



***COTTON SECTOR MARKET
SYSTEMS ANALYSIS (MSA)
REPORT – BALKH AND
SAMANGAN PROVINCES;
AFGHANISTAN.***



**ROADS
TO JOBS
(R₂J)
PROJECT.**

**COTTON SECTOR MARKET SYSTEMS
ANALYSIS REPORT IN BALKH AND
SAMANGAN PROVINCES;
AFGHANISTAN- 2017**

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0.1. Disclaimer.

This Cotton Market Systems Analysis Report is a result of a market assessment conducted in October/November 2016 for the cotton value chain in Balkh and Samangan provinces. The report was prepared by Josphat Kashero Mwachunga as the Lead Consultant under supervision and responsibility from the ILO's Road to Jobs (R2J) project in Mazar e Sharif, Afghanistan. The mostly qualitative information presented herein is as a result of data analysis from both primary and secondary sources. Furthermore, the information contained herein is a product of direction from the Lead consultant and does not imply the expression of any opinion whatsoever on the part of the International Labor Organization or CTG Global.

Any errors, misrepresentations or omissions of any part of information or data contained in this document is entirely the limitations of the Lead consultant and should not be attributed as the views of ILO, or CTG Global or the Government of Afghanistan or the donors.

1.0. EXECUTIVE SUMMARY.

Cotton production and its related industries is one of the historical economic engagements of the Afghanistan people that have contributed to livelihoods of both rural and urban households. In the precedent years before the outbreak of the war, cotton production, processing, sales and marketing was one of the major economic and industrial activities for the people of Afghanistan contributing to employment creation and livelihoods of thousands of people. However, the aftermath of the war was marked by a vertical and horizontal decline in cotton as a priority commercial crop. Farmers converted thousands of acres from cotton production to production of the illicit poppy and opium production besides farmer's migration to safer regions away from farms and outside the country.

In the recent past, there have been concerted efforts from both the government and development partners to help improve the functioning of the cotton sector with the aim of promoting decent employment opportunities, increasing productivity and support private sector growth and investments in support services and markets to serve the cotton sector.

Data collection was mainly through focus group discussions with smallholder farmers and laborers. Key informant interviews with large scale farmers, processors, traders and input suppliers were used too. In-depth discussions were also held with officers from DAIL, CARD-F, NEASP, the National Union of Afghanistan Workers and Employees and selected oil processors.

Building on a rapid market assessment conducted in April 2016, coupled by stakeholders' consultations, this market systems analysis document is as a result of an in-depth assessment of key cotton value chain functions and support services including input supplies, extension and advisory, finance, market information, research and development, infrastructure, policy and regulatory frameworks) and cotton sector players that impact the cotton value chains in Balkh and Samangan provinces. This research also documents the key binding constraints that inhibit efficient functioning of the cotton sector that prevent creation of decent employment opportunities across the value chain functions and subsequent support industries. It also highlighted the possible cause and effects of the identified constraints. Among the key binding constraints further assessed include: limited access and usage of improved inputs, lack of access to and usage of new high yielding seed varieties, limited access to acceptable and affordable forms of credit, limited reach of extension and advisory services to farmers, lack of enough good quality seeds for all year round processing into cotton oil and feed and lack of effective products quality assurance and standard schemes.

The study also highlights potential market based interventions that seek to address the constraints identified. Notable among the proposed interventions include: Collaborations and support to MAIL to undertake interventions leading to further development and adoption of the National Cotton Production Policy, support research and development of new high yielding cotton seed varieties, working with market players to improve the cotton seed supply system, work with market players to develop and improve a cotton grading system, quality and standards assurance schemes; facilitating interventions addressing

decent work related issues in health and safety, wage disparities between men and women; support interventions that improve farmers access to extension and advisory services and supporting interventions that address access to finance by market players. However, it should be noted that the R2J project cannot address all the constraints identified. As such, collaborations with other development programs, the private sector, research institutions, tertiary institutions and the government of Afghanistan is highly recommended to consolidate the impact of selected interventions. A number of players were assessed on their willingness and capacity to participate in interventions that address the constraints.

