Base Line Study

Project number: 20.2213.5-009.00

Contract number: 81317783

Kombifinanzierung EU Beratung Tadschikistan – Integrative und klimasensible Landnutzung in Zentralasien

Prepared for:

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Content

Executive Summary

- Cotton is central to Tajikistan's rural economy with big impact on income and labour availability. Mostly exported as low-value fiber, small volumes as yarn, fabric or clothes
- State land quotas and outdated practices trap farmers in low productivity – poor soil and crop management practices, ineffective water management
- Reforms in policy and practices can unlock productivity & sustainability – focus should be on yields per hectare rather than land quotas, regenerative and organic farming practices, in-country processing
- Strategy: higher yields, lower input costs, and climate resilience systems implemented together as a holistic and coherent concept
- Support needed: for policy reforms, farmer training, and investment in textile processing

➢ **All this together provides the foundation for donors, government, and private sector to act jointly**

🔍 **Key Findings:** Land Use & Yields | Soil Health & Best Practices | Water Management & Irrigation Practices | Biodiversity & Natural Habitat Improvement | Farm Finance & Labour Conditions

- Cotton dominates farmland but weak rotation keeps yields stagnant
- Weak adoption of soil analysis, bio control, and minimum tillage limits productivity gains
- Awareness of water-saving techniques exists, but poor infrastructure and water scarcity hamper adoption
- Farmers recognize biodiversity practices, but adoption is limited and often incidental
- Profit distribution practices vary, but transparency and wage awareness remain weak
- Sughd farmers see export opportunities but face shrinking margins and weak input systems
- Farmers in Khatlon are motivated to innovate, but support systems lag behind

✅ **Recommendations :** Policy Reform | Seed Systems | Water & Regenerative Agriculture | Processing & Value Addition

- Shift cotton policy from land quotas to productivity for higher yields and incomes
- Invest in seed quality and decentralized breeding to boost resilience
- Scale water management and regenerative agriculture practices to cut costs and open new markets
- Support in-country processing for cotton fibre and oil, recycled cotton in yarns and other agricultural value chains for local, regional and international markets to generate jobs, income and gross national product.

1.1 Brief Information on the Project

The Multi-Donor Action “Green Transition through the Cotton Value Chain in Tajikistan” is jointly co-financed by the European Union and the Federal Ministry for Economic Cooperation and Development (BMZ) and implemented by GIZ via a separate output of the BMZ project “Integrative and Climate-sensitive Land Use in Central Asia (ILUCA)”.

The Action builds on many years of experience of the GIZ projects, including IRDP/TRIGGER in supporting certified sustainable cotton production systems (Better Cotton Initiative, organic cotton according to EU-regulations, Fairtrade) with local partner organizations.
The Overall Objective of the Action is to contribute to the socio-economic development of Tajikistan and the reduction and eradication of poverty by boosting sustainable productivity growth, climate resilience and cotton-based value chains (VCs).

Thus, through its Action and development cooperation activities in Tajikistan, GIZ aims to support the green transition of agriculture through the cotton value chain, sustainable rural development, and climate-resilient agriculture by introducing sustainable cotton along the entire value chain.

1.2 Context

The Action envisages an inception phase to conduct specific studies and assessments that will inform the Action on the feasibility of certain approaches and provide specific recommendations for implementation.

The cotton sector in Tajikistan plays a vital role in the national economy and rural livelihoods. It provides employment for a significant portion of the rural population and contributes to export earnings. As much of this cotton has so far been exported as cotton fibre, the Action will now emphasize more the value addition of sustainably sourced cotton in the processing industry in Tajikistan. Additionally, the sector is facing complex challenges in terms of environmental degradation (e.g., inefficient water use, soil erosion), social vulnerabilities (e.g., informal labour, gender disparities, a complexly organized management structure of Dehkan Farms), and economic pressures (e.g., low productivity, limited market access, limited processing opportunities until the final textile products).

The Action will be implemented in Sughd, Khatlon Region, and the Regions of Republican Subordination (RRS) of Tajikistan with the aim of supporting economic activities among agricultural communities by introducing sustainable standards and approaches including linking producers and processors, as well as providing support to agricultural extension service providers.
Thus, to inform project design and implementation, a baseline study on farmers’ land use management practices and the conditions in the cotton-based farms system is needed to understand the prevailing socio-economic and environmental conditions in cotton-producing regions.

The results of the baseline should inform the baseline values of log frame indicators and give valuable insights into priorities of training and other support.

2.1 Methodology

According to the consultant´s ToR, the following methodologies have been applied during the assignment:

- Desktop research and analysis of existing data and reports from Tajik cotton sector:
    - The contractor asked at the beginning of the contract period to share relevant documents available with GIZ project team in an MS Teams room. This included an extensive monitoring undertaken by GIZ TRIGGER (Jana Frey together with Annett Leuteritz) and implemented by an external consultancy as well as Sarob agronomists); the Tajik National Strategy 2030; a Biodiversity Landscape Analysis (Textile Exchange 2023) plus other supporting documents.
- Online exchange meetings with GIZ project team and the local consultant Olimjon Bobokalonov hired by GIZ to support and assist the contractor.
- On-site interviews with relevant actors in the Tajik cotton sector. A questionnaire has been developed by the contractor and shared with the GIZ project team for review and discussion: The agreed target number of interviewed farmers was set to a minimum of 30 (3 interviews incl. travel time per day on average in 10 days) plus additional Focus Group Discussions (FGDs) and exchange with implementation partners:
    - Farmers in selected districts (focus on Khatlon and Sughd regions), potentially participating in future project interventions (identification and selection by implementation partners Sarob and Bio-Kishovarz),
    - Targeted new farmers in Khatlon in districts, Sarob did not yet work in, whereas in Sughd region new farmers are located in districts where Sarob already operates (all districts are already targeting area of Sarob)
    - Implementation partners Sarob and Bio-Kishovarz on future implementation strategies and topics,
    - FGDs with other relevant actors (NGOs, input supplier, other) in the sector and areas.
- Evaluation of the collected information and data with recommendations on future project interventions in the final report. The questionnaire uses Windows Excel Software as a tool to evaluate data and visualize in appropriate formats. Qualitative information has been analysed and reported by the contractor after sharing and discussing with implementation partners and GIZ project team during the field visit in August. Due to the sample size, results are not representative but give trends and tendencies. Together with information retrieved during FGDs and informal communication with stakeholders, these results have been used for recommendations.

2.2 Tools & Sampling Strategy

A questionnaire as the main tool has been developed by the contractor and shared with the GIZ project team for review and discussion. The final version was then translated into Tajik language and hardcopies printed. Depending on availability of electricity and venue during interviews, either the hardcopies were hand filled and later transferred to electronic files or directly typed in.

Sarob and Bio-Kishovarz were tasked to provide lists of farmers joining their activities (Better Cotton and Organic respectively) this year. In doing so, a proper base line of new farmers should be possible. Both implementation partners were asked to provide a list of farmers from several target regions. This was done except for Farkhor and Hamadoni districts (Khatlon region) as these districts require specific authorization from a district council because they border Afghanistan and such procedure usually takes up to 20 days. Instead, Shahritus and Quobodiyon districts (Khatlon region) were visited and on top of farmer interviews, yet another FGD organized in Bokhtar as both implementing partners (Sarob and

Bio-Kishovarz) are planning to work with farmers in these districts in future. The list provided by the main implementation partners Sarob and Bio-Kishovarz was extended from the originally planned 30 farmers to 56 plus 2 FGDs and two meetings on organizational matters with the main implementation partners Sarob and Bio-Kishovarz. Remote organizational support was offered by contact persons in the regions as back-up in case of problems occurring in the field (farmer not available or venue unclear, etc.). Out of the 56 interviews, two were discarded for analysis. One (No3) for insufficient capacity of interviewed person, the other (No 42) because of a mistake made when saving the file.

