This option is perceived as a valid option but not preferred by traders and retailers because they release capital for a product which is out of their control. Therefore, this practise did not continue (MTR: 2008; Arapov: 2016).
- 3. Mobilising and accessing credits through micro finance institutes.**
BioFarmer facilitated access to a micro finance institute (Agrokreditplus) for farmer groups. 30'000 USD (2007) and 60'000 USD (2008) could be accessed by organic cotton farmers. This capital has been partly sourced by ICCO and was made available at preferential interest rates (AR: 2007/08).
Option 3 solved the liquidity problem at farmer level but didn't address the cooperative's lack of trade finances.
- 4. Loans of an international credit institution (Triodos) combined with early payment by international retailer:** 2009 to 2012, Triodos Bank loaned capital ranging from USD 150,000 to USD 345,000 per year. In addition, Paul Reinhart AG agreed on payment upon seed cotton delivery at the ginnery, which allowed BioFarmer to purchase a bigger share of produced organic cotton (BCP Annual Report: 2010). In 2013, Triodos phased out its business relationship with BioFarmer due to insufficient growth rate.
Option 4 worked well but was considered as unsustainable by the International Bank due to insufficient business growth. The phasing out of this type of bank loans resulted in a significant collapse traded organic cotton fibre volumes (2013).

5. **Access local bank loans thanks to bank guarantees provided by donors:**

In 2014, the local bank “Bai-Tushum” was providing a loan to BioFarmer at preferable interest rates based on a bank guarantee provided by international donors (SECO covered 50% and ICCO 50% of the bank guarantee).

Option 5 was an important intervention to stabilise BioFarmer and to ensure economic growth of the BioFarmer Cooperative at a critical stage of development. It is, however, not a sustainable option for a cooperative that aims to operate without donor support.

6. **Paying for ginning services only after full payment by international buyer combined with a pre-financing by international buyers:**

Ginneries agree to this late payment to increase their turnover in a competitive business environment and due to trust relations built with the BioFarmer management. This option reduced the demand for working capital between 50'000 and 70'000 USD per season.

7. **Interest free loans and early payment of buyers:** In 2015, BioFarmer did not receive further bank guarantees from donors nor could it rely on own collaterals to access loans at reasonable interest rates from local banks. Fortunately, BioFarmer was able to mobilise 477'000 USD of working capital from buyers of cotton products:

- 147'000 USD from a local cotton seed processor, received before the cotton harvest
- 330'000 USD from the international retailer (Paul Reinhart AG) based on a pre-payment agreement (as practiced in the past) at the time the cotton has reached the ginnery.

Option 7 is perceived as the most sustainable solution so far. It is a step towards risk sharing and private engagement on sustainable business operations. It however creates interdependency and might limit freedom to negotiate business terms with buyers. It further requires relations of trust and continued ability of buyers to advance payments.

8. **Generate additional and early income through rotational crops**

Option 8 was practiced by all cotton farmers as they produced different rotational crops. It served at household subsistence level (less expenditures) or generated diversified cash income patterns to ensure financial liquidity at household level.

Although efforts in accessing international trade with organic certified rotational crop products were considerable, success is yet to be seen. Being able to market rotational crops in the international market is a real option to generate working capital at farmer and BioFarmer level prior to the cotton harvest. Unfortunately option 7 has not yet materialised but there are important experiences and lessons learnt from past failures which might lead to success in an evolving context.

9. **Using project capital to procure risk guarantees / collaterals**

What has been discussed by the project in the past but never materialised was the option to invest into real estate at an early stage of the project. An investment in a plot of land and or building at a strategic location in Jalalabad, in the name of the cooperative, could have led to the following advantages:

- The land/building could have served as collateral to access bank loans at reasonable interest rates and secure BioFarmer's liquidity at critical stages of the production/trading process;
- The land/building could have contributed to generate income or reduce cost (renting out part of the building / no rental fee for office premises);
- The anticipated and realistic increase in real estate value would have allowed to adjust to an increase in loan requirements, alongside with the business growth of the BF cooperative (organic cotton production and rotational crops);
- Provided BioFarmer would have had access and control over real estate as a collateral option from the beginning, project and expert time could have been saved that went into finding solutions for working capital;
- The BioFarmer Cooperative obtained the legal status to own land only in 2009

Table 6 provides an overview on how the persistent problem of working capital was managed in 2015.

Table 6: Working capital requirement, responsibility and sourcing of the working capital

Value Chain Function	Outflow BF	Inflow	Working capital used for	Working capital needed by	Working capital source from	Initiated Solutions
Production	Cotton Growing Period: 5 to 6 months		Seed	Farmers	BioFarmer	- Seed fund provided by BCP - BioFarmer provide advance for special hardship cases - Access to Micro Finance based on group collateral
			Soil preparation		Farmers	
			Cultivation		Farmers	
			Harvesting		Farmers	
			Advisory Services (salary cost)	BioFarmer	BioFarmer	Financial Planning, use of service margin (5%) from 2014.
			Internal Control System (salaries)			
			Certification	Farmers / BioFarmer	BioFarmer	
Transport to ginnery			Transport cost	Farmers	(BioFarmer) & Farmers	
Ginning			Ginning fee		BioFarmer	Payed after selling of cotton fibre
Partial purchase at ginnery			Value of O&FT cotton	BioFarmer	Trader/retailer of cotton fibre and cotton seed	Pre-payment by buyer of fibre and cotton seed
Transport to retailer		From ginning to payment by international retailer: 1-4 months	Transport cost	Trader/retailer	Trader/retailer	
Full purchase of O&FT certified product			Price premium O&FT	& Trader/retailer BioFarmer	Trader/retailer BioFarmer	Final payment to BioFarmer Final payment to farmers

Marketing services

Since 2004, Paul Reinhart AG with Elmertex as main buyer has been exclusive trader of the O&FT cotton and a reliable long-term business partner providing stability to BioFarmer. Initially BCP was taking care of building and maintaining trade relations with Paul Reinhart AG and Elmertex that offered fair cotton prices for organic and in conversion cotton.

With the creation of BioFarmer and BioService in 2007, the marketing responsibility of organic cotton was with both BioService and BioFarmer. It lacked a coherent marketing strategy and role division for the two organisations. With the integration of all services into the BioFarmer cooperative and the development of a related business plan, the cooperative started to professionalise its marketing department and related activities. Looking back to 12 years of organic cotton sales from Kyrgyzstan provides the following insights:

- BioFarmer states that it (jointly with BioService) was able to sell 100% of the organic cotton that they were able to purchase from farmers (there was up to 20-70% side selling by farmers). This was possible thanks to the trust established between Reinhart AG and BioFarmer, which was and is a real asset for the development of the organic cotton value chain.
- The biggest challenge on marketing organic cotton was faced in 2009. Conventional cotton prices all of the sudden doubled as a side effect of the economic crisis. BioFarmer however have already fixed the price for O&FT cotton in contracts with farmers and decided not to adapt prices although the international buyer indicated readiness to adapt its price. Consequently, many farmers sold their organic certified cotton to other local traders at higher prices than agreed under the contract with BioFarmer. As a consequence the turnover and related incomes of BioFarmer was far below projections and the international supply contract to Reinhardt AG could not be met. Paul Reinhart AG used alternative sources at much higher world market prices.
- The overall hike in the world market for cotton created another new phenomena for the organic cotton value chain. Turkish and Belorussian traders were aggressively entering the market and bought O&FT cotton already during the transport to or at the ginnery by offering full cash payment to producers on the spot. Despite tremendous efforts to cope with new competitors, BioFarmer could only buy 30% of the total expected volume of 900t of seed cotton. The remaining 70% of seed cotton was sold to third parties due to higher prices and instant cash payments. This experience has led to two main lessons:
 - Contracts with farmers require flexibility in price setting along the world market price;
 - Instant cash payment (partial or in full) after harvest is a must to secure sales by certified O&FT cotton producers to the cooperative.

After Reinhart AG decided to stop pre-financing of O&FT cotton, BioFarmer's access to working capital/trade finance remained a continuous challenge and source of insecurities. As a result, an estimated volume of 20-70% of the produced and certified O&FT cotton is sold to third parties. This was and still is a serious problem for the organic cotton business, as high value cotton (including certification and advisory costs) is lost for the cooperative, not sold at its right value, and does not contribute to cover the cooperatives overheads and pay for its services.

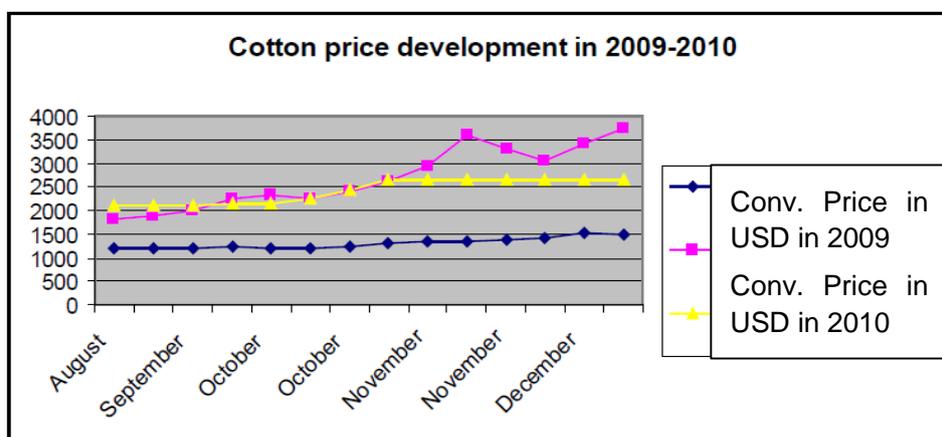


Chart 52. Cotton price development 2009 – 2010 (Source: BCP: 2011)

The sales of rotational crops has always been a subject for discussion and investigations. Several trials and also successful sales have taken place. Nevertheless, BioFarmer states that these sales have never been institutionalised in a way that they could grow and continue. The income of this marketing activity also remained negligible. Nevertheless, farmers seem to have found a way to sell their rotational crops either on local markets or via professional traders that visit cotton production areas during harvesting season.

Figure 16 presents a schematic view of the current status of value chain stakeholders within the organic cotton value chain of Kyrgyzstan. It includes the main actors such as organic producers, BioFarmer Cooperative, international traders, buyers/processors, service providers and regulators, and indicates flow of funds, services and inputs among stakeholders.