Further, the lead consultant in consultation with the R2J team formulated the envisioned systemic changes expected and formulated the cotton sector vision that the program seeks to achieve as contained later herein.

2.0. INTRODUCTION:

For so many generations in the history of Afghanistan, the cotton sector has been a key driver of economic engagement for many rural households. Cotton is one of the most important industrial and commercial crops grown after fresh and dried fruits¹. Cotton in Afghanistan is grown mainly in the North, West and some parts in the Eastern provinces. The following provinces are identified as key cotton growing areas in Afghanistan: Balkh, Samangan, Kunduz, Farah, Kapisa, Helmand, Herat, Gor, Badghis, Takhar, Jawzjan and Baghlan. Balkh province is currently the largest producer of cotton in Afghanistan with Helmand, Takhar and Kunduz being other large cotton producing provinces. There is also a significant engagement of poor people in the cotton sub-sector in Balkh and Samangan provinces with a good number of poor women, men and immigrants earning their livelihoods from cotton value chain participation either as producers, workers, processors, traders as well as consumers.

During the 1970s and 80s, cotton production, processing, sales and marketing was highly controlled by government in Afghanistan. Prior to the war, cotton growing was done in large scale. The government of Afghanistan and the Food and Agricultural Organization of the United Nations collaborated in supporting the sector through: Provision of improved seeds, subsidized fertilizers, agro-chemicals and provision of technical assistance to farmers.

Due to political and security instability in the country, farmers abandoned their farms and emigrated to safer places in IDPs camps or migrated to other countries. This caused a significant drastic decline in the number of cotton producers and a subsequent decrease in the volumes of cotton production. This was attributed to:

- Reduced government support,
- Drought,
- Declining farm gate prices,

¹ Mahboob, Rahman; Survey Report on Cotton Value Chain in North and North Eastern Afghanistan.

- Increased costs of production,
- Reduction in processing facilities, and
- Abandonment of cotton farming by farmers for safety and security concerns.

From a Rapid Market Analysis that was conducted by ILO in April 2016, it was revealed that the cotton sector in Balkh and Samangan provinces continues to provide an unparalleled opportunity for poor men, women and migrant workers to improve the livelihoods of more rural families and thus enhance the creation of more and better quality jobs for poor women and immigrant households who are the bulk of deprived groups in cotton production.

Poor men and women are also hired by large scale farmers in the cotton fields as labourers. The labourers are working in ploughing, planting, weeding and harvesting of cotton. Women and children are providers of labor for family owned cotton farms and are rarely considered for employment in large cotton fields. The few women employed in large cotton fields are also paid lesser in comparison to their male counterparts for the same level of work. Women working in cotton fields are facing unfavorable working conditions as compared to their male counterparts. They work 12 hours from 6 in the morning to 6 in the evening and get paid less than men. A man doing the same work in the same field receives 500Afs/day while a woman receives between 150 – 250 Afs/day. This is partly because people take advantage of the women's lack of other employment opportunities and an unsubstantiated justification arising from perceptions that women's output in cotton production is lower as compared to their male counterparts. The use of improved seeds for cotton growing has reduced drastically. This is as a result of limited research for new, high yielding and climate adaptive varieties. The seed varieties used by farmers are also variety contaminated as ginners who are the main suppliers of cotton seeds do not sort improved and local varieties during processing.

Local smaller village based ginneries are spread throughout the cotton growing regions as the first step processing. Large scale ginneries are also available in major towns and key cotton growing regions. However, some of them operate below capacity as sources of enough raw materials remain a challenge. Cotton is usually sown in April and May and harvested between October and December, with the result that double cropping is normally not possible on cotton fields. Only in southern Afghanistan is the growing season long enough to allow cotton to be planted immediately after the winter wheat harvest; even there, however, double-cropped cotton is often damaged by early frosts in November, and the yield is less than that of single-cropped cotton

The only current method of harvesting is hand picking, which is very labor intensive (115 person-days per ha). Most of the work is done by women and children, but additional labor is frequently required. The wage rate for picking cotton in Balkh and Samangan is estimated at 1000AFNs for 224 kg (1 bokhar). This is the only kind of work that men, women and children are paid equally base on the number of *bokhar* harvested. After picking, the cotton fields are opened to flocks. The water supply is one of the main ecological constraints on cotton cultivation and also the most subject to annual variability. Unusual floods may temporarily destroy irrigation facilities, but, above all, severe droughts may cause crop failure.