2.3 Work Plan | Schedule

During and after the online exchange between the GIZ project team, the local consultant and the implementation partner Sarob (no Bio-K representative present), the following preliminary schedule was drafted, shared and agreed with the contractor:

Date & Time	Activity	Purpose
10.08.2025 | 02:00	Arrival of Int. Consultant Joachim Lenz in Dushanbe	
11.08.2025 | 09:00–12:00	Meeting at the Sarob office, Dushanbe	Briefing; validate BCI DF data
11.08.2025 | 13:30–17:00	GIZ office in Dushanbe	Meeting the team and planning of field trips
12–16.08.2025 | 09:00–17:00	Visits to target DFs/Cooperatives in Khatlon	Interviews with Sarob potential BCI/Fairtrade DFs
17.08.2025 | 18:30	Travel to Khujand;	
18.08.2025 | 09:00–17:00	Meetings with Sarob; FGD; Bio-Kishovarz	Briefing, validate DF data, FGD with input supplier and consultant together with Implementation Partners
19–20.08.2025 | 09:00–17:00	Visits to target DFs/Cooperatives in Sughd	Interviews with Sarob potential BCI/Fair trade DFs
21–23.08.2025 | 09:00–17:00	Visits to target DFs/Cooperatives in Sughd	Interviews with Bio-Kishovarz potential Organic/Fair Trade DFs
24.08.2025 | 18:30	Return to Dushanbe (Flight SZ-42)	Accommodation: Rumi Hotel
25–26.08.2025 | 09:00–17:00	Additional DF interviews in Khatlon	Interviews with Sarob potential BCI/Fairtrade DFs and FGD
27.08.2025 | 00:10–06:05	Departure Joachim Lenz to Munich (Flight SZ-121)	

As can be seen in the schedule, instead of 10 days for interviews and FGDs, a total of 14 days were used to have flexibility for any upcoming opportunity. Thus, the number of interviewed farmers increased to 56 plus 2 FGDs. This was discussed and mutually agreed with the GIZ project team before coming to Tajikistan.

A draft report for GIZ review and feedback, including baseline values for validating log frame indicators, recommendations on key findings, monitoring and evaluation (M&E), and valuable insights into capacity-building priorities and other areas of support has been prepared and submitted before September 15, 2025.

An online exchange to present and discuss the report was scheduled for September 18, with the new head of the program, Mrs. Julia Broska, being present as well.

The final report shall be submitted before October 2, 2025.

3.1 Data Analysis and Interpretation of Survey 2025-GIZ-TJK-Output 5-Base Line

The questionnaire was structured in five categories:

1. Information on farm location and owner structure
2. General agricultural data (ha, main crops, fertilizer application and average cotton yield
3. Best practices like soil analysis, tillage, bio control, water stewardship
4. Finance: pre-finance in cash and/or in-kind; loans; profit distribution
5. Decent work: knowledge and practices on working contracts, minimum wage and grievance mechanism.

Aim was to gather valuable information on farm structure and practices in order to identify entry points for future project interventions on sustainable and climate resilient farm practices.

Questions 0.1 – 1.8 Farm Management Information

The first questions intend to form a picture of the interviewed farmers in Tajikistan and their location in the regions relevant for the project intervention. The distribution of the interviewed farmers in the northern (Soghd) and southern (Khatlon) region is 27:29. The district with highest number in Khatlon is Vose, followed by Kulob. Reason for this is the different size and acreage of irrigated arable land which is proportionate to the number of interviewed farmers in these districts. The smaller number of interviewed farmers in Qubodiyon and Sharituz is because these two districts were selected later because the originally intended regions could not be visited due to administrative and security issues. The districts in Soghd with bigger numbers of interviewed farmers are Mastcho and Zafarobod, followed by Konibodom and Spitamen. Bobojon Gafurov is a bit of a special case with only one farmer interview, but with potential for many more farmer (re-)joining project activities as there were organic farmers present in the past.