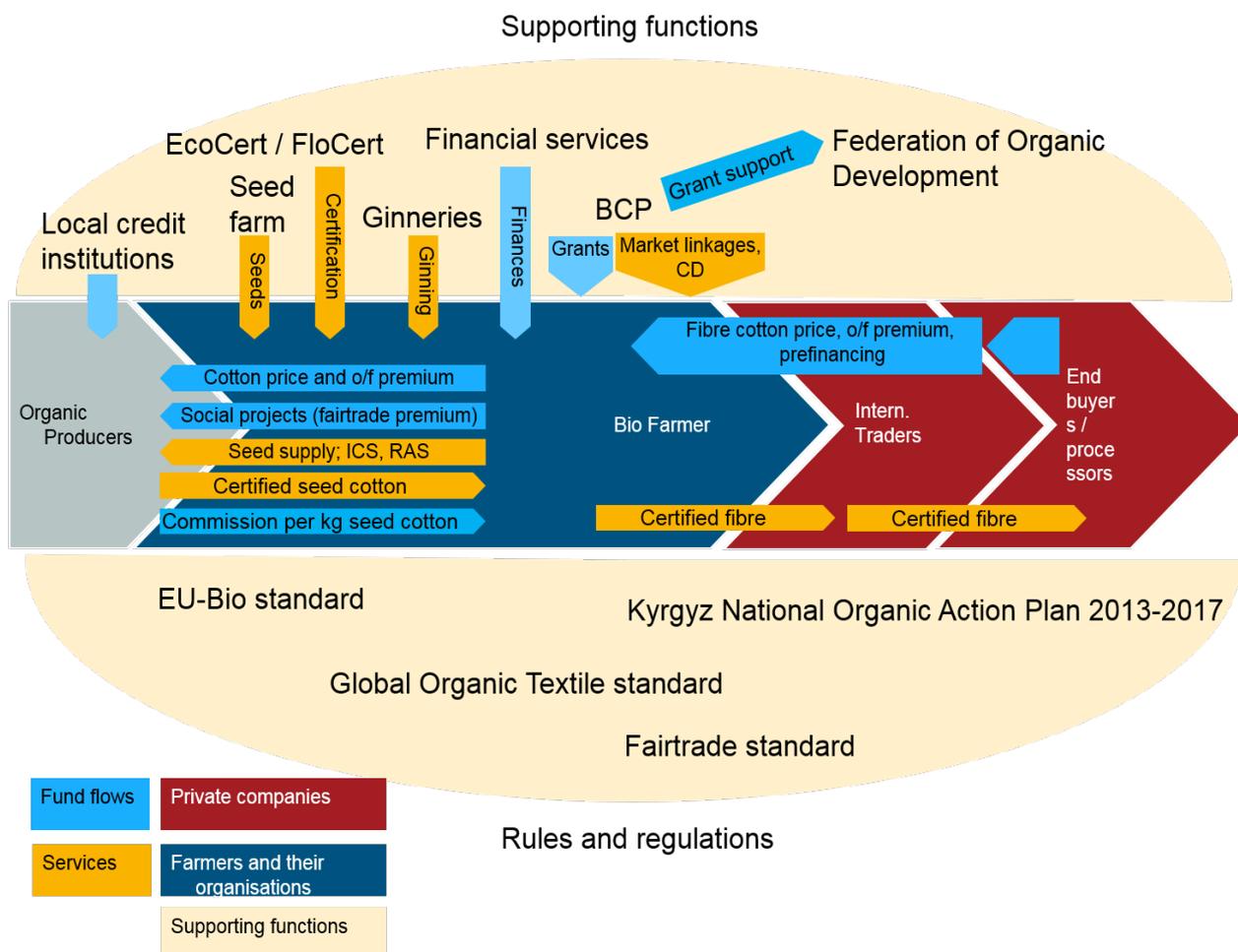


Figure 16: Value chain setting in Kyrgyzstan since 2014 (Source: Own figure by Kaegi: 2015)

Table 7 provides an overview of current roles and main functions of stakeholders of the organic cotton value chain based on three levels of priority. The primary and secondary functions are the most essential to maintain operations of the organic cotton value chain. The tertiary functions are essential but could be taken over by alternative actors or service providers.

Table 7. Value Chain stakeholders, their roles and functions (Source: Luethi based on Project Documents and Progress Reports)

Stakeholder	Value chain role	Primary function	Secondary function	Tertiary function
Farmers/ Farmer Groups	Actor	- Produce and sell certified O&FT cotton and rotational crop products	- Livelihood development - Preserve environment	- Generate tax income to operate public infrastructure and services
BioFarmer Cooperative ; also referred to as ACSC	Actor and service provider	- Buy seed cotton / sell fibre cotton - Management of farmer groups & service contract with 2 ginneries & 1 seed company - Ensure certification	- Marketing - Quality control (ICS) - Capacity building of ginneries and seed farms - Public and market relations	- Seed distribution and cotton collection - Advance capital / pre financing to farmers - Insurance for production failures - Social safety net: advance payment to members in need - Rural advisory services
End buyer / trader (P. Reinhart AG, Elmer & Zweifel)	Actor and service provider	- Buy cotton fibre	- Processing - Transportation	- Provide pre finance to secure procurement process
Seed Supplier	Input provider	- Produce and supply GMO free cotton seed	- Homologation of seed varieties	- Research on improved seed
Ginneries	Service Provider	- Process seed cotton to cotton fibre	- Cleaning equipment for GMO free processing	- Intermediary storage
Processor of cotton seed	Actor and service provider	- Buy cotton seed	- Process seed cotton to cotton oil and seed cake - Sell cotton oil & Oil cake	- Provide advance capital to BioFarmer Cooperative
Finance institutions	Service provider	- Provide capital	- Due diligence related to financial risks	- Financial counselling

Bio Service Foundation	Service provider	-Training and counselling to farmers and stakeholders (today offered by BioFarmer)	- Conduct applied research	- Link organic cotton farmers to other development initiatives greenhouse, agro tourism, etc.
RAS Jalalabad	Service provider	-Training and counselling to farmers and stakeholders (today offered by BioFarmer)	- Conduct applied research	
Flo Cert & IMO	Regulator and service provider	- Certify products and processes of O&FT activities	- Capacity development	
Bio Cotton Project	Facilitator	- - Project management / implementation - Capacity development and management support of local actors - Support policy dialogue and organic sector development	- Monitoring, - Reporting - Donor relationship	
Federation of Organic Development – BIO KG	Policy actor	- Raising public awareness on the development of the organic sector - Policy dialogue for an enabling environment for organic production (e.g. on the use/ban of GMO)	- Consolidating efforts of the organic movement supporters	- Capacity development of policy actors
SECO	Donor	- Project funding - Member of the project steering committee		- Policy Dialogue
HELVETAS and intern. NGOs	Donor and implementers	- Project Funding - BCP project management		- Policy dialogue

		- Project Steering (member of the steering committee)		
National and local government	Regulator	- Provide a regulatory framework for organic agriculture and trade activities - Law enforcement		

Thanks to the Bio Cotton Project, the Kirgiz organic sector today consists of the following new actors and service providers:

- Organic Cotton Farmer Groups
- BioFarmer Cooperative
- BioService Foundation
- Federation of Organic Development – Bio KG

The BCP enabled organic cotton made in Kyrgyzstan known at international level as a stable supplier of organic cotton fibre. BioFarmer and BioService are linked to actors and stakeholders of the global organic cotton network.

The following companies and institutions can be mentioned as global connectors and supporters:

- Paul Reinhart AG, Switzerland – main buyer of certified cotton fibre
- Petra Bockhahn, Independent Cotton Broker, Germany
- Elmer and Zweifel, Germany – main processor of certified cotton fibre
- Textile Exchange, Sector promotion platform of sustainable and organic cotton
- Fairtrade International (FLO), Germany
- International Federation of Organic Agriculture Movements (IFOAM), Germany
- Swiss State Secretariat for Economic Affairs (SECO)
- HELVETAS Swiss Intercooperation, Switzerland
- Interchurch Organisation for Development Cooperation (ICCO), The Netherlands

Learning 36: Substantial capacity building is required to build organic and fair trade value chains in a context where international markets were not accessible in the past.

Learning 37: Having a reliable and committed international buyer for o&ft was a key success factor to develop the organic cotton value chain and the BioFarmer cooperative. No equivalent buyer of rotational crops could be identified so far.

Learning 38: The choice to build and capacitate management and operational capacity of the BioFarmer cooperative has absorbed significant project resources.

Learning 39: In the absence of dynamic private sector actors, the BioFarmer cooperative was the institutional solution at the time.

Learning 40: From an organic cotton value chain perspective, the decision to found and capacitate two new organisations (BioFarmers and BioService) was economically inefficient. However this decision was effective in view of developing the organic and fair trade sector in Kyrgyzstan.

Learning 41: The transition process from a project to a business oriented structure was difficult and rather time consuming. The fact that organic farmers had to cope with two leading organisations (BioFarmer & BioService) did not always provide the necessary guidance and rapid decisions in crisis situations.

Learning 42: The development of a solid business plan in the ownership of the cooperative management, was happening too late in the process. Capacity building on business plan development could have been a promising vehicle for institutional capacity building at an early stage of phase II.

Learning 43: One of the most limiting factor to build the cooperative was the limited accessibility to working capital. Working capital is crucial to build loyalty of the producer base by advancing seed capital, by cash payment at the point of selling/buying and to operate advisory, certification and marketing activities, with few returns during the cotton production campaign.

Learning 44: Mobilising working capital absorbed a lot of project resources to identify solutions. At the end of the project, a workable solution is found which is not fully satisfactory. Investing in a plot of land or a trust fund at an early stage of the project, when real estate was more affordable, could have been a pragmatic solution. Such investment could have served as collateral to borrow capital for the purchase of seed cotton immediately after harvest until full payment is made by the international buyer. The restrictive investment policies resulted in some inefficiency to tackle the issue of working capital.

Learning 45: Input supply with a low or zero interest rate is a highly attractive service for farmers. Such input supply increases continuity in production and farmers' adherence to a value chain, which is crucial for the profitability of a producer organisation.

Learning 46: Investments into farmers always bear a risk for a farmer cooperative in an environment of weak law enforcement. Such investments (pre-financing of seeds, ginning, and other production costs), however, are necessary to enable farmers producing organic cotton. Long term investments of ODA projects should take these risks into consideration, and try to contribute also to a conducive and reliable trade environment in order to reinforce the producer organisation.

Learning 47: In o/f cotton value chains costs for the training of farmers, certification agents, and field staff can be internalised in a higher product price. The continuous training of trainers and their access to innovation, however, require (probably public) investments and might not be ensured after the phasing out of the project.

29.3 Policy framework and sector development

The concept of organic agriculture and Fairtrade has not been introduced nor tested out when BCP started back in 2003. Likewise no policies nor regulation concerning organic agriculture and trade were in place in Kyrgyzstan and most of the Central Asian countries. BCP only started to advocate for an organic sector development at national level during the last phase of BCP. Back in 2012 sufficient evidence existed that organic agriculture and marketing provides economic advantages for Kyrgyz farmers, particularly in the post-soviet context with strongly depleted soils.

Likewise BCP engaged in policy processes and dialogue by supporting the establishment of the **Federation for Organic Development**, which conducted first organic fora in 2012 and 2013. Based on the Ministry of Agriculture's initiative and mandate to develop a framework for policy measures regarding the organic sector development, these fora were used to develop the first **Kyrgyz Organic National Action Plan** (KONAP: 2013-2017). BioService, BCP, IFOAM and Helvetas Kyrgyzstan fed in their hands-on experiences and know-how into the action plan that provides guidance on public and private interventions in the sector or organic production and trade. The national action plan was submitted for endorsement and to become part of the Kyrgyz national policy for sustainable development 2013-2017. Yet the Parliament has not endorsed the action plan but established its support of the organic sector and has developed draft laws.

The second area where BCP contributed to a policy dialogue is on debating the introduction of Genetically Modified Organism (GMO). In 2012, **genetically modified cotton varieties (GM cotton)** had been introduced into the Kyrgyz Republic and caused GM contamination of organic cotton. Thanks to the expert support of Helvetas Head Office, that was experiences with GM cotton because of it's widespread in Burkina Faso, the level of contamination could be controlled to remained below the threshold value of 0.9% allowed by the EU regulation for organic cotton. Nevertheless, the introduction of GM cotton varieties represented a significant threat to O&FT value chain.

With the support of Helvetas advisors, BioFarmer and BioService elaborated a manual on mitigating risks of GMO contamination. The application and integration of the manual into the internal certification process has so far prevented GM cotton contamination. The GMO case demonstrates how the thematic expertise of Helvetas has contributed to rapidly develop solutions to a major treat of the organic cotton value chain.