3.0. RESEARCH METHODOLOGY:

3.1. Desk research/secondary data collection.

Currently the volume of secondary data available for review is minimal. This is because reliable data is missing. There is also conflicting information from reports by different organizations. This is because each organization has its own objectives and varying resource strengths to undertake cotton value chain assessments. However, despite this the consultant was able to generate insights of the structure and performance of the cotton sector in Balkh and Samangan provinces, through reviewing a number of R2J reports, documentation and assessments conducted at the inception time namely the Rapid Market Assessment and PACA workshop reports. The researcher also reviewed other cotton value chain assessments done by other programs and organizations like CARD-F and NEASP. Further secondary data information was generated from reports from the internet.

3.2. Primary data collection.

Following the conclusion of a one and a half days training on value chain and market systems development approaches, mapping of the cotton value chain support functions, rules and regulations and identifying key market players in the cotton value chain, a participatory approach was applied to generate information needs and develop the data collection tools. In here, the team of 8 data collectors, two data collection supervisors, two Local Economic Development Coordinators, the Market Systems Development Officer and the Consultant spent one and a half days on further brainstorming and generating practical and current information needs of the anticipated inclusive market systems analysis and developing the data collection guides. Three other days were spent pre-testing and reviewing the data collection guides and information needs before finalizing for field data collection.

Primary data collection was conducted using the following data collection tools:

1. Key informant interviews with key players in the cotton value chain which included 18 inputs suppliers, 13 large scale cotton farmers, 11 cotton oil processors, 20 ginner, 6 exclusive soap manufacturers, 2 officers from DAIL, 3 officers from NEASDP, 1 officer from CARD-F and National Union of Workers and Employees (NUAWE) – Mazar e Sharif.
2. Focus Group Discussions: 10 focus group discussions were held with a total of 79 smallholder farmers in Balkh, Mazar e Sharif, Dawlat Abad, Aybak and Hazarat Sultan Districts.
3. Direct field observations

3.3. Sampling Procedure:

Joint discussions between the consultant, project team and data collection enumerators agreed not to use the sample size calculator to determine the sample sizes of different value chain functions. This is due to lack of reliable cumulative data, the time period and the total number of data enumerators required for a complete survey. As such a random sample was chosen from each value chain process as follows:

- i. Inputs Suppliers 18
- ii. Producers – Small-scale farmers 79 & Large scale farmers , 13
- iii. Processors 38
- iv. Trade and marketing actors 22

3.4. Geographical coverage:

The data collection districts were narrowed down as follow:

1. Balkh District
2. Aybak District
3. Hazarat Sultan District and
4. Mazar e Shariff city.

These districts were chosen based on the level of cotton production in each.

The team of 8 data collectors were grouped into pairs and assigned data collection regions as follows:

- I. Balkh - Team 1:
- II. Mazar e Sharif city –Team 2
- III. Dawlat Abad – Team 3
- IV. Aybak and Hazarat Sultan – Team 4

3.5. Data collection Time Frame:

Using the above sample sizes, days were allocated for data collection from different actors in the 4 regions as follows:

- i. Producers - 5 days spread as: 1 day for focus groups mobilization, 2 days for conducting 10 focus group discussions and 2 days for conducting key informant interviews with large scale farmers
- ii. Input suppliers - 2 days to administer 16 semi structured questionnaires.
- iii. Processors- 2 days to administer 32 semi structured questionnaires to processing actors including ginners and oil processors
- iv. Trade and marketing actors - 2 days to administer 22 semi structured questionnaires to trade and marketing actors including retailers, wholesalers, exporters and importers.