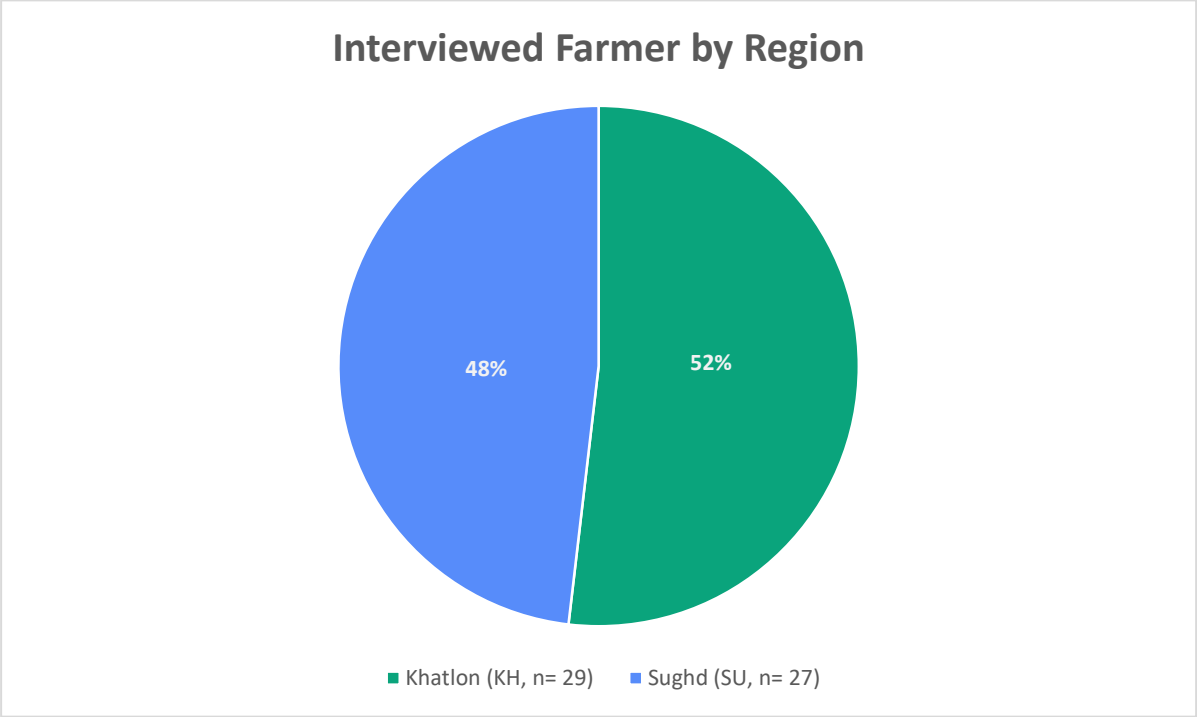

Figure 1 Interviewed Farmer by Region

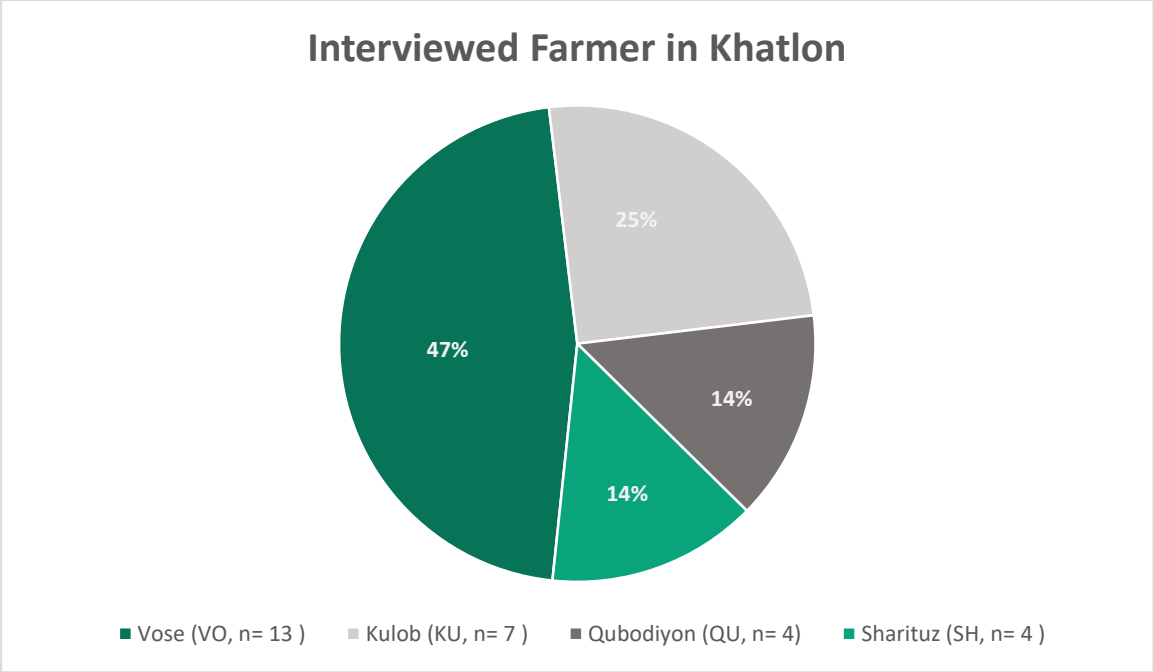

Figure 2 Interviewed Farmer by District in Khatlon

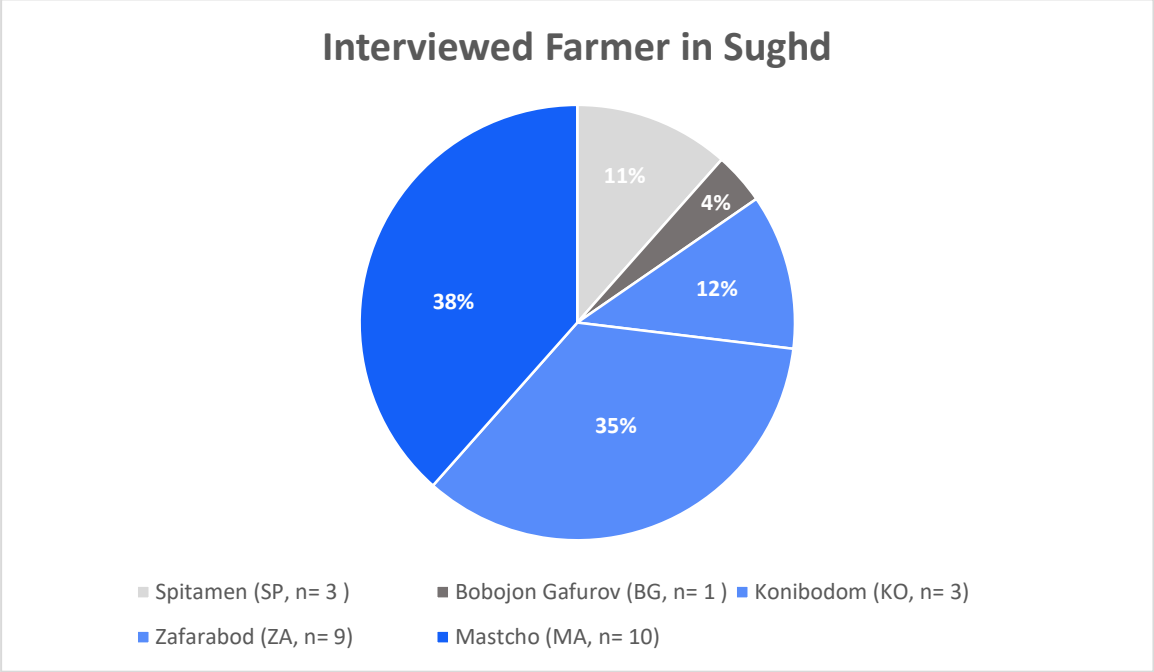

Figure 3 Interviewed Farmer by District in Sughd

The dekhan farm system in Tajikistan is based on a shareholder organisation and called collective farm.

An informal categorization differentiates individual dekhan farms (one shareholder only), family dekhan farms (shareholders belong to the same family, possibly consisting of more than one household) and bigger collective farms. Cooperatives are another legal entity not often chosen.

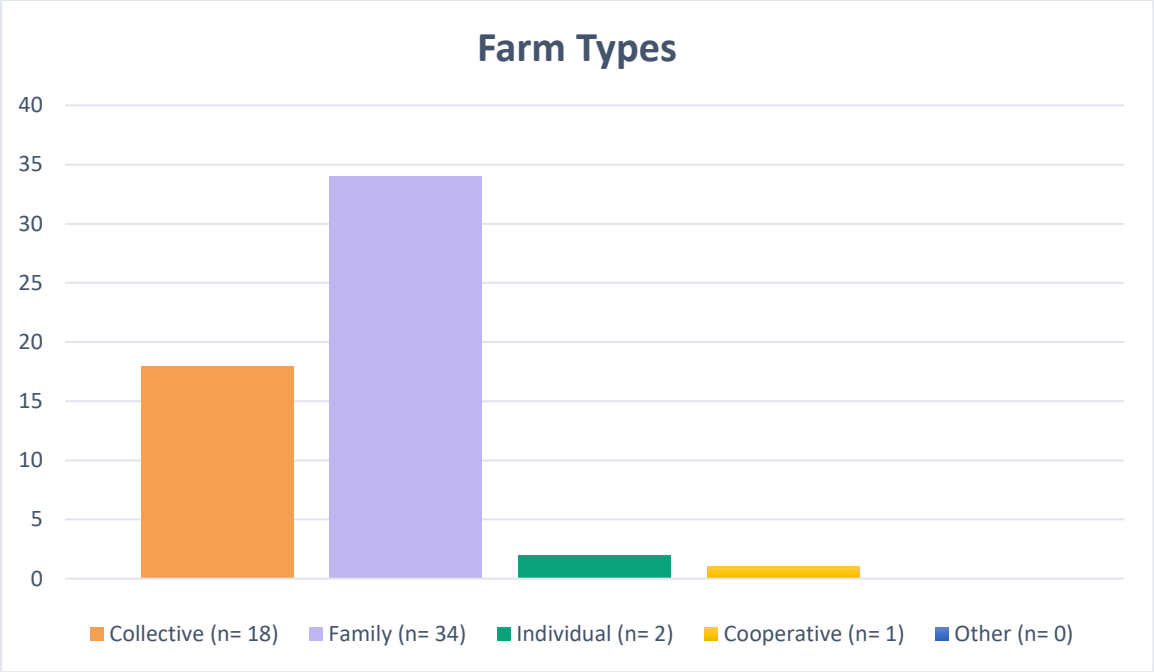

Table 1 DF by Type

The number of shareholders reflect table 1 with family farms being the biggest number (with a range from 1 – 9 shareholders) and the average above that referring to the second biggest type (collective dekhan farms).

Shareholders (Average)	From Least – to Most	Range of Most Common Number
13,5	1—180	1—9

Table 2 Shareholder per Farm – average and range from least to most, indicating the most common numbers

Average Acreage in Hectare	From Least to Most	Range of Most Common Hectares	Most Common Size
14,53	1—200	1—8	3

Table 3 Average Hectare per farm with Range from Least to Most, indicating the most common numbers

The most common farm size is three hectares, and the most common range is from one to eight. The arithmetic average reflects the fact that there is one third of the total interviewed farmers managing bigger collective dekhan farms.