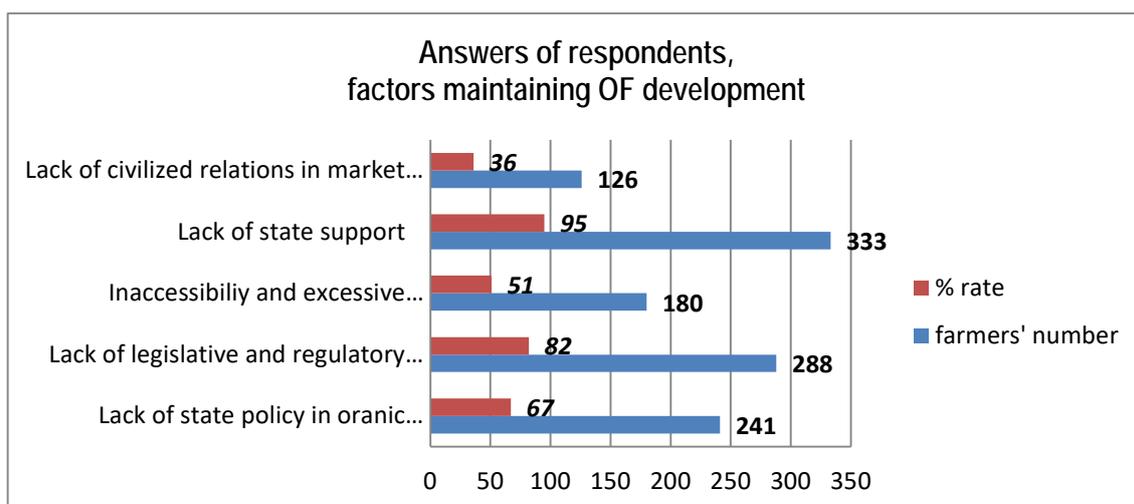
At the same time, BCP supported the Federation of Organic Development to elaborate a motion for a law to "ban the import of GMO products to Kyrgyzstan". The law passed three readings in Jogorky Kenesh (Supreme Kyrgyz Parliament), but was finally not approved by the Kyrgyz President on the ground of non-compliance with the recent decision to join the Eurasian Customs Union (EACU).

Kyrgyzstan is working on good governance and related improvements of **law enforcement**. As this is work in progress the current policy environment does not stimulate farmers to respect written agreements, e.g. it does not prevent them from selling their certified O&FT cotton to anybody other than the BioFarmer cooperative, although this is part of their agreement with the cooperative. As such, the BioFarmer use alternative approaches such as developing stimuli packages (like seed on advance, cash and carry, O&FT premium, etc.) to build producers loyalty with the Bio Farmer cooperative rather than trying to influence good governance at policy level or waiting for "the rule of law".

The survey conducted in 2015 asks farmers on major constraining factors for organic agriculture. Chart 53 shows that among 350 interviewed organic farmers, 95% mention the lack of state support, 288 mention a lack of rule of law, and 241 mention the lack of specific policy for organic production as the main constraint for the organic sector development⁸.

⁸ "Bio Cotton" project impact on improving farmers' life and on development of organic farming"

Chart 53. Constraining factors for organic sector development as perceived by farmers (Source: Impact Assessment: 2015)



Learning 48: Conducting a policy dialogue at national level on sustainable production and trade is a necessity in countries in transition. However sustainability is rarely on high priority of national governments and policy makers. Launching a policy dialogue is therefore time consuming and should start early on in a change process. The project started relatively late to systematically promote and advocate experiences, results and lessons from the organic cotton project at national level. Only the project document of phase III explicitly formulated outcome indicators in regards to policy dialogue and policy interventions.

Learning 49: In Phase III the project was able to mobilise the international lead agency on promoting organic agriculture (IFOAM) for launching a platform on organic agriculture. The events were able to mobilise government officials, political institutions, and donors as well as public and private supporters of the organic concept and principles. Developing and launching the Kirgiz Organic National Action Plan is certainly a step into the right direction.

Learning 50: The platform and the movement on organic agriculture is still young and strongly donor driven. The current platform can't build on a strong consumer awareness that would create a much needed demand and pull effect for organic products. Donors and INGOs provide some push, however insufficient push is coming from the government and producer side to provide clear mandates to the platform facilitators and leaders that would stimulate downwards accountability. Building stronger ties and accountability between the platform leadership, civil society, organic producers and entrepreneurs' is a must for building a dynamic movement.

30 Effects of the organic value chain – economic, social, environmental

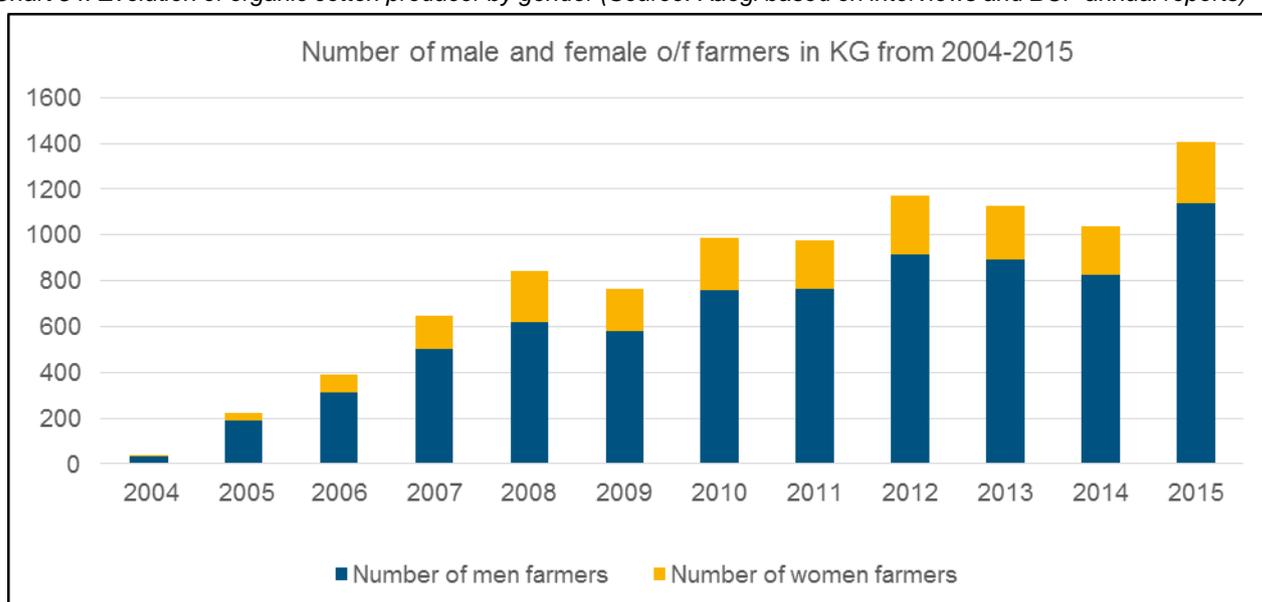
30.1 Social impacts of the organic value chain

Observations and reports indicate that overall the human and social capital of organic farmers has increased compared to pre-project situations. Organic farmers have institutional and economic advantages compared to conventional cotton farmers. Yet it is acknowledged that organic production methods require higher labour inputs and new skills and ways to approach production. Behaviour changes on eating habits and no further exposure to agro-chemicals positively impacts people's health. This chapter provides an overview of the project's social impacts based on two impact assessments (CDE: 2009; BioService: 2015).

The human and social capital of the BioFarmer cooperative, the BioService Foundation and the Federation of Organic Development (Bio KG) have increased thanks to BCP and their access to national and international markets, networks and donors. BioFarmer and BioService together provide employment opportunities for approximately 18 qualified staff (BF 9 and BS 9 staff). An example for the increased institutional capacity of BioFarmer that it was able to access pre-financing capital of almost half a million USD from cotton fibre and seed buyers. This shows that BioFarmer was able to build trust and credibility with its trade partners.

The number of organic cotton farmers continuously increased from 38 in 2004 to 1408 in 2015. Also the share of women farmers increased from 10% in 2004 to 19% in 2015 when 218 out of 1394 farmers were women. The average family size in the project area is 6.25 member per farming household. Assuming that farmers stayed on average five years with organic cotton production (according to estimated entries and leaves) the number of **involved producers was around 2000**. They benefited from increased livelihood capitals (social, human, physical, financial and natural) as evidenced in the chapters 30.2 and 0 and the two impact assessments (CDE: 2009; BioService: 2015)

Chart 54. Evolution of organic cotton producer by gender (Source: Kaegi based on interviews and BCP annual reports)



Health: Improvement of health is a main positive change observed since conversion to organic farming (see Chart 56). Farmers relate it a) to organic cotton oil which is highly appreciated and the consumption of organic food, and b) giving up agro-chemicals which has positive health effects. The majority of organic farmers use at least part of the 'extra money' earned from organic cotton for food consumption which likely results in an improved nutritional status of the family (BioService: 2015)

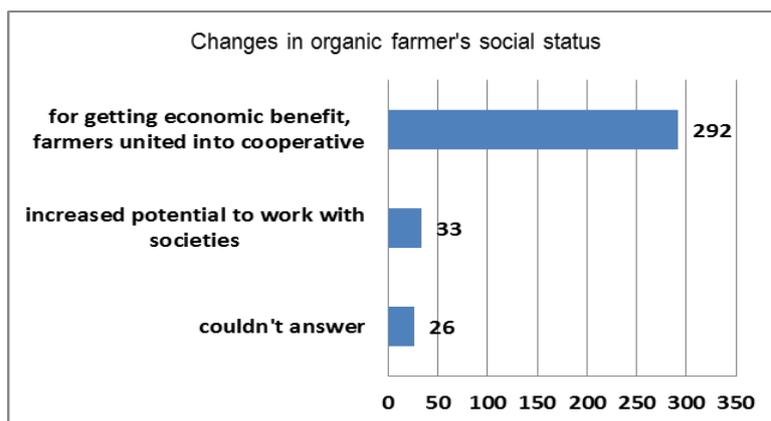


Chart 55. Changes in social status (Source: BioService: 2015)

The majority of farmers mentioned **positive changes of their social status** after having joined organic cotton farming. An impact assessment (BioService: 2015) shows that 83.2% respondents relate the change of social status with increasing economic benefit and the fact that organic cotton farmers are members of the BioFarmer cooperative. This provides them access to international markets and offers comparatively higher prices. 9.4% of respondents indicated that being a member of a organic cotton producer group provides them with better access to the society as they have the chance to build leadership capacities by taking up functions such as group leaders or bio inspectors. 7.4% respondents were unable to respond on whether their social status has changed due to organic cotton farming. The BioFarmer network consists of 29 cotton producer groups but only a relatively modest number of 4 groups are led by women (13%). The project focused on women farmers as farmer group members, and has not particularly strengthened women to become group leaders.

The impact assessment of 2009 asked farmers about changes in cooperation among farmers and about the sense of community spirit (mutual help to overcome hardship or heavy workloads and social responsibility). **Cooperation among organic farmers has improved.** In 2009, far more of the interviewed organic (53%) than conventional farmers (30%) perceive an increase in cooperation. However, organic farmers' comments let assume that cooperation mainly occurs within the community of organic farmers: they exchange experience, advice and consult each other or use agro-machinery together. It was said that the BCP project and frequent meetings unite the farmers, and experience exchange promotes cooperation. Several discussions confirmed generally good relations and mutual exchange between organic and conventional farmers. (CDE: 2009)

Nevertheless, 18% of organic and 30% of conventional farmers perceive decreasing cooperation which they primarily explained with increasing individualism of farming. Cooperation usually starts among organic farmers, then conventional farmers become interested (e.g. in organic pest control) and ask their organic colleagues for advice. Therefore, in most villages a **multiplication effect** is observed and cooperation improves in the whole community. (CDE: 2009)

Organic farmers say the **project unites (organic) farmers**; 52 % perceive an increasing sense of community (social responsibility). Also 43% of conventional farmers say that the sense of community has improved which they mostly explain with the fact that more people are getting richer (e.g. due to migration), which makes them more relaxed and generous. However, a minority of organic and conventional farmers feel that the sense of community is deteriorating, a development which they again mainly explain with increasing individualism (CDE: 2009).