3.6. Limitations of the study:

- i. Narrow geographical focus of the study only in secure areas in Balkh and Samangan provinces.
- ii. Limited & unreliable secondary data available – contradicting information from researches undertaken by different organizations.
- iii. Security concerns prevented a wider engagement of various value chain actors.

3.7. Scope of Data Analysis:

A qualitative data analysis approach was used to analyze all the data collected. As the questionnaires and discussion guides were administered separately based on the value chain processes, the consultant started data inputting and analysis immediately as they arrived from the field.

Table 1. Data organization and preparation for data Collection, entry and analysis:

Matching Research Tools to Information Sources and Requirements

Information Sources	Information Required	Research tool(s)

Matching research questions with information required to answer the research questions and possible best information source.

RESEARCH QUESTIONS	INFORMATION REQUIRED	INFORMATION SOURCE

Matching research questions, information required, research findings and research question answers for analysis:

Research Question	Information required	Findings	Research questions answers

4.0. RELEVANCE OF THE SECTOR:

4.1. The poor

In Balkh province, the poor people's income comes mainly from crop sales, including cotton as one of the most important crops. Most poor farmers produce cotton as their main source of livelihood or are employed as farm workers in cotton fields. There are other people also deriving their income through cotton related industries and emerging support services either as traders in cotton products, as small scale ginners and as employees in cotton processing units. According to some estimates, around 20,000 farmers are engaged in cotton cultivation in Balkh province (all districts). Relatively large producers (those with more than 1.60 Ha) outnumber the small ones as they account for almost 58% of the producers. In addition some 5,000 poor people are estimated to be engaged in other support services like transporting, processing and sale of the cotton products.

Poor men and some women are also hired by large farmers in the cotton fields. The labourers are working in ploughing, planting weeding and picking. Employment increases during the harvesting months of November to December.

4.2. Vulnerable groups.

Women and children are engaged at the farm level helping the male members of the family especially for weed control, harvesting and small scale trading in cotton products. However, there is a large wage disparity between wage rates favouring men than women and children who are mostly under-paid for the same amount of work. In rare cases women are employed by large cotton producers as there is a misplaced perception that women productivity is lesser than men productivity. Migrant men also find work on large cotton farms, especially during harvest.

5.0.POTENTIAL FOR SIZEABLE AND SUSTAINABLE PRO-POOR JOB CREATION:

5.1. Growth potential

Cotton is the 3rd largest agricultural sector in Balkh province by output value (2008), after pistachio and wheat. It is a good alternative crop when early snows prevent the cultivation of winter wheat. The flow of investments in processing technology and quality is growing, with the emergence of a few large ginneries producing good quality lint (raw cotton fiber). Cotton oil processing companies with good oil refineries have recently continued to be set up as a result of increasing local demand for cotton products. Major products are lint, cotton oil, cotton cake (made from the seeds, for animal feed) and soap (made from waste after refining the oil). However of these products only cotton lint has an international market, mostly Pakistan, where it is converted into textile products. Cotton oil, cake and soap are sold domestically particularly in Balkh province.

There could be opportunities to invest in further processing the cotton lint into yarn and establishing textile factories, as recommended by many of those interviewed. There used to be a government owned textile factory in Mazar during the Soviet era. The factory hired a large number of people then but was destroyed during the civil war. According to officials of the department of agriculture in Balkh, if the textile factory is rehabilitated, it will create job opportunities for many poor people.

There are some important constraints on growth. The cotton price has decreased from 16,000 Afs/Bukhar to 8,000 Afs/Bukhar (Bukhar is a local unit of measurement equal to 224 Kg) over the last three years, while the farmer's production cost increased due to the high price of inputs especially fertilizers. The yield/HA is very low. This has significantly affected poor farmers. Many farmers said that in the past their cotton cultivation could generate a good income for them, but since prices declined they can make very marginal profits only.