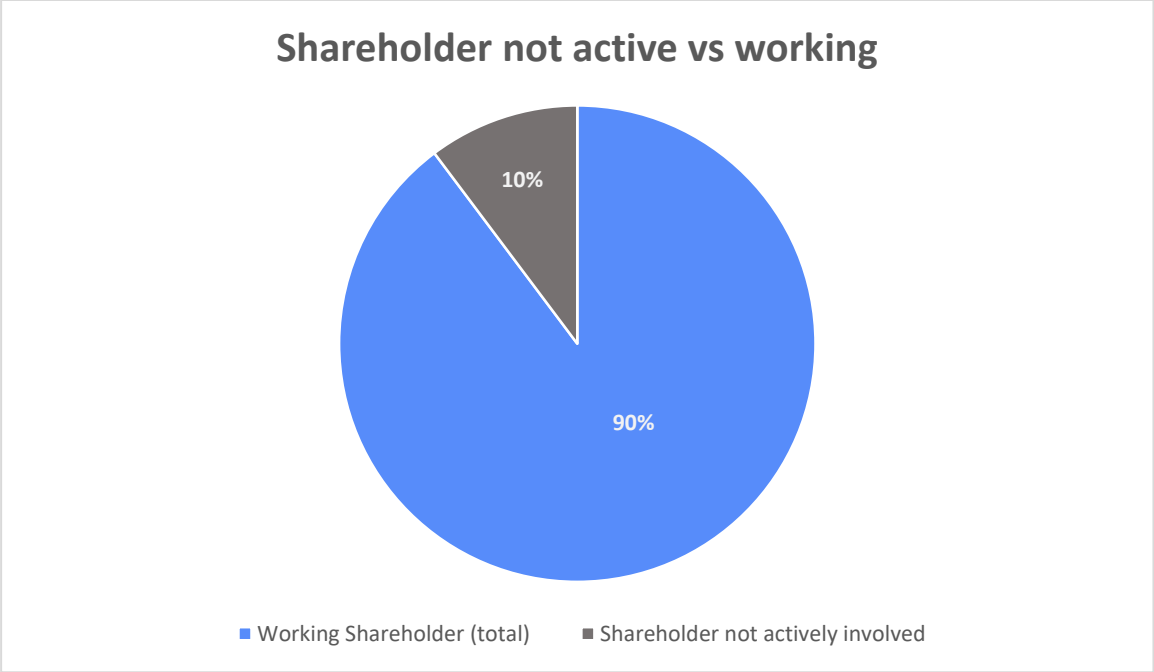

Figure 4 Shareholder not active vs working

The number of not active shareholders is reasonably low. The focus for any project intervention should be on fair participation and transparent profit distribution (see also question 6.6).

Questions 2.1 – 2.8 Agronomic Data

Informal information refers to a state order for a 60% cotton ratio in arable land. The results from the interview evaluation are similar. A reduction below the 50% threshold is advisable for sustainable practices with a cotton ratio of 33% being a preferred long-term target.

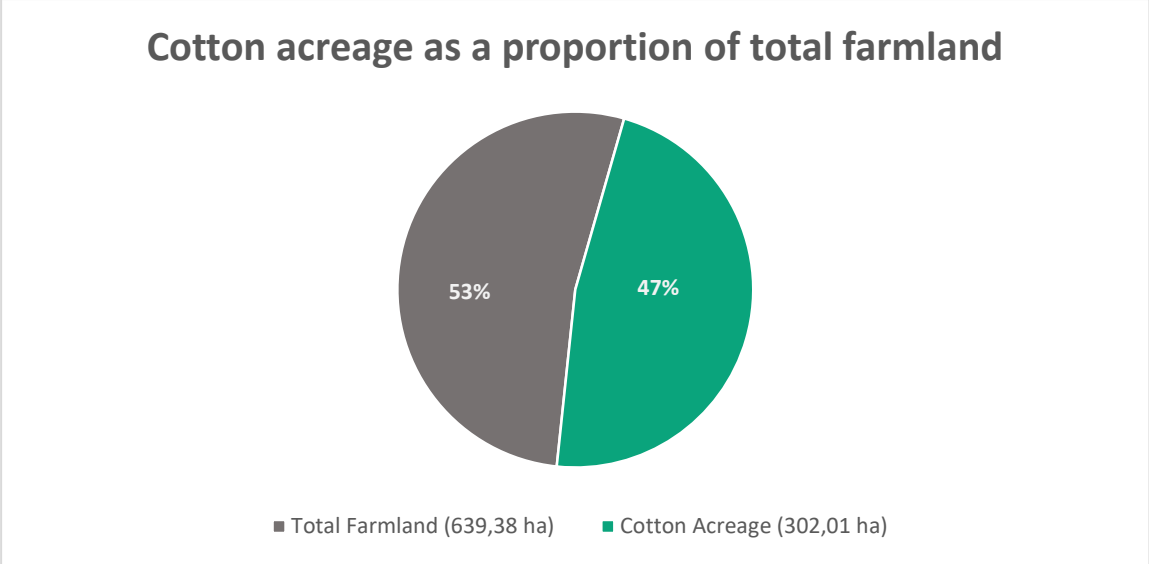

Figure 5 Cotton Ratio on Farmland

Konibodom: Farmer 41, Aripov Kimsanboy, gives figures on cotton yield for last 3 years but has cotton on most of his land -> likely no full crop rotation happening although reported. Farmer 43, Ergashev Naim, reports pressure coming from Hukumat[1] to grow cotton resulting in non-compliance with

[1] The reason for farmers reducing the area under cotton is the decrease in cotton price on the global market, and therefore pressure comes from Hukumat to increase the area of cotton fields

organic and best practices. Cropping patterns seem a rather weak point still as decisions on which crop to cultivate are often based on financial situation (cash flow, market prices) and informal „orders“by influential people on cotton acreage wanted in districts. Only some farmers follow a proper crop rotation usually based on cotton – wheat/maize – alfalfa. One (existing) organic farmer in Zafarobod (no 33, Egamov Khujanberdi) elaborated on his crop rotation which also is reflected in the acreage reported and increased cotton yield over the past three years. Farmer 38, Noruf Rustam, has more divers cropping system with higher alfalfa ratio which is also reflected in higher yield.

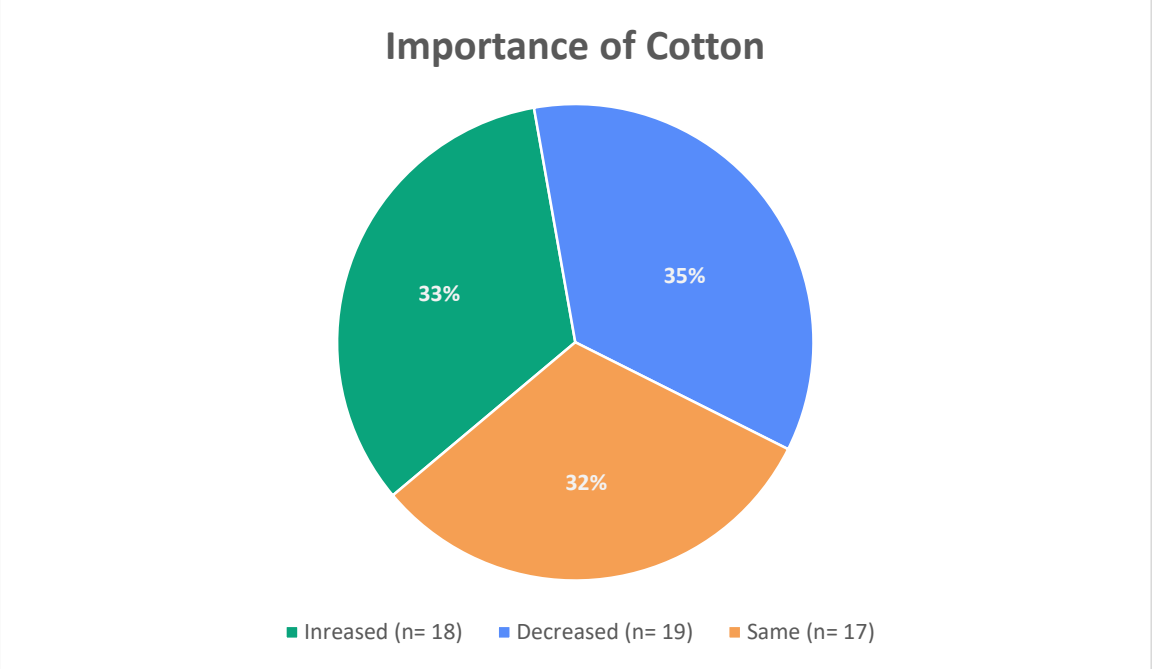

Figure 6 Importance of Cotton

Questions 3.1 – 3.4 Best Practices

Average Cotton Yield, (2022-2024, n= 44, ton)	Lowest Value	Highest Value	Distribution around the Mean (standard deviation ± 0,42; 2,54—3,38)
2,96	2,15	4,0	52 %

Table 4 Table of average cotton yield over past 3 years with range from lowest to highest

Question 3.1 & 3.2 Soil Analysis

Only very few farmers (6 out of 56) report having had soil analysis done on their fields in the past 3 years. In some cases, this was commissioned by local Hukumat, but results not shared or still pending with no recommendations provided; others (2) reported that soil analysis was organised by Sarob with recommendations given resulting in improved yield.