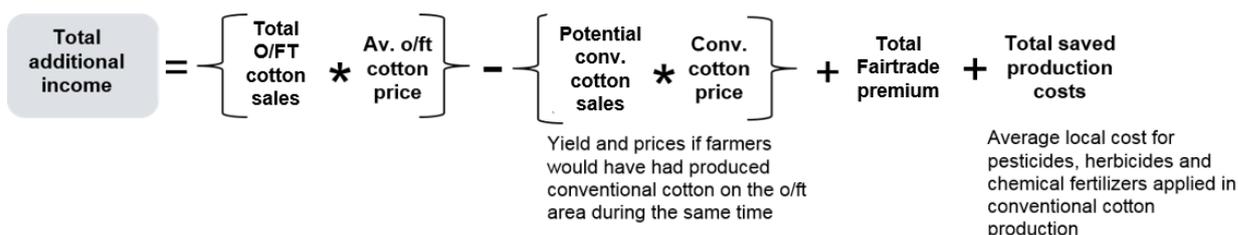
The assessment of production cost in 2009 revealed that labour input is considerably higher on organic farms. In average organic farming requires 71% more labour input (days) in intensive lowland conditions and 24% more days of labour in mountainous farming systems compared to conventional farming in the same areas. At the time of the assessment, daily labour wage rates were similar between organic and conventional farms. Wages were 10% lower in upland compared to lowland contexts. Organic farmers however relied more on family labour compared to conventional farmers who often hire daily wage labour (BCP EC: 2009).

30.2 Economic impacts at farm household level

30.2.1 Cost benefit calculation

Taking into account facts presented in various reports consulted, data and information gathered by the impact assessments of 2009 and 2015 and own observations provided evidence that organic cotton farmers have increased their financial and physical capitals compared to the pre-project situation and compared to conventional cotton producers.

To estimate the overall economic impact of the project investments, a simplified calculation has been applied. The total additional income has been calculated based on the difference of the organic and conventional yield data and sales prices, and by adding the total Fairtrade premium and the saved production costs by abstaining from synthetic insecticides, herbicides, pesticides and fertilisers.



For simplification, this calculation bases on the following assumptions and data:

- The costs for ginning services and harvesting are treated as being the same for conventional and organic cotton.
- The impact assessment of CDE (2010) provides a statistically non-significant indicator for yield comparison. According to the report organic cotton yields are 10% lower than conventional cotton yields. In absence of more reliable date, the calculation uses this indications (2'598 kg/ha for organic (n=42) and 2'902 kg/ha for conventional cotton (n=33)).
- The costs for conventional and organic cotton production (seeds, (fertilisers), pest management, transportation, renting agro-machinery, land renting, irrigation costs, and land taxes) bases on data from 2008 provided by the impact assessment (CDE: 2010). The statistical significance of this data has clear limitations, but in absence of other data, these data served as a basis to calculate additional cost for conventional cotton production (=2500KGS / ha).
- The exchange rates KGS/CHF are adapted for each year (Dec) and base on www.oanda.com

The number of farmers involved in the organic value chain considerably increased from 38 in 2004 to 1408 in 2015. Each of these **farmers produced on average 2.6t seed cotton as per hectare, on an average field size of 0.58ha**. In total, 9620 organic cotton farming years (summarised annual number of farmers) have been supported by the organic cotton project.

The simplified calculation results in a total net income on the sales area⁹ of organic cotton of CHF 4'627'157 (including Fairtrade premium) compared to CHF 4'203'074 if the farmers would have had produced conventional cotton from 2004 to 2015 on the same area. The resulting income difference is accordingly 297'468 CHF. Additional savings thanks to refraining from synthetic inputs have been calculated for the total certified cotton area (=291'071CHF). **The total economic benefit from the production and sales of O&FT cotton is accordingly CHF 588'539 , respectively CHF 44 as per individual farmer and year, or 76 as per hectare and year.**

The average cost of agro-chemical application of conventional cotton given by the impact assessment (CDE: 2010) has been used to calculate the cost savings resulting from not applying agro-chemicals in organic cotton production. The average cost savings per hectare and year is about CHF 58. The total savings from not using agro-chemicals on the project area from 2004 to 2015 amounts to **CHF 291'071** (included in above calculation).

Further, the Fairtrade certification enabled the producers to assess **Fairtrade premiums (0.05 EUR/kg cotton fibre), which amounted to 83'037 CHF** in total, respectively CHF 34 as per hectare and year (included in above overall calculation).

The total additional income provides a return of 9 cents per invested Swiss Franc (total 6'745'266 CHF) respectively **9 % return as per invested Swiss Franc** (CHF588'539 / CHF 6381374 = CHF 0,09). It is 77% as per invested SECO Franc.

In the absence of comparable data at household level, this simplified calculation does not include other income relevant parameters, such as additional incomes from sales of rotational crops, increased livestock numbers, or most importantly the opportunity to produce without running into debts.

Furthermore, it is acknowledged that part of the invested capital was targeting the development of the organic sector as a whole and not only benefitting the organic cotton value chain actors but the organic sector as such.

Environmental impacts presented in chapter 0 related to increased carbon stocks, saved water, saved energy and reduced CO2 emissions are not monetarised and defined as additional income.

Table 8 on the following page provide the data basis to calculate this simplified cost benefit analysis.

*Table 8. Cotton production, price premiums and calculated additional income per organic cotton farmer (2004–2015)
(Source: Kaegi based on BCP annual reports, impact assessments, and interviews)*

⁹ Since not all cotton from the certified area has been sold at as organic, the author has calculated the “sales area” (=total sold O/FT cotton divided by average organic yields) which is the area from which organic really has been sold with a premium price. With this calculation a realistic comparison became possible.

Cotton production, price premiums and calculated additional income per organic cotton farmer (data based on interviews, project reports, impact assessments and ICAC documents)

Year/Season	Exchange rate CHF/KGS	Calculate d O/FT sales area (ha)	O/FT cotton production area (ha)	Total O/FT production area (ha)	Number of certified O/FT cotton producers	O/FT seed cotton yield (t/ha)**	O/FT seed cotton sales price (CHF/kg)	Fairtrade premium for community investments (CHF/kg fibre)	Sold O/FT and in conversion seed cotton at a premium price (tons)*	Total income from O/FT cotton sales (farm income plus Fairtrade premium) CHF	Conventional seed cotton yield (t/ha)***	Price paid to farmer for conv. seed cotton (CHF/kg)	Income of conv. seed cotton sales per hectare (CHF/ha)	Costs for using fertiliser, insecticides and herbicides per ha (CHF)*****	Income of conv. Seed cotton sales per hectare minus input costs (CHF/ha)	Income for the case that farmers produced conv. cotton on the organic sales area (CHF) taking into account costs for synthetic inputs	Total savings from not using chemicals on total O/FT cotton area	Total additional income from sales and savings from refraining from chemicals (savings are calculated on the total cotton area)	Total additional income / farmer (CHF)	Total average additional income / ha (CHF)°
2004/05	0.0317	69	40	95	38	2.598	0.627	-	180	112'872	2.902	0.627	1'820	79	1'741	120'594	3167	-10040	-264	-251
2005/06	0.0317	102	100	277	225	2.598	0.608	-	264	160'529	2.902	0.608	1'765	79	1'685	171'267	7918	-10866	-48	-109
2006/07	0.0298	162	139	372	392	2.598	0.664	-	421	279'617	2.902	0.462	1'340	74	1'265	204'936	10349	72968	186	525
2007/08	0.0302	289	257	748	649	2.598	0.930	-	750	697'158	2.902	0.694	2'014	75	1'939	559'741	19391	135026	208	525
2008/09	0.0286	128	442	1102	845	2.598	0.892	-	333	296'926	2.902	0.700	2'031	71	1'960	251'208	31570	68133	81	154
2009/10	0.0239	90	1'198	1198	765	2.598	0.728	0.064	233	174'633	2.902	0.586	1'700	60	1'640	147'100	71610	93782	123	78
2010/11	0.0201	126	514	1644	986	2.598	1.000	0.064	327	334'096	2.902	1.007	2'921	50	2'871	361'303	25867	-7675	-8	-15
2011/ 12	0.0197	158	645	2612	977	2.598	0.951	0.060	411	399'201	2.902	0.744	2'158	49	2'109	333'568	31718	89571	92	139
2012/13	0.0193	182	531	2692	1172	2.598	0.710	0.060	472	344'416	2.902	0.617	1'790	48	1'742	316'657	25594	44592	38	84
2013/14	0.0173	151	346	2857	1128	2.598	0.785	0.053	393	315'447	2.902	0.690	2'002	43	1'959	296'377	14921	27467	24	79
2014/15	0.0153	528	644	2361	1035	2.598	0.574	0.054	1'371	811'406	2.902	0.503	1'459	38	1'421	749'894	24569	65949	64	102
2015/16	0.0133	458	736	2967	1408	2.598	0.570	0.055	1'191	700'858	2.902	0.530	1'539	33	1'506	690'427	24398	19632	14	27
Total or weighted average		2'443	5'592	18'925	9'620	2.598	0.8		6'346	4'627'157	2.902	0.647	1'877	58	1'721	4'203'074	291'071	588'539	61	105

*Ginning factor 3

** This value bases on the impact assessment conducted in 2009

*** This values bases as well on the impact assessment conducted in 2008 in order to work with comparable data regarding organic cotton.

****Exchange rate based on December values per year provided by www.oanda.com

*****The values bases on the Impact assessment conducted in 2008, they may vary by year, but are here taken as constant values.

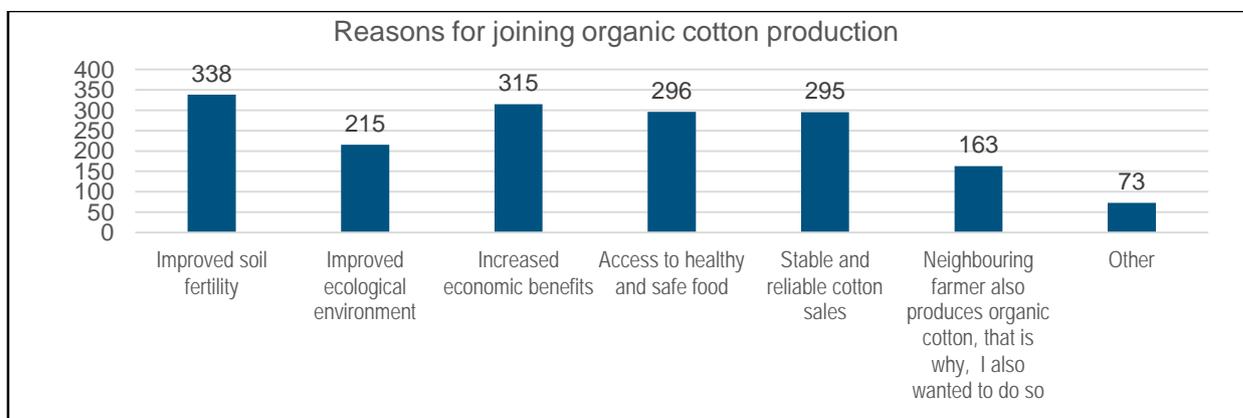
° The value has been calculated for all farmers that produced O/FT farmers and not only for those that sold cotton. Therefore it is less than comparing the income of conventional and O/FT cotton farmers that have effectively sold cotton.