One farmer (no 51, Juraboev Soir) in Quoboddiyon gets soil analysis every year.

Soil analysis with recommendations on fertilization schemes and other soil improvement practices is an important first step on the way to more sustainable agriculture practices, thus should become an integral part of any project intervention together with other elements of regenerative and climate sensitive agriculture.

Question 3.3 Bio Control Methods

Mastchoh: Interviewed farmers give a mixed feedback for bio control methods with some farmers fully relying on them, others use both, agro chemicals and entomophages, and one farmer using GMO seed (China origin) does not use chemicals due to the fact that the GMO cotton is resistant to the bollworm.

Kulob/Vose: No bio-laboratory present in both districts thus hardly any entomophages in use. Some farmers report using home-made liquids with walnut leave and other plant extracts as a biocontrol.

Zafarabod: Farmers associated with Bio-Kishovarz rely on bio control measures (enthomophages) and are supplied by them or get from neighbouring Uzbekistan.

Farmer 51, Juraboev Soir, in **Qubodiyon** received training on bio control by Sarob but does not use up to now. He says that when neighbours apply chemicals this will hamper effectiveness of bio control measures.

All farmers in **Konibodom** rely on bio control and buy from local bio-laboratory run by a woman.

In summary, different regions rely on different methodologies. Reasons for this are partly historical (Konibodom managed to up-hold bio-laboratories) or due to project interventions (e.g.: organic in Mastcho in the past and Zafarabod up to today). Around 50% of interviewed farmers apply bio control measures as part of their pest management practices.

Question 3.4 Minimum Tillage

Hardly any minimum tillage or other non-turning and/or shallow cultivation technique in irrigated cotton was reported during interviews in all visited districts. One farmer in Zafarobod applies it after cotton when preparing for barley using a disc harrow.

Only very few farmers cultivating rain fed wheat in Kulob reported using a disc harrow instead of plough.

Conclusions and recommendations on questions 3.1-3.4 are in chapter 3.3 of this study.

Questions 4.1 – 4.4 Water Stewardship

Question 4.1 | 4.2 | 4.3 | 4.4 Water Measurement

Zafarobod: Farmer 33, Egamov Khujanberdi, reports that he attended Sarob Winter School trainings and now applies irrigation water more consciously (shorter hours, using own borehole). Other farmers using water from canal report water shortages, and volumes distributed through Water Usage Association (WUA) are decreasing. Interested in drilling boreholes, asking for financial support.

4,4: water savings technologies are often known: drip irrigation, alternate furrow irrigation, nighttime irrigation are mentioned by many farmers. However, this does not necessarily mean that they are implemented! For nighttime irrigation, farmers in Kulob point out to the fact, that they often do not get water at their preferred time, but must use it when made available. Water measurement does not happen in general, not many farmers know about the irrigation norm for cotton on their land (set up during Soviet time) although both data would be easily available from WUAs.

Lots of water is available from river Jakhsu in **Kulob** which may sometimes result in over-irrigation. Farmers told us that the water was contaminated from a gold mine uphill. The contamination consists

of mud as well as mineral and chemical residues of unknown quantities in the irrigation water and is a huge concern in the villages in question.

One farmer there reports a good practice with fertilizer application: he does not apply fertilizer in irrigated furrows (using alternate furrow irrigation) in order to minimise fertilizer wash-out.

Mastchoh: Has in general a good water supply (pumped into 2 big canals from Syr Darya river basin), but some farmers report distribution problems or even do not get water from the canal but rely on borehole pumped water. In one case, there is not enough water if and when needed as the borehole belongs to the neighbour.

When farmer 45, Begmatov Karim, was asked on his decision-making power when to irrigate: his answer is no, he does not have.

Farmer 49, Rasulov Qadriddin, in **Qubodiyon** reports water shortages, starting in summer (he is a WUA representative); reports irrigation systems with piping (similar to drip irrigation, but without nozzles).

Farmer 51, Juraboev Soir, does drip irrigation in vegetables for 2 years; demonstrates for neighbours -> peer review happening already!

Conclusions and recommendations see chapter 3.3 (page 21 ff).

Question 5.1 Biodiversity | Natural Habitat Improvement

Almost all farmers refer to mulberry trees as natural habitat improvement, and many add other fruit trees to the list as well. This does not necessarily mean that there is an ongoing planting of those trees but rather that there is such. Few farmers referred to flowering alfalfa in the cropping system which attract insects.

Kulob: When driving to the village for interviews, we saw many sorghum and maize rows/plants within the fields providing shade to tomato crops, adding biodiversity and potentially serving as buffer stripes. We were told that these crops are needed for feeding animals as well as making brooms. This example highlights the possibility of doing something on biodiversity on and around the fields at the same time being of economic importance!

Conclusions and recommendations see chapter 3.3.

Questions 6.1 – 6.5 Finance

Question 6.1 Cotton Sales

Different from cotton sales in the past, when farmers in Soghd often sold cotton as fibre (contract ginning) and farmers in Khatlon usually as raw cotton, the situation now is raw cotton sales mostly.

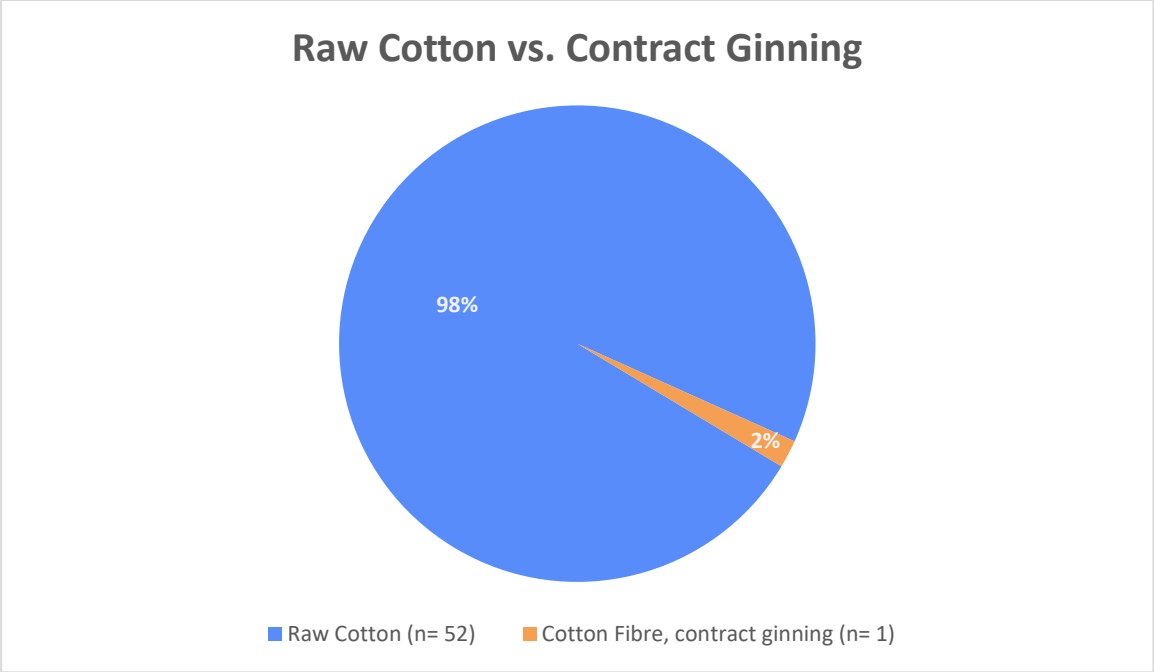

Figure 7 Raw Cotton vs. Contract Ginning

The questions 6.1 – 6.5 concern themselves with pre-finance in cash and/or in kind, loans taken by banks or private people. Bank loans are usually between 19 and 36 % annual interest rate depending on farmers' collateral and/or credit history.