Sum
Average
Concerns O/FT cotton
Concerns conventional cotton

30.2.2 Details on economic benefits

The following Chart 56 provides an overview on reasons why farmers join organic cotton production. Economic benefits (=sales offer) as well as environmental factors are the main drivers for joining organic cotton production.

Chart 56. Reasons for joining organic cotton production (Source: BioService: 2015)



A comparison of the performance (income, costs, gross margin) shows specific profitability differences of organic cotton compared to conventional cotton in intensive low land zones as well as in mountainous zones: in intensive cotton production zones the gross margin for organic cotton is 3% higher than for conventional cotton, in mountainous zones it is 200% higher (see Chart 57. Economic comparison of organic and conventional cotton in low and upland zones (Source: Impact Assessment: 2010)).

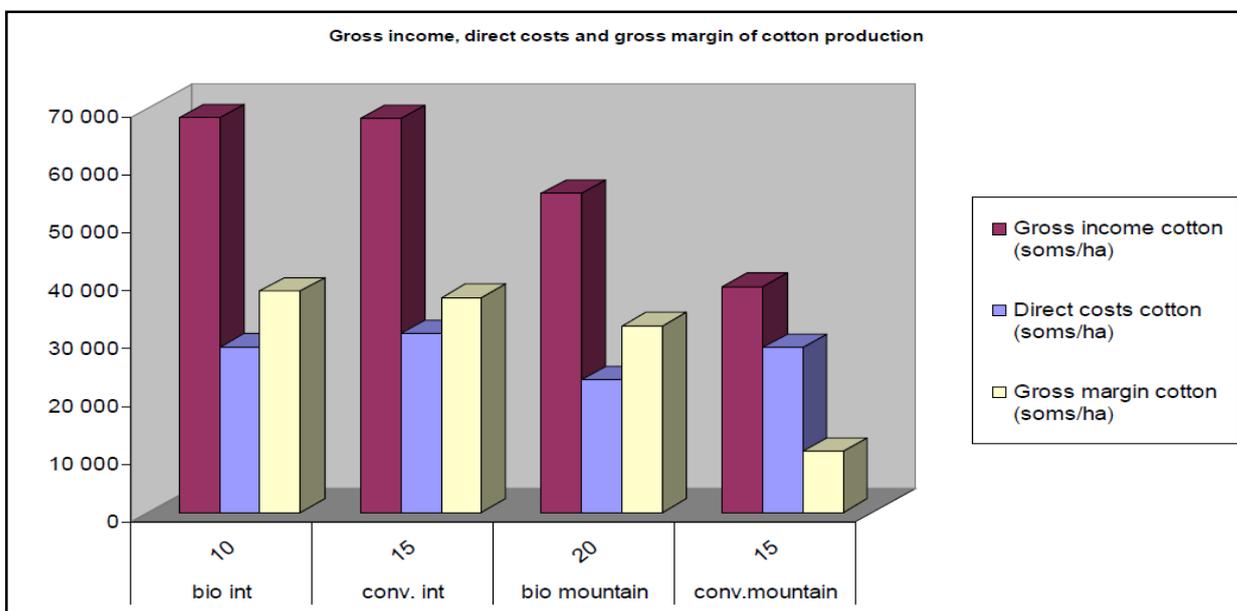


Chart 57. Economic comparison of organic and conventional cotton in low and upland zones (Source: Impact Assessment: 2010)

The survey conducted in 2015 by BioService suggest that overall organic cotton farmers were able to **increase their physical assets**. 17% of respondents bought a car, 11% of interviewed respondents have built houses, 6% respondents answered that they built new kitchens, 10% have built barns and 1.1% bought agricultural machineries like combine harvester, seeding-machines, tractor or tools. 45% of respondents indicated other investments like purchasing of livestock, children's education and weeding's as a results of improved incomes. Only 9% answered that their physical assets have not changed due to organic cotton production. Those respondents had land holdings below the average, high dependency ratios (large families) or were single female (widows) headed households facing labour shortages (refer to Chart 58).

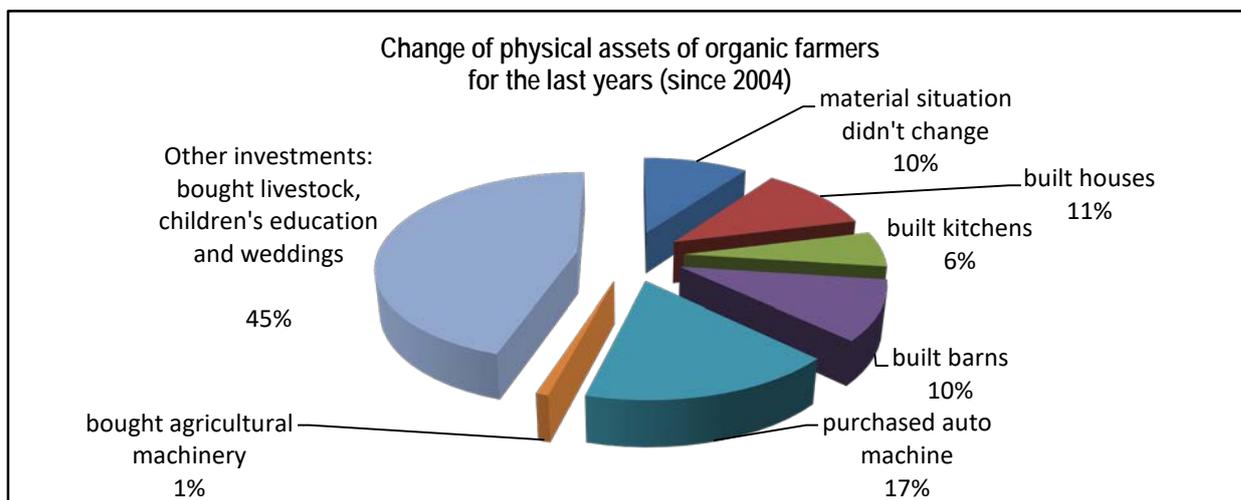


Chart 58. Changes in physical assets and investments related to organic cotton farming (Source: BCP Impact Assessment 2015)

Land holding is a crucial income factor. Organic farmers have generally less irrigated arable lands, 67% of farmers cultivate land of up to 2 ha, 28% of farmers cultivate land from 2 to 5 ha, 2% of organic farmers cultivate 5 to 10 ha of land and 3% cultivate 10 to 65 ha. In addition, 72% of organic farmers have small kitchen gardens which in the range from 0.01 to 0.10 ha in land size.

Land holdings for irrigated arable land are small and farmers coping strategy is to rent land from people with alternative sources of income, shortage of labour or larger area of land. From interviewed 351 farmers, 32% have rented arable lands. 63 farmers have rented up to 1.0 ha, 25 farmers up to 2 ha, 12 farmers up to 3 ha and 9 farmers rented more than 3 ha of irrigated arable land.

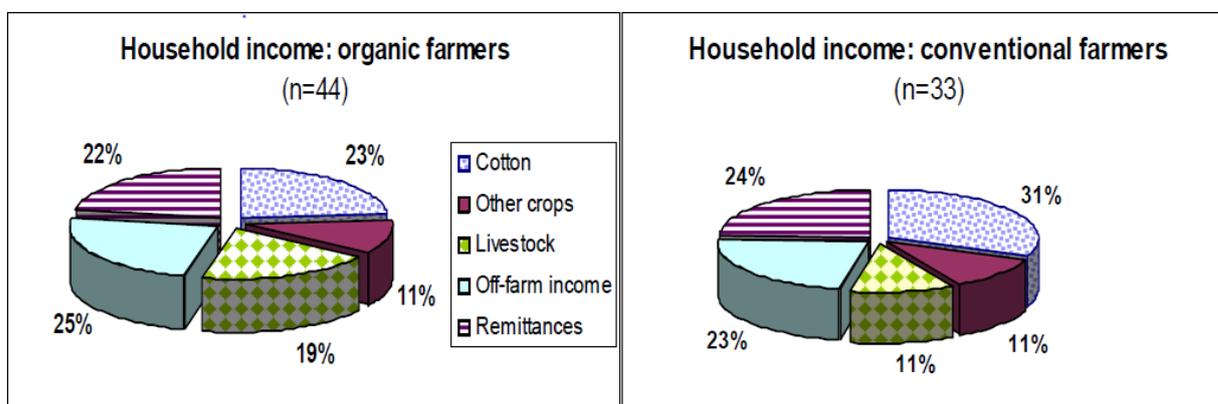


Chart 59. Household Income of organic and conventional farmers (Source: BCP Impact Assessment 2015)

Chart 59 shows the relative economic importance of cotton in the organic and conventional farming systems. In both farming systems, household income depends close to half on farming activities (53%) and half on off-farm activities (47% from remittances and off farmer income). The household income of organic and conventional farmers shows similar shares of each component. However, a difference is found in the relative importance of cotton and livestock, organic farmers having a higher share of income from livestock, conventional farmers from cotton. Conventional farms report a higher share of cotton because they have no obligation to apply crop rotation. The higher share of livestock in the case of organic farmers is explained with the need for manure and the comparatively better accessibility to loans for buying livestock. The recent shift from maize and wheat to alfalfa is an indicator that livestock plays a more prominent role in the organic farming system.

Organic cotton farmers have stable access to quality seeds which is mobilised and provided on an interest free loan by BioFarmer. Likewise organic farmers spend hardly any cash on production inputs other than machinery and labour. Consequently organic farmers are economically more independent and have significantly lower production and capital costs.

If needed, organic farmers get **access** to loans at favourable conditions thanks to the **social collateral** organic farmer group's offer to its members. 84% of interviewed organic farmers stated that they have access to credits, compared to only 58% of conventional farmers (CDE: 2010). The impact assessment in 2010 also found that access to favourable credit is a major reasons why farmers join organic cotton production. The credits enable farmers to **increase their number of livestock** as they don't need to sell animals when cash is urgently needed. This again increases incomes from livestock such as milk, wool, manure, offspring's and the production of organic manure which in turn positively affects organic cotton yields (CDE: 2010)

In 2015, 95% of 351 interviewed farmers indicate that their household income increased through organic cotton production. 68% of respondents mention increased soil fertility as the main reason, 15% mentioned improved seeds, 9% increased sales prices and only 7 % stated decreased production costs as a factor for increased incomes. Interestingly, farmers attribute higher farm income to soil fertility and improved seeds and not so much to reduced production costs (BioService: 2015).

The BioFarmer cooperative has reached its financial goals of being cost covering in 2015. An annual financial turnover of USD 731'800 per year (2015) and equities of USD 267'400 indicate significant economic growth but not yet high profitability.

BioService foundation has developed a new client base and operates in a market with considerable growth prospects. BioService operates at cost covering basis and complies with targets set in the business plan. The annual turnover amounts to USD 146,710 and equities to USD 13,800. BioService has acquired relevant competences to become financially independent by nurturing its diverse client base with quality services.

It is yet too early to assess if the BioFarmer and BioService will reach economic sustainability as further growth and financial consolidation is still required before the break even is reached.

30.3 Environmental impacts of the organic value chain

The environmental impacts of organic cotton to the local farming systems are striking and have a considerable potential for further scaling up. Organic practices, such as rotational crops, are replicated by conventional farmers and are beneficial even by keeping traditional marketing patterns.

The compulsory and systematic introduction of rotation crops is key to generate positive environmental effects along the O&FT cotton value chain. All organic farmers maintain a crop rotation on minimum 50% of their certified land. Through this measure a significant increase of agro biodiversity is taking place in the Fergana valley. This change has positive effects on the micro and macro fauna in soil, water, and air after decades of exposure to an agrochemical based industrial monoculture of cotton and maize or wheat. Remarkable is the shift from maize to alfalfa as a rotational crop which has a significant positive impact on soil fertility and water use efficiency (see Figure 17: Root mass of alfalfa (right) and maize).