12 interviewed farmers out of 54 rely on pre-finance in cash, 32 take in-kind (seed, fertilizer) from the cotton buyer (gin). Looking at the regions, it appears that in Soghd the majority takes in-kind pre-finance, whereas less than 50% of farmers in Khatlon use in-kind pre-finance. Both regions report same result on bank or private loans with around 50% using it.

Question 6.6 Profit – Loss Distribution Shareholders

In many family dekhan farms all shareholders work and profit is shared after sales mainly.

The answer to question 6,6 (How do you distribute income / profit or loss with your shareholders?) indicates whether or not the shareholders are treated / behave like entrepreneurs or rather like employees. In case of answer „Percentage"it must be interpreted as entrepreneurial acting, whereas „Salary"is indicating an employer – employee relationship. The „percentage"often was explained with sharing harvest volumes (wheat/barley; straw; etc.) or land allocation for own usage (e.g.: Farmer 44, collective dekhan farm). Whether or not this is a fair distribution per shareholder or sometimes may be based on work input by shareholders (like a salary), could not be evaluated in depth. However, there is a risk that any cash profit may thus go the managing head of the farm. Most absent shareholders are not benefitting except for one farmer stating that there is pre-finance by the migrant shareholder and this will be returned and rewarded. Such may be considered a private loan rather than profit sharing.

It must be admitted that information on the actual ownership and decision-making including profit distribution, does not always become clear when interviewing farm representatives. Informal and anecdotal evidence retrieved during interview sessions is the following: shareholders from neighbouring farms or seasonal workers often help each other during peak times without clear cut payment. It rather works like „I help you – you help me"or „I do you a favor, you owe me one another time ". This principle is applied inside the farm situation as well and fairness depends on the people

acting. It may in times be abused by individuals but works by in large. Such is quite typical in subsistence agriculture as cash usually is scarce.

Zafarobod: farmer 36, Juraiev Hamsa, has 1 shareholder as working migrant who also finances the farm activity and thus receives profit share after sales. Farmer 37, Mirzoev Dilmorod, on family farm with 7 shareholders does not share.

Farmer 45, Begmatov Karim, is last man standing organic in Bobojon Gafurov. He reports 300 $ less input cost ($ 700 total instead of $ 1000) which balances lower yield if sales price is with organic premium.

Questions 7.1 – 7.6 Decent Work

Knowledge on Minimum Wage is outdated, often the answer was 400-500 TJS, but minimum wage was 800 TJS per month as of August 2025 and now officially set to 1000 TJS/month effective September 1, 2025. Farmers in Kulob district knew the actual Minimum Wage, probably because the first farmer to be interviewed had shared his knowledge with the others. This is a nice example that doing a base line interview sometimes has the unintended effect to already result in positive project impact as well.

Focus Group Discussion (FGD)

The focus group discussion (FGD) in Soghd consisted of representatives from implementation partners (Sarob and Bio-Kishovarz), input suppliers and consultants. The second FGD in Khatlon was of a different nature as the participants were representatives from an informal group of farmers organised by a consultant and input supplier with interest in biological fertilizer and soil improvement methods.

1. FGD on Monday, August 18 from 09:30 – 12:00 in Sarob office in Khujand (Soghd):

Participants:

Sarob – Tahmina Sayfulloeva, Gufronjon Ayubjonov, Alisher Abdullaev, Orifjon Mansurov

Bio-Kishovarz – Akbarkhon Mansurov

Arshi Somon (Input Supplier) – Shavkatjon Yusupov

Agronom and service provider (soil analysis) – Akram Kamolov

FGD questions:

Where do you see big potential for sustainably produced cotton in the next 3-5 years?

a) …. for farmers?

Sustainable cotton may contribute to an improved income situation; the state program on reduced electricity prices during vegetation period helps farmers already; a state program with minimum prices for cotton (like in India, China or for wheat in Kazakhstan) would help; farmers organised with Sarob and Bio-K use same/similar seed -> better quality of fibre helps to get higher prices; there is a potential to scale for better cotton / FairTrade farmers; the challenge of reduced gross margins has potential for more organic and better cotton as fewer (IPM) / none (organic) agro-chemicals and mineral fertilizer are used.

b) …in international markets: exporting which product group to - Russia | Western Europe | China | Other?

Organic: there is a potential to sell to China and Uzbekistan at premium price for certified organic fibre;

Better Cotton: overall quality (except for micronaire) of fibre is very competitive and a high demand for certified better cotton from Tajikistan exists; targeting Pakistan markets in future as physical traceability is possible in Tajikistan already, but not yet in all places in Pakistan.

FairTrade: Important for organic because of additional premium and better marketing; for better cotton because of minimum price agreed with gins plus Fairtrade premium; good market potential is seen for FairTade + organic / regenerative cotton fibre.

Where do you see challenges for the Tajik cotton sector?

a) …. political sphere

Informal influence to grow cotton (60% of irrigated arable land) still exists although sales prices go down and input prices go up -> government still uses total cotton ha as an indicator instead of looking at productivity (produced volume of cotton in country); political tensions between Kyrgyzstan and Tajikistan in the North negatively impacts on irrigation water supply;

b) …. taxation

Flat tax for farmers 2000 TJS/ha[2] (5-6% on turnover) is high when gross margin on cotton shrinks;

Input supplier: 21-22% import duties, plus 7-8% on turnover for retail is not helpful for official agro-shops as they must compete with still existing informal market actors-> biggish volumes are still coming to the country (Kyrgyzstan, Uzbekistan) illegally but not as much as it used to be.

There is no tax exemption scheme yet for processors to incentivize investments for fabrics and ready-mades.

c) …tariffs

A 10% export tax for fibre and all textile products plus a 4% export „rent"(increasing to 6% in 2027) for fibre and yarn for all countries on top hamper any activity to support in-country processing.

d) …. economy

Other crops often result in higher gross margin if average cotton yield is around 3 t/ha. Target for economically viable cotton production should be for both standards 4+ tons/ha.

e) …input Supply

Water scarcity increases, more farmers drill boreholes and take (salty) water from groundwater table; Kyrgyzstan does not supply same volumes as was happening in the past (2 instead 8 cbm/sec); Quality seed supply is possible, but financial viability often a problem; there is a different situation for organic farmers; a mixing of different seeds results in quality issues in fibre; up to now, not enough quality seed is available / imported yet; in-country seed breeding and multiplication is not well regulated and supported by the government; because of shrinking gross margin in cotton production, farmers buy less fertilizer and agro-chemicals resulting in lower yields (traditional farmers);

f) …in which part of the value chain: Production | Ginning | Spinning | Weaving | Dying |Ready-Mades?

Labour availability in some regions is seen as a problem (seasonal labour during harvest for picking); for organic no processing happens so far in Tajikistan.

g) …international markets: exporting which product group to - Russia | Western Europe | China | Other?

[2] This is a quotation taken from participants. A cross check reveals that it differs from region to region and crop. A more accurate picture can be found in the Tajik Government resolution No 206 (see GIZ sharepoint)

Organic: since 2022 difficulties selling as organic fibre at a higher price to European markets (only 50 tons out of 500 tons);

Better Cotton: There is interest from Pakistan in buying Better Cotton in large quantities. The micronaire of Tajik fibre is still a quality issue. Overall, the transport costs are not competitive due to the country being landlocked.

FairTrade: Market volumes are declining for traditional products, but there are more requests for regenerative certification combined with Fairtrade certification.

2. FGD Bokhtar August 26, 2025

Participants:

Nazarov Roziboy (Yovon, tel. 9337778150); Agronomist running own dekhan farm (7 ha); Rustamov Najmuddin (Levakand city); agronomist running own dekhan farm (5 ha); Karimov Salim (Vaksh district) running own dekhan farm (15 ha, fruit orchard and cotton); Ashurova Ziyoda (Jaihun district close to Afghanistan) female head of dekhan farm Rakhmonzod (3 ha); Khaitov Bakhriddin (Bokhtar city) dekhan farm Kurbonalion (10 ha); Irisbekov Niozbek (+998 90 993 3897); Oripov Safarali (Kushoniyon district) dekhan farm Kurbon Alijon (25 ha); he knows Negmatjon (GIZ) and pro-actively asked for a meeting; he also has a contact to a Georgian based company Geofert LLC, selling Geo Humate – a humic, organic-mineral fertilizer with microelements; other participants cooperate with Safarali on usage of organic inputs and worked with Sarob in the past already.

Motivation (asked individually): interest in alternative methods and inputs to replace expensive and inefficient mineral fertilizer; cost saving; higher yields (5 mt/ha!?); no soil analysis done in past three years; higher humus level reported (1,8% instead the usually below 1% in other places) as some samples have been taken by Dushanbe based institute.

Potential for producer groups in districts:

All Yovon district reduced agro-chemical usage a lot already, Roziboy knows Ecom gin (went bust in 2013) participating in Better Cotton scheme then; worked with Sarob on Better Cotton and FairTrade in the past;

Safarali: legal status of company „Bokhtar Sozanda“ (building company) also selling inputs including seed is a LLC, owner is him and his son; others are informally organised customers, totalling to 1238 farmers/households;

Ziyoda: is a female head of dekhan farm; only few other farmers in her district take up new approach; is also head of local NGO (women) in her group a total of 6000 ha household gardens and farmland organised;

Bakhriddin: reports better crops, fewer boll losses, earlier harvest, more income from cooperation with Safarali; interest from neighbors rises; more agronomists wanted in his district;

Salim: cooperation with Safarali for 4-5 years, reduced agro-chemicals to 0 and mineral fertilizer to a certain extent using organic manure (beef cattle farm); uses Safarali products, but no enthomophages.

Expectations (it was made clear by the contractor that not all wishes will be fulfilled)**:** support from GIZ on more sustainable practices in line with Tajik strategy; soil analysis; promotion of sustainable practices in all Tajikistan; study tour to Georgia where BioHumus is produced; exchange programs for young adults making practical experience on organic in Europe; tools for soil humidity measurement etc.; knowledge on innovative cotton production; support on bio-laboratory; training centre for innovative and sustainable best practices.

3.2 Logframe Validation

Discussions with GIZ management before, during the field visit and afterwards took place on the logframe indicators set „0“as base line for sustainably produced cotton in Tajikistan and target value of 7500 farmers trained at the end of the project implementation. The arguments and different perspectives for the base line indicator were exchanged and the GIZ project team then decided to stick to the set values with the addition of yet another 1,000 farmers due to a new project focus on a comprehensive landscape approach reaching a total of 8,500 beneficiaries.

These target values are considered realistic and achievable, particularly because of the fact that a substantial number of farmers are already trained on sustainable practices, both organic and BCI, but needing continued up-dates because of major changes in EU-Organic regulations as well as a recently revised BCI Standard including regenerative agriculture and switching from a licensing model to a certification scheme.

3.3 Recommendations

The below following sub-chapters aim to structure the conclusions and recommendations drawn from the farm interviews, the Focus Group Discussions (FGDs) and information gathered during informal communication and desk research before and after the field visit.

In general, the situation in rural Tajikistan with a young and growing population is fitting the small farm's structure and openness from farmers to learn about new methods provides for a good starting point of the new project.

Existing gaps are well educated and qualified farmers with experience on sustainable best practices in agriculture including implementation of water saving technologies. A conducive environment with tax and tariff incentives for sustainable products (including textile processing and input supply) would help the sector greatly. The transition from state-controlled agriculture to a market driven economy based on regulatory guidelines and incentives is still needing further steps to meet the set goals of the National Strategy 2030 (50% sustainable cotton in Tajikistan). This can only be achieved if other value chains for agricultural products within the cotton cropping system will be developed and local, regional and international markets targeted.

Learnings from FGD and Farm Interviews

State policies on production area for cotton (ha) is not helpful as it limits farmer´s freedom to farm. There is a clear (negative!) correlation between farm productivity (yield/ha) and this state interference as a farmer who does not see the economic benefit of growing cotton will not invest in fertilizer, machinery or other. This likely will result in lower yields; thus farmers get even more demotivated... If government puts a focus on produced volumes of cotton instead, the farmer will diversify his cropping system and likely will generate more income from several crops, hence also can start investing. Chances are good that the productivity of the remaining cotton hectares will also increase thus reaching the set target (metric tons total in Tajikistan).

As an example, an organic farmer in Zafarobod (No 33, Egamov Khujanberdi) elaborated on his crop rotation including alfalfa for 3 years before cotton, resulting in a growing yield from 2,6 to 3 tons raw cotton, an increase of 15%. The proportion of alfalfa in 2025 is one third of total arable land which confirms his crop rotation statement. A farmer with only 2 - 5 hectares most likely will not implement such a cropping pattern for two reasons: first being the economic reason as the smaller the plot the higher the per hectare cultivation cost. Secondly, withstanding the „order“to grow cotton on substantial shares of his (rather small) arable land will become harder. As a result, cotton is often grown for several years on the same plot. Analysis of the data sets indicates that state orders on hectares are more or less followed, but at the cost of stagnating yields and a loss in soil fertility and biodiversity.

Other changes are recommended on tariffs and taxes as was discussed during the FGD in Khujand. Tax exemption schemes for investments in textile processing and other incentives for more sustainable practices in production and processing have the potential to trigger productivity and help the environment at the same time.

Different from neighbouring Uzbekistan, Tajikistan has chosen a farm model with mainly small to medium sized enterprises. This is positive in a context with high level of subsistence agriculture, available work force and production for local markets mainly, but usually is less competitive in international markets. Improved profitability and economies of scale with a higher mechanization rate requires capital and/or access to affordable finance. This asks for larger farm size or cooperation. Cooperatives are not very popular but could be a useful development together with FairTrade certification schemes, opening promising markets and in the same time help reducing production cost.

Seed**:** there is a lack of high-quality seed from local varieties; a big informal market exists with seeds of unknown origin including GMO varieties without awareness and capacity with farmers to manage properly is a high risk for resistance build-up (Bollworm) in future!

The existing maintenance breeding scheme done by Akbarkhon Mansurov (age 66) in Bio-Kishovarz is a good example of how this could be done but needing additional resources: younger staff to eventually replace him and more varieties added to the Khujand 67. The Bio-Kishovarz now manages to provide almost enough quantity (280 tons) for existing organic farmers, but not all buy from them

as they sometimes prefer other varieties and also are located far away from Zafarobod plus receive pre-finance in kind from the gin in their district Konibodom. Ideally, it would need several schemes spread out in the regions of project implementation (decentralized), each with the following capacities/stakeholders:

- Agronomist/expert with experience in seed selection and maintenance breeding schemes
- 1 farm with best practices to produce elite seed for up to 3 different varieties
- 2-3 farms with best practices for high quality cotton production and enough hectares ensuring the needed quantities (e.g.: 1 ha at 4-5 tons yield provides for around 1,5 – 1,8 tons seed enough for 15 – 18 ha at a sowing rate of 100 kg/ha and 60+ ha at sowing rate 25kg/ha when de-linted/encapsulated using precision seed drill).
- Mini gin or best quality gin with capacity to produce seed including calibration and packing facility

Obviously, existing facilities, including state seed farms could engage here, coordination and quality control must be ensured by local project implementation partners and technical assistance by GIZ provided if and when needed.

Bio-Kishovarz has tested seed encapsulation in the past. This is especially important in organic agriculture but may be useful in regenerative (better) cotton practices as well for two reasons:

1. Hairy seed (not chemically de-linted) is often used in Tajikistan but does not work in modern pneumatic precision seed drills resulting in high sowing rates and extra manual labour for thinning after germination. When encapsulated seed is used, sowing rate can be reduced significantly thus saving money and labour (cost).
2. Seed encapsulation has the potential to protect the seed from fungal diseases and at the same time add nutrients and phyto-stimulants thus bridging the gap after germination when the seedling cannot feed on seed nutrients but does not yet have enough roots to feed from the soil nutrients. This stage is a typical stress factor for any plant and can be mitigated with suitable seed encapsulation.