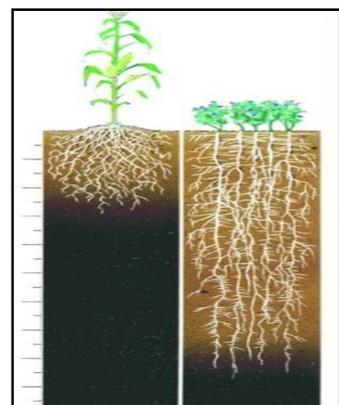


Figure 17: Root mass of alfalfa (right) and maize

Alfalfa has deep roots, ability to utilise rainfall early in the year, high water use efficiency, ability to survive droughts, salinity tolerance, which all in all makes alfalfa particularly valuable to the conditions of the Fergana valley. As a leguminous crop it binds nitrogen from the air to the soil and produces a protein rich fodder for the important livestock component in organic farming systems.

The replacement of chemical fertilisers by farm manure and compost adds value to locally available resources, improves and builds soil fertility and structure. It further contributes to increased carbon stocks in soils (organic matter content). Waiving agro-chemicals eliminates environmental and health hazards from the highly uncontrolled trade of agro-chemicals that exists in Kyrgyzstan. BioFarmer and farmer groups have setup a rigours mitigation action plan to prevent GMO contamination in the organic value chain.

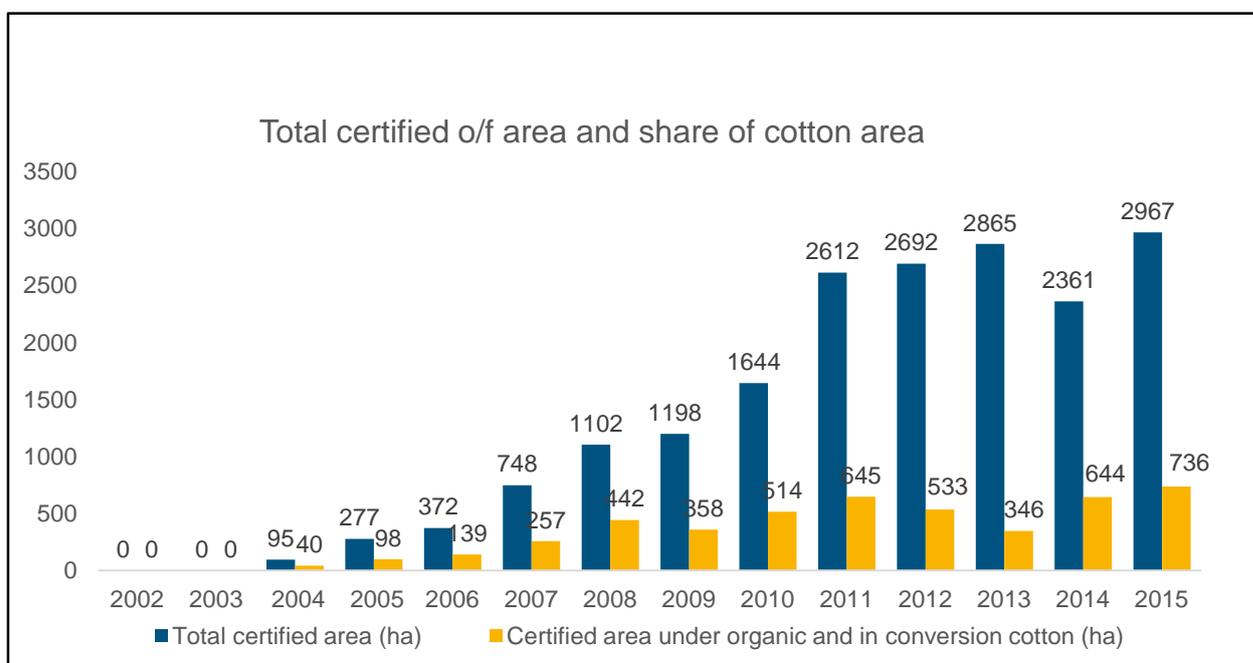


Chart 60. Annual growth of organic certified production area and the share of cotton, 2004 – 2015 (Source: Progress reports 2003-2015)

Chart 60 shows a continuous growth of organic production area from 2004 to 2013 and with this a significant multiplication effect of positive environmental impacts. The certified area declined one single time only, in 2014. The decline by 18% was due to the exclusion of least-compliant farmers followed by recruitment of new motivated farmers in 2015.

Table 9. Certified land distribution (Source: Progress reports 2014 and 2015)

Year	Irrigated Land (ha)		Non irrigated land (ha)	Orchard (ha)	Total certified area(ha)
2014	1749		410	210	2361
	Cotton	Rotation crops			
	644	1105			
2015	736	1380			2967

In 2015, more than 20 types of crops were cultivated on 1380 ha of land and included white beans, chick-peas, sunflower, tomato and paprika. Part of those crops were marketed via BioFarmer (21 t) and the rest farmers sold at local markets (BCP annual report: 2015). The overall certified area raised to 2967 ha in 2015 out of which only 24 % are used for organic cotton.

Textile Exchange published recently the Cotton Market Report 2016. This report provides a powerful reference to demonstrate environmental impacts of global organic cotton production (Textile Exchange: 2016) at global level. For this capitalisation, production figures of 14 years of BCP/BF were added up to calculate the environmental impacts of reduced CO2 emissions, on increased water efficiency or saved water, eliminated quantities of fertilisers and pesticides, and on reduced energy consumption in Kyrgyzstan (see Chart 61). Waiving agrochemicals completely from the organic farming system has further positive environmental impacts on soil, water, fauna, and human health and saved at least 1.55 million Swiss Francs of farmer's money thanks to projects interventions. Below chart indicates a selection of cumulated environmental impacts of 14 years of organic cotton.

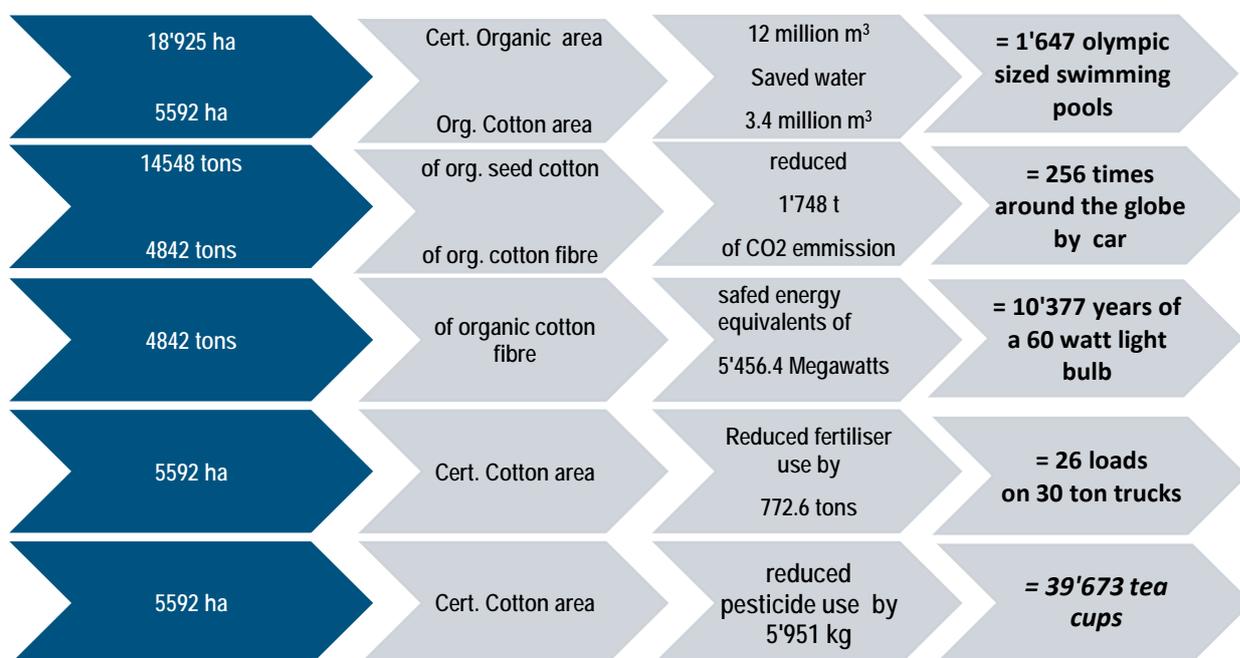


Chart 61. BCP's contribution to reduce environmental impacts based on achieved organic production area, cotton seed and fibre, (Source: Progress reports 2004 -2015, Textile Exchange: 2016 Organic Cotton Market Report)

These positive environmental effect and outcomes triggered by organic production, have the potential to grow if frame conditions improve in favour of organic production. Further upscaling of organic production will much depend on whether national policies will become more supportive to organic farmers, as well as to what extend Kyrgyz products are competitive and able to enter national and international markets .

Learning 51: The introduction of organic agriculture along the organic cotton value chain has generated a number of unanticipated social effects. To mention are the improved social cohesion and spirit of cooperation at farmer group and community level, the positive changes on nutrition and health and the pride of “belonging to an international market chain”. Due to increasing wealth and physical assets, organic farming families benefit further from a higher social status in their respective communities.

Learning 52: Positive association and benefits do not prevent organic farmers from being disloyal towards the cooperative when economic parameters do no longer meet their expectations or needs. The cooperative had to go through a difficult learning process in understanding farmers’ behaviour pattern and coping strategies when selling the cotton harvest.

Learning 53: Organic agriculture fits well to the smallholder family farms that were created by the state land reform after phasing out the former Kolkhozes systems and values and links stronger to livestock than traditional occupation in region.

Learning 54: Being member of the BioFarmer cooperative has increased the social and human capital of more than 1300 farmers and over 8000 family members.

Learning 55: Farmers have an active stake in the cooperative and their rights are guaranteed by its organisational structure and bylaws. Yet not all members fully understand the roles and responsibilities of being a cooperative member. Further education and awareness building is required so that members better understand principles of a well-functioning cooperative.

Learning 56: The higher cotton prices, improved soil fertility, more diverse income pattern, lower production costs and better access to microfinance have significantly improved financial and physical capital of organic cotton farmers. On an annual average, cotton farmers earned at least CHF 149 as per hectare more from cotton compared to conventional cotton farmers. Cotton income represents around one fourth of an average household income.

Learning 57: Organic cotton farmers enjoy up to 33% higher gross margins at farm level compared to conventional farmers with similar land holdings.

Learning 58: Organic cotton farmers reduced the environmental cotton footprint. Adding rotational crops and waiving agro-chemicals from the production system contributes considerably to individual and public welfare.