Water Stewardship**:** is not very well developed with almost all interviewed farmers. This makes it very important for the project implementation to put a strong focus on –

- Improved awareness on water volumes used, measurement devices and active engagement of water user associations (WUAs) as these usually know the volumes and take decisions when to direct water to which field. The now existing farm practice is often enough based on „the more the better“if and when water is available.
- Water saving practices based on plant and soil needs (soil humidity measuring devices; plant observation). This starts with alternate furrow irrigation, night irrigation, short furrow, and includes drip irrigation systems but should be complemented with soil humidity monitoring devices.
- Soil water holding capacity improvement (cover crops, green manure, mulching, animal manure, plant coal and other hydrogels.

Regenerative Agriculture**:** is part of the revised Better Cotton Standard. Other internationally recognized certification schemes on regenerative agriculture are also available. There is growing market demand for this quality together with FairTrade certification and Sarob is planning to enter this supply chain. The concept of regenerative agriculture is also of high relevance for organic farming practices as it provides insights into the ecosystem flora-fauna-soil to minimise plant stress, to reduce weed and pest pressure and to strengthen the plant metabolism for higher effectiveness (increased input-output ratio of applied fertilizer). A handbook on Regenerative Agriculture in cotton has been

developed (in English, Russian and Uzbek language)[3] in the framework of the Global Program on Sustainable Value Chains in Uzbekistan and shared with Sarob. The soil institute and laboratory of Gulistan University (Prof. Kushiev) was involved in activities on regenerative agriculture in Uzbekistan and may be useful on soil and plant analysis, recommendations on seed encapsulation and phyto-stimulants together with liquid fertilizer applications (macro and micronutrients). Prof. Kushiev was born in Tajikistan and already met with Sarob representatives which opens pathways for future cooperation on regenerative agriculture in Tajikistan as Gulistan University is not far from the border to Tajikistan (Sughd oblast).

The interviewed farmer No 6, Ziyoev Abdujalil, reported that he had a leaf analysis of cotton plants done by a Khujand organisation, the cost was 150TJS/ha, with recommendations provided on nutrient supply/demand, and including micronutrients (bor and iron were mentioned). This is highly recommended by experts in regenerative agriculture as well, because it adds to the information on soil nutrient content the information of what the plant, in fact the system soil-microbes-plant, can make of it. If there was stress on the plant (water, temperature, sunlight, pest pressure, but also to little bioactivity in soil) the plant metabolism cannot work at full potential. Aim must be to create a balanced system by reducing stress factors where and whenever possible.

Farmer Ziyoev Abdujalil from Vose district, farmer No 17, Sangakov Saidakhmad, is an existing Sarob farmer and Farmer No 19 (Odinaiev Abdukodir from Kulob district). All three may be candidates for any Sarob Better Cotton intervention and may have good capacity to act as leader of a learning group in their respective region. Same or similar applies to Farmers 53 to 56 in Shahrituz (Juraev Ismoil, Saidaliev Nasir, Ismoilo Sherali, Ustunokulov Khol) who work closely together; farmer 53 is agronomist and operates an agro-shop (Neksigol representative). These three are potential partners to develop a now informal group of farmers into a cooperative structure for regenerative/organic + FairTrade.

Integrated pest management for traditional farmers and zero usage of agro-chemicals (pesticides, fungicides and herbicides) in organic should become the “new normal” in all project intervention areas. This requires more efforts in good quality production and provision of biocontrol means (enthomophages et alii) in Tajikistan. Special attention will be needed in Khatlon region as almost no bio-laboratory seems to exist and only very few farmers have access to such yet.

Another key element in regenerative agriculture is a shallow, non-turning soil cultivation and green cover in-between main crops as much as is possible under the given climatic conditions. Composting of organic material from green manure ideally takes place on the field (instead of compost heaps outside) supported by phyto-stimulants, humic acids and compost tea preparations (farm-based production is possible). For weed control in organic agriculture recommended is shallow ploughing (15 cm max.) and fine harrow afterwards in spring. Intercropping in cereals (wheat, barley) is highly recommended for two reasons: firstly, to increase the diversity of flora and fauna for better soil fertility and secondly to improve the fodder-quality of the harvested straw.

Thesis: start with regenerative + FairTrade certification in Soghd district using former organic farmers (-> Bobojon Gafurov) and add organic certification as soon as market as organic with premium is again possible. Add other regions (Bokhtar, Sharituz) if and when implementation partners have the necessary capacity to do so but carefully observe market demand side as well (Pull factor!).

[3] See also in MS SharePoint, the handbook was uploaded in three languages

Implementation Partner Assessment

Both implementation partner organisations (Sarob & Bio-Kishovarz) were founded with support of GIZ in 2012/13 and are well established. Apart from working with GIZ, both organizations have experience in working with other donor organisations as well as doing commercial activities.

Sarob has added a commercial LLC on input supply (mainly seeds and machinery) owned a 100% by the non-commercial cooperative. Bio-Kishovarz has chosen a different approach with the innovation centre (cotton seed oil)[4]. Both companies (processing of cotton and the innovation centre) have close ties to the manager of the cooperative and others, a common feature in Tajikistan, thus should be carefully audited for due diligence when further investment is planned by GIZ.

Sarob generates some income (commission fee $ 5 per ton) as agent and service provider on sales of licensed Better Cotton volumes, whereas Bio-Kishovarz uses a company doing the ginning and marketing.

Sarob was able to bridge the gap from the last GIZ contract period to the soon starting new one (end of 2024 to end of 2025) using set aside funds from previously generated income linking producers with buyers of Better Cotton so that all staff is still on the pay rolls and actively working. Bio-Kishovarz could not sell the cotton produced by their members as organic with a premium price. Some of the previous staff are now working self-employed and can be contracted or again enrolled by Bio-Kishovarz.[5] The cooperative follows a cost-effective approach by employing personnel on a seasonal, needs-based basis. Particularly field staff for the ICS, whose involvement is only required during the cotton growing season. Currently, like many other cotton producers, BioK is facing challenges in providing the same level of support to farmers as initially planned. Nevertheless, Bio-Kishovarz continues to successfully manage its operations through a risk-mitigation strategy: thus, in the 2025 season, Bio-Kishovarz was able to cover all certification-related costs, including the remuneration of ICS staff, and successfully obtained the organic certification.

Processing and Marketing Opportunities

Further processing and marketing of sustainably produced cotton and products from rotational crops has the potential to add value and increase farmers' livelihoods. This holds especially true for organic farmers as export of certified organic products at premium prices is unlikely in the foreseeable future. Processing of cotton seed to oil and other rotational crops like peanut to peanut butter or pumpkin seed to oil and roasted seeds can be marketed in Tajikistan. This is crucial to justify the certification cost and make organic production sustainable.

Better Cotton will change the now existing licensing model with mass balancing possibility to a certification scheme and full physical traceability from 2025/2026 season onwards. This will result in product labelling and much higher visibility of Better Cotton for the consumer in the years to come thus demand for Better Cotton fibre and products will increase. As Better Cotton loses farmers and cotton volumes in Pakistan for various reasons, interest to source Tajik Better Cotton is growing which makes it viable for Sarob to now extend their activities to new districts and increase the acreage of Better Cotton in Tajikistan in the years to come.

In-country processing of cotton fibre to yarns, fabrics or even garments with market access to European markets is important to add value to the country´s economy in future.

[4] Information provided by Boimamat Uzakov, chairman of the cooperative: LLC with external investors holding a total of 80% of the shares thus leaving 20% for the organic farmer cooperative

[5] Information provided by Akbarkhon Manzurov, organic expert.

Important here to mention are recycling technologies as well, having the potential to add value in yarn production. Up to 50% of cotton fibre from old clothing can be added without quality losses. This means that turn-over losses due to reduced cotton production area in Tajikistan can be compensated by added value in the processing industry because up to 50% less cotton fibre from fields is needed to produce same volume of yarns for further in-country processing or export. A lot of research has been done, and technologies have been developed in the past years in Germany together with textile processing companies and scientific institutions and are ready for industrial scaling-up now.[6]

The above-mentioned instruments to trigger investment and support exports would help the sector and, in fact, the Tajik economy greatly.

[6] https://www.ita-augsburg.com/recycling-atelier/