Learning 59: By quantifying 14 years of environmental impact, the project has obtained surprising figures that demonstrate the potential positive impact organic cotton can have in the region:

- reduced 1'747'900 kg of CO² emission
- saved 2.9 million m³ of water and increased water efficiency in cotton fields and for rotational crops
- saved energy equivalents of 5'456.4 Megawatts
- 772.6 tons of chemical fertilisers and 5'951 kg of pesticide
- GMOs are not applied

31 Conclusions

31.1 Sustainability of the Kyrgyz O&FT cotton value chain institutions

In general, the Kyrgyz O&FT value chain is well set up and ready for sustainable operation without project support. Several factors led to this achievement:

31.1.1 Enabling factors for sustainable operations

- 1) **Reliable pull factor: Paul Reinhart AG** has been crucial and exemplary in building the Kyrgyz organic cotton value chain by providing fair prices, solutions on pre-financing and flexibility in times of institutional and political turmoil's. Particular merits go to the former supply manager for Central Asia. After her retirement in 2015, Petra Bockhahn will continue to act as an independent cotton broker. The second important pull factor was ELMERTEX (Elmer & Zweifel Textile Company), a committed supporter of organic and Fairtrade cotton and reliable client of Paul Reinhart AG.
- 2) A solid producer network which is able to produce sufficient volume to cover operation cost and service fees of the BioFarmer management and advisory team.
- 3) 75% of certified land is not benefitting from international organic market conditions such as premium prices. This represents a potential for increased trade volumes and alternative and additional sources of income at cooperative and farmer/member level.
- 4) Major initial investment in capacity building at producer and management level is done at farmer and organisation level. The business development plan is an important tool to build entrepreneurial skills and an important base for professional business management.
- 5) Critical experience and know-how on organic agriculture and trade is available and can be sold at national market rates to other interested parties in the country.
- 6) The management experience and capacity of BioFarmer allows a professional management and competent service provision to its producer base and clients.
- 7) The relation to the producer base is improving and BioFarmer has mechanism and tools in place to be competitive in the market (seed fund, pre-payment) as well as trust relations with ginneries, seed farm and an independent third party certification body.
- 8) BioFarmer has a functioning quality control system in place which allows to comply with O&FT standard and GMO regulations.
- 9) Keeping organic cotton free from GMO is possible because:
 - a. Helvetas Switzerland/BCP provided significant support in elaborating a GMO risk management procedures that are implemented within the ICS system of BioFarmer.
 - b. BioFarmer was able to identify ginneries which are ready to comply with O&FT standards and GMO risk mitigation procedures, prepared by the project
 - c. BioFarmer established a contractual partnership with a seed farm located in the organic farming area. The seed farm is single provider of GMO free seed and produces based on integrated pest management standards.
 - d. BCP capitalised a seed fund which is owned and operated by BioFarmer. The seed fund ensures controlled sourcing of GMO free quality seed and the provision of seed to registered farmers on an interest free loan basis.
- 10) **Conducive environment for accessing quality and affordable ginning services:** The competitive environment in the cotton sector allows BioFarmer to choose ginneries and negotiate favourable service prices and post service payment. This situation enables BioFarmer to better manage its liquidity and keep transaction cost competitive with world market prices. Ginneries are responsive to meet quality criteria on organic cotton fibre.

- 11) A high number of assets are in place to make BioFarmer and the organic and Fairtrade cotton a sustainable and viable business. Nonetheless, a couple of risks remain or appear when the project is phasing out its moral, technical and financial support.
- 12) **BioService** as a second offspring of the BCP has built unique experiences and competencies related to organic production and marketing systems. To build a viable advisory and counselling business, the competency profile should be widened to tap into donor and private sector investments other than organic and value chain development. The organic sector of Kyrgyzstan is likely to grow. Its expansion will much depend upon international investments and political decisions on a more enabling environment, both factors are largely out of BioService's control. Meanwhile BioService has to strengthen its marketing skills and use its network to acquire more diverse donor and private sector mandates.

31.1.2 Remaining risk

- 1) Permanent and reliable access to working capital is key for the sustainability of the organic cotton value chain and for the survival of BioFarmer. The current solution of pre-finance provided by cotton fibre and seed buyers represents a valid solution. In 2015, BioFarmer was able to mobilise pre-financing of almost half a million USD from cotton fibre and seed buyers. Buyers demonstrate high commitment and readiness to share risks. At the same time the pre finance modality creates a high interdependence between seller and buyer which might narrow options for price negotiations. Access to permanent and reliable sources of working capital represents a continued and significant sustainability risk of BioFarmer and the value chain as a whole.
- 2) The Paul Reinhart AG was and is a great asset to build the O&FT value chain and BioFarmer. The company continuously secured market access for organic, Fairtrade and in conversion cotton. The production volumes never exceeded the absorption capacity of Paul Reinhart over the past. Consequently BioFarmer was not obliged to diversify its cotton buyer portfolio. With increasing production volumes and possible changes in the market, this relatively narrow market access bears market related risks, meaning potential difficulties of selling cotton at premium prices.
- 3) BioFarmer missed the opportunity or did not have the opportunity to establish market channels for significant proportions of rotational crop products at local or international organic markets. This missed opportunity narrows the economic viability of BioFarmer and bears in itself an economic risk.
- 4) Fluctuating world market cotton prices will continue to exist. Lower world market prices will drive farmers towards more beneficial crops. As a consequence production volumes might fall and income of BioFarmer will drop. Currently the income stream of BioFarmer is almost exclusively built on one single crop which is cotton. The inability of marketing rotational crops at national and international organic or higher priced markets, represents a risk for the BioFarmer cooperative and the O&FT value chain as a whole. This because overheads to operate a producer network of more than 1300 smallholder farmers and certification cost for over 3000 ha of land remain a financial burden.

- 5) The management capacity of the BioFarmer cooperative is crucial for the economic viability and sustainability. The recruitment process and remuneration package (salary, other benefits, further education) of the management team is key to maintain and sustain professional management of this operation which has reached a turnover of USD 731'800 per year (2015) and equities of USD 267'400. It is important that the cooperatives bylaws do allow for transparent and competent recruitment (or replacement in case of dissatisfaction) of the management team. To sustain, the BioFarmer should develop a career development and replacement plan for key positions in the cooperative. A competent management team needs to be remunerated at competitive market rates. To ensure the later, the BioFarmer requires sufficient income streams which are ensured by the service fee (5%) of traded cotton and rotational crops volumes.
- 6) At this stage, the statutes of BioFarmer cooperative provides a certain number of rights and services to its members and producer base. Reference is made to the right to seed advance and the right to access to interest free loans when a member is exposed to hardship situations. (E.g. crop loss). In other terms, the BioFarmer cooperative acts as a finance institution as well as an insurance institute. BioFarmer bears risks which under open market conditions producers would carry. To minimise financial risks associated with member rights, the bylaws deserve a careful review of all liabilities BioFarmer has towards its membership base to avoid its financial collapse in case a major natural disaster would hit the cotton production area.
- 7) Over the past, BioFarmer's member base fluctuated significantly. Recruiting and training new members has a cost and bears a financial risk. Careful selection is one way of winning loyal and committed cotton producers but quality service provision is another important factor. BioFarmer might also think of other modalities like loyalty bonus paid after a defined number of uninterrupted membership. In the past, Helvetas provided coaching, facilitation and advisory support when needed for which BioFarmer did not have to pay as sufficient project or public funds were accessible. A prominent example was the GMO problem that could be rapidly addressed by short term expert inputs that were mobilised within the Rural Economy Advisory team of Helvetas. Such backstopping will be less affordable for BioFarmer as project funds no longer cover international expert cost. The fact that the technical and managerial backstopping will disappear with the closing of the project, might increase risks. Local and alternative backstop solutions might exist and have to be explored by BioFarmer.
- 8) Over the past, BioService enjoyed guaranteed mandates either from BioFarmer or HELVETAS. With the end of the BCP project, less opportunities will exist and BioService will have to prove that it can further diversify its client base and mobilise additional incomes to maintain a sound balance between incomes and expenditures. Partnering with other likeminded local NGOs or consulting companies might be an option to increase visibility and access to donor and private sector mandates.

Learning 60: Building new organisations in a transitional market system with low levels of rule of law requires a long term vision and commitment of stakeholders.

Learning 61: A key challenge was to build a cooperative management with sufficient entrepreneurial spirit and skills to mobilise and manage over 1300 smallholder farmers according to international production and trade standards. An adaptive management approach, backed by a pool of internal and external experts, have helped to react and overcome several crisis situations.

Learning 62: BCP and later BioFarmer was in a fortunate situation of having a committed international buyer on its side. Paul Reinhart AG not only secured the market demand, but also provided pre-finance and advice to overcome the everlasting problem of having timely access to sufficient and inexpensive working capitals.

Learning 63: Working capital is key to mobilise smallholder cotton farmers, in particular in the early stages of the value chain development process. Being able to provide seed on an advance and paying cotton in cash at the point of harvest makes 70 to 80 % of the business success.

Learning 64: Mobilising working capital was a major struggle for the project and later for the cooperative, as demands for working capital increase along the scaling up process which is needed to reach economic sustainability. Seeking a pragmatic rather than an ideal solution could have saved significant financial and human resources. Pragmatic solutions have to be further explored. Mobilising banking guarantees in form of real estate, letter of credit or a trust fund might be among the solutions.

Learning 65: The strong orientation and focus on cotton trade has orphaned rotational crops and related marketing activities at the early stage of the project, and until the early stages of phase III. Rotational crops are grown on almost 75% of the certified organic land and represent a huge potential for economic growth, provided the cooperative gets a stake in either trade or processing of these alternative crop outputs.

Learning 66: Business development planning and the ownership over the business plan was another important element to build entrepreneurial skill and spirit of BioFarmer and BioService. Ideally this business development skills should have been developed at very early stage in phase II.

31.2 Recommendations

The Organic Cotton Project of SECO phased out its financial support to BCP as of end of 2016. By this, BCP is transferring the full financial and managerial responsibility to operate the BioFarmer cooperative and BioService foundation to the respective management teams.

Based on this capitalisation study, the experiences made and lessons learnt, the following recommendations should lead to sustainable development of the organic sector in Kyrgyzstan and to sustainable operations of the BioFarmer cooperative and its partners, service providers and supporters.

1. The steps initiated to conduct a policy dialogue on sustainable production and trade are promising. A number of new donors have joined and supported the process of developing the KONAP and draft policy. However it will need continued financial and moral support until a solid and enabling policy framework is in place that support initiatives, pilots and scaling up where sufficient maturity has been achieved. Helvetas should stay engaged in supporting the National Organic Platform based on a clearly defined strategy.

2. The most critical element to sustain BioFarmer cooperative is a professional management and the council. To secure quality management, the current management team would benefit from continued and periodic coaching to discuss leadership and management issues with experts that bring in external and neutral views. BioFarmer and Helvetas shall discuss suitable solutions for continued and need based coaching, if possible with local resources.
3. The second most critical issue is the absence of a stable and cost efficient solution to mobilise working capital for the operation and purchase of seed cotton immediately after harvest. The current solution of getting pre-payments by cotton fibre and seed buyers is good but still seen as a temporary solution. BioFarmer must continue to seek more permanent solutions such as mobilising collaterals, a bank accepting a sales agreement as sufficient guarantee to release short term capital or any other form that enables the access to a permanent, reliable and affordable sources of working capital.
4. Updating the business development plan and having a business vision for the next 3 to 5 years that is shared with the producer base will be crucial for succeeding in the relatively harsh and slightly unpredictable market environment.
5. Recruiting a capable marketing manager who will focus on synchronised and coordinated production and marketing of rotational crops is a must to make use of the unused potential of certified land areas.
6. The BioFarmer council and management shall do further research on flexible pricing systems and on ways and mechanisms to ensure the loyalty of cooperative members.
7. The marketing manager should further explore alternative and diversified outlets for organic and Fairtrade cotton. Contacts to national and neighbouring garment industries should be build or maintained as there is still hope that the current and future organic cotton production could be absorbed by investors working on local garment niche markets. O&FT cotton fibre might also find its way into niche markets such as medical cotton tissues or cotton fibre/ tissues used in hygiene products.
8. BioFarmer needs to remain rigorous about GMO mitigation, purity, fibre quality and traceability if it wants to compete at the international market level.
9. Reviewing cooperative bylaws and assessing operational and financial risks linked to social liabilities is a must to secure financial sustainability.
10. BioFarmer or BioService should mobilise funds to conduct scientific socio-economic stratified surveys in two yearly intervals among its members. Involving a renowned University to accompany the survey methodologically will provide solid data to convince investors, donors or policy makers to make informed choices and decisions.
11. Modern data assessment methods and knowledge management systems will again come on the table when the operation and data volumes grow. Better management of data and information could provide a real asset for the national or provincial policy dialogue but also for marketing purpose of the cooperative. Engaging young IT talents for this purpose could be an interesting avenue to pursue and new competence to be offered by BioService.
12. Launching or activating action research at farmer group level to explore best agronomic and economic crop combinations is recommended as a low cost intervention to innovate and optimise production and marketing among organic producers and producer groups.

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VII) ADVISORY SUPPORT FROM SWITZERLAND

By Andrea Bischof

33 Three phases of Swiss Support to the Organic Cotton Sector

The Organic & Fairtrade Cotton Projects in Burkina Faso Mali and Kyrgyzstan received technical support on distance and on spot from advisors of Helvetas in the frame of three different, SECO funded projects.

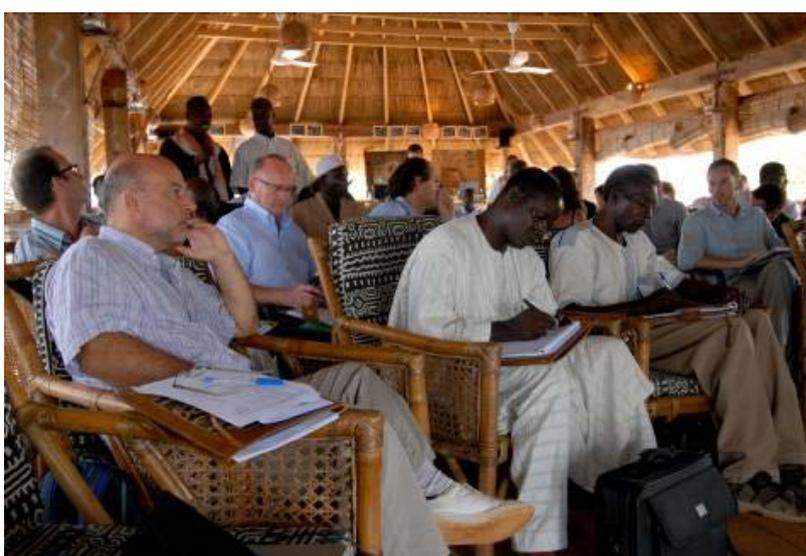
33.1 Organic Cotton Competence Centre (2003-2006)

From 2003 to 2006 the “Organic Cotton Trade Promotion Networking and Knowledge Management” was implemented by the “Organic Cotton Competence Centre (OCCC)”, consisting of two part time experts positions located at head office in Switzerland.

OCCC acted as information hub on organic cotton for the whole value chain, producers, processors and traders, and published a quarterly newsletter, the *Organic Cotton Circular*, in three languages English, French and German together with PAN Germany. The circular reached more than 600 subscribers mainly from Europe. The OCCC informed consumers via printed brochure ‘From farm to final T-shirt’ and via a multilingual website about the advantages of organic cotton in four languages, URLs www.bio-baumwolle.ch, www.cotonbio.ch and www.organiccotton.ch.

The OCCC organised national and international events to enlighten and involve private sector actors into the cotton value chain. Amongst others the OCCC released a declaration signed by private sector actors, governmental entities and environmental NGOs defining a common strategy to overcome key problems related to conventional cotton and textile production. In collaboration with Remei, Textile Exchange (at that time Organic Exchange) and the German working group on organic cotton the OCCC organised a symposium for international experts, emphasizing Switzerland’s role as leading actor in sustainable supply-chains and consumption of organic cotton. Related to the marketing for organic cotton the OCCC focused on procurement of textiles by large users in Switzerland, in particular the public sector. In order to sensitise on sustainable procurement opportunities it organised conference on ecological and social procurement for large textile users in 2006.

Besides the activities in Europe the OCCC provided thematic advice to the organic cotton projects and ensured knowledge sharing with regard to organic certification, organic production practices as well as the Fairtrade standard. It collected and published yearly data on the Swiss consumption of organic cotton.



For marketing of organic cotton, the OCCC assumed an important broker role linking the organic cotton production with retailers and brands in order to overcome language and cultural barriers. Therefore, the OCCC organised stakeholder meetings (in Switzerland or the project countries), bringing together the producers, cotton societies, traders and brands to discuss pricing and cotton specifications, but also to get to know each other and to establish trustful business relations.

Photo 3: Stakeholder Meeting, Selingue, Mali 2007 (Source: Helvetas)

33.2 Organic and Fair Trade Competence Centre (2008-2013)

From 2008 to 2013 the supporting project was called “Organic and Fair Trade Competence Centre (OFTCC)” and provided expert advices not only on organic cotton but also on rotation crops e.g. soy and sesame and further sustainable produced commodities such as cocoa, rice, coffee, shea, and dried fruits etc. The OFTCC pro-actively contributed to the development of the organic and fair trade sector in the cotton producing countries and provided stakeholders with competent and relevant services in the fields of knowledge management, value chain and market development, and networking and public relations. These services facilitated the consolidation and expansion of the organic cotton projects which still needed support with regard to matchmaking in the organic cotton business as well as an efficient implementation of the organic production method and upcoming GM contamination issues. In 2009 the OFTCC organised the first World Congress on Organic Cotton in Switzerland. The event had impact on Swiss retailers with regard to their procurement behaviour and brought together international experts for in-depth exchanges. In the context of the conference the OFTCC organised the first face-to-face meeting of the Global Organic Cotton Community.



Photo 4 First in person meeting of the Global Organic Cotton Community, Interlaken 2009. (Source: Helvetas)

The creation of this community of practice and its corresponding knowledge platform at www.organiccotton.org was initially funded by ICCO (NL) and SECO and implemented in collaboration with Textile Exchange. This knowledge sharing platform provides information on organic cotton and allows professionals of the entire organic cotton value chain, including producers, project organisers, traders, processors, distributors, NGOs, relevant government agencies, media, and consumers, to exchange their view and knowledge on burning issues of the sustainable cotton sector in spontaneous and facilitated online discussions but also at the occasion of annual in person meetings. The Global Organic Cotton Community has almost thousand members and became a recognised online network in the organic cotton sector worldwide. Summaries of facilitated online discussions are stored online in the library of the platform: <http://www.organiccotton.org/oc/Library/library.php>.

In 2012 the OFTCC organised the 71st plenary meeting of the International Cotton Advisory Committee in Interlaken, Switzerland. As an organiser, the OFTCC succeeded in creating a new space for discussing sustainability of cotton production in the main sessions of the international meeting, as well as several breakout sessions on organic and Fairtrade cotton. A fairly new topic in this largest international cotton event. (see: www.icac.org)

33.3 Organic Cotton Joint Activities (2014-2016)

From 2014 to 2016 SECO supported the consolidation phase of the three organic cotton projects in Burkina Faso, Mali and Kyrgyzstan with the project component “Organic Cotton Joint Activities” in which activities had been implemented that looked for synergies and were of use to all three cotton projects. Advisors of the Rural Economy Team of HELVETAS Swiss Intercooperation provided support services useful to all three cotton projects, contributed to a conducive environment for the organic cotton production in general.

Another key activity of the Joint Activities project component remained the facilitation of discussions and meetings of the continuously growing Global Organic Cotton Community. Starting in 2015 the face to face meeting of the Cotton Community took place in collaboration with Textile Exchange’s Organic Cotton Round Table (OCRT), which fostered the synergies of the two events. At the same time, Helvetas facilitated the cotton community to launch its first Innovation Award for pricing new ideas in organic cotton.

With regard to monitoring and data collection, the Helvetas advisors recommended to invest into a joint database and ICS system. Unfortunately this was refused by the projects, keeping their own internal control system which in retrospect is regrettable as a lot of useful data could have been collected that would enhance this study in addition. The advisors facilitated the elaboration of a local adapted manual to avoid GM contamination in the organic cotton value chain, supported business plan processes and capacity strengthening of producer organisations, contributed to sector development and compiled data to elaborate the present study. The cotton specialists also provided emergency support in cases where GM contamination had been detected and certification was denied. They advised the farmer organisation in how to handle testing and linked them with contact person of the corresponding certification bodies. In the frame of the Joint Activities producer organisation had been supported in linking with potential buyers (retailers, brands) at trade fairs and Textile Exchange conferences by creating visibility and getting in touch with potential buyers. In addition strategic relationships with Fairtrade International and Cotton Made in Africa (CmiA) were explored and reinforced. Unfortunately, an agreement between CmiA and BCI hindered CmiA to trade organic cotton from Burkina Faso and CmiA struggles with finding buyers for organic cotton.

There was a lot of endeavour to integrate this broker service into producer organisations BioFarmer, FENABE and UNPCB respectively to engage the cotton traders (Reinhart AG in case of Kyrgyzstan and Devcot in case of West Africa). This broker function is now completely assumed by BioFarmer and Reinhart in Kyrgyzstan, but remained not fully integrated in the West African producer organisations: In the case of Mali this was mainly due to the reorganisation of the producer organisation FENABE. In Burkina Faso the only buyer Victoria’s Secret ceased purchasing organic cotton from 2016 onwards and new buying relations had to be established. Therefore, Helvetas is looking for solutions on how such brokering services may be offered to the producer organisations also in future.

VIII. General References and Interviews

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Interviews

Country	Resource persons	Date of interview
Kyrgyzstan, BCP	<ul style="list-style-type: none"> • Markus Brauchli • Nurbek Kanazarov (BioFarmer) • Ismail Arapov • Gulzada Kudajberdieva 	<ul style="list-style-type: none"> • November 2015 • 22 Sep 2015 • 5 Aug 2015
Mali ProFilBio	<ul style="list-style-type: none"> • Siaka Doumbia • Sylvaine Rieg 	<ul style="list-style-type: none"> • 16 Dec 2015 • 19 Aug 2015
Burkina Faso	<ul style="list-style-type: none"> • Abel Gouba 	<ul style="list-style-type: none"> • 17 Aug 2015 / 19 Jan 2016
HELVETAS Head Office Switzerland	<ul style="list-style-type: none"> • Frank Eyhorn • Jens Soth • Andrea Bischof • Tobias Meyer • Lydia Plüss • Lionel Giron • Georg Felber 	<ul style="list-style-type: none"> • Regular exchange • Regular exchange • Regular exchange • 18 Jan 2016 • Regular exchange • 14 Jan 2016 • 11 Jan 2016

ABOUT THE AUTHORS

Stefanie Kaegi is a Geographer and holds a Master's degree of Advances Studies in Development and Cooperation as well as in Secondary and Higher Education. Her experiences in advisor and management functions always related to sustainable agriculture and market systems with a particular focus on rural advisory services, public private partnerships and certified agriculture. After long term assignments in Tajikistan and Madagascar, she presently works as Advisor at Helvetas Swiss Intercooperation in Switzerland.

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Rudolf Luethi, graduated in International Agriculture from the Bern University of Applied Science and holds a title of Agricultural Engineer (BSc). He has 22 years of practical field experience in long and short term advisor and management functions in Asia and Africa, in the development and private sector. Presently he is Co-Leader of the Rural Economic Department at Helvetas Swiss Intercooperation in Switzerland.



HELVETAS Swiss Intercooperation, with the support of the Swiss State Secretariat for Economic Affairs SECO and other institutional donors, has implemented organic and Fair-trade cotton projects in West Africa and Central Asia.

Striving for the overarching aim of improving livelihoods and addressing negative impacts of conventional cotton production, the projects meanwhile look back on 14 years of experience in these regions. More than 22'000 farmers benefited from diversified organic agricultural production systems, from improved access to technical and financial services, enhanced incomes and financial liquidity, as well as from healthier working environments. However, a number of challenges occurred as well, such as contamination from neighbouring GM crops.

So what were driving factors for success, what affected it, and what lessons can be learnt for a future engagement in the organic cotton sector?

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