One reason for prices having decreased is competition from China, which is increasing production and exports. Another reason given by farmers and local traders was that Farid Zargar, the largest processor, sets a price which affects the market due to its important position. This factory also provides inputs on credit to farmers and buys their cotton. However, the factory provides loans to large farmers who have credibility with the factory, not to poor farmers because the factory cannot trust them.

The decrease in price has not forced farmers to move to other crops as cotton is still profitable. The main reason is that cotton can be stored for a longer time than perishable crops, without any facility or technology. If they changed to vegetables or other crops it would still not be as profitable as cotton is.

Yields are low. According to cotton experts in different programs and organizations, the current yield is 2 Bukhar per jerib which can be doubled and increased to 4 Bukhar per jerib. The reason for low yields is the lack of knowledge of farmers on cultivation techniques, low use of inputs, and low quality of seeds.

The farmers sell their cotton to local collectors and ginning factories and buy seeds from ginning factories (after they gin the seeds from cotton fiber). Because of this practice different varieties of cotton seeds are mixed (e.g. early maturing variety with late maturing variety) and when the farmers cultivate these mixed seeds, they cannot get a good yield. The availability of high quality seeds is also limited.

Farmers cannot apply sufficient fertilizers and pesticides as they cannot afford them and their level of awareness is low. The availability of agrochemicals is limited, and many are of low quality or expired. Pest damage can decrease the yield by up to 50%.

In addition many cotton areas in Balkh district do not have access to stream water and therefore the farmers irrigate their cotton fields from agro wells using electric pumps. With this practice farmers spend 5,000Afs/jerib more than farmers who have access to free water from streams.

The post-harvest losses are also very high. Picking cotton needs special skills and machines which farmers in Balkh lack. Cotton is harvested in winter and may be rejected by processors because it is humid. Plastic fibers from bags in which cotton is transported are another reason for rejections.

There is little primary value addition by farmers, i.e. in sorting, grading and cleaning of cotton.

Better use of inputs and improved cultivation and post-harvest practices would reduce farmers' production cost, increase yields and increase profits.²

The capacity of extension services is insufficient to provide large numbers of farmers the necessary training and advice.

There is no access to (Islamic) finance which would enable farmers to purchase seeds and other inputs. Currently farmers borrow from traders and collectors who give them a low price for their cotton.

The quality of cotton oil is very low because almost all of the oil processing factories lack a refinery facility. Moreover, according to the consumers in Mazar, local producers mix it with a chemical named caustic soda which is harmful to health and therefore many people do not want to buy locally produced cotton oil. The local oil is not standardized or certified by any recognized certification body, which some expressed as a need. It is also not known how hygienic practices are as there is little oversight from the government. The market for the oil is therefore only among the poor, and there is currently no export potential. The price of local cotton oil is equal to the imported edible oil.

Cotton cake, which is a by-product of oil processing, is increasingly being used for animal feed.

These processors face constraints with the availability of the cotton seeds, especially in winter, and seeds not being well separated from the cotton. Finance to improve their equipment is not available.

Like other sectors, investment in cotton suffers from the worsening security situation.

There is goodwill from the government of Afghanistan, private sector and other development partners to stimulate investments in cotton production, processing and marketing through the formulation and adoption of a National Cotton Production Policy that will coordinate investments in the cotton sector. Afghanistan is proximally located close to major world cotton consuming countries like China, India, Pakistan and Bangladesh. This close proximity guarantees market for cotton lint. Besides, there is

² Adopted from April 2016; ILO Rapid Market Assessment of the Cotton Sector.

increasing local demand for cotton products in Afghanistan. These factors enhance the growth potential for the cotton sector once binding constraints are addressed.

5.2. Sector size.

The area under production of cotton in Afghanistan is estimated at 43972 hectares producing a total of 53878 tons of raw cotton. Out of this area, Balk province has the largest land area under cotton cultivation estimated at 21,000 hectares in 2015 with and the highest average productivity per hectare estimated at 1,400kg/hectare. According to some estimates, there are about 20,000 farmers are engaged in cotton cultivation in Balkh province alone (all districts).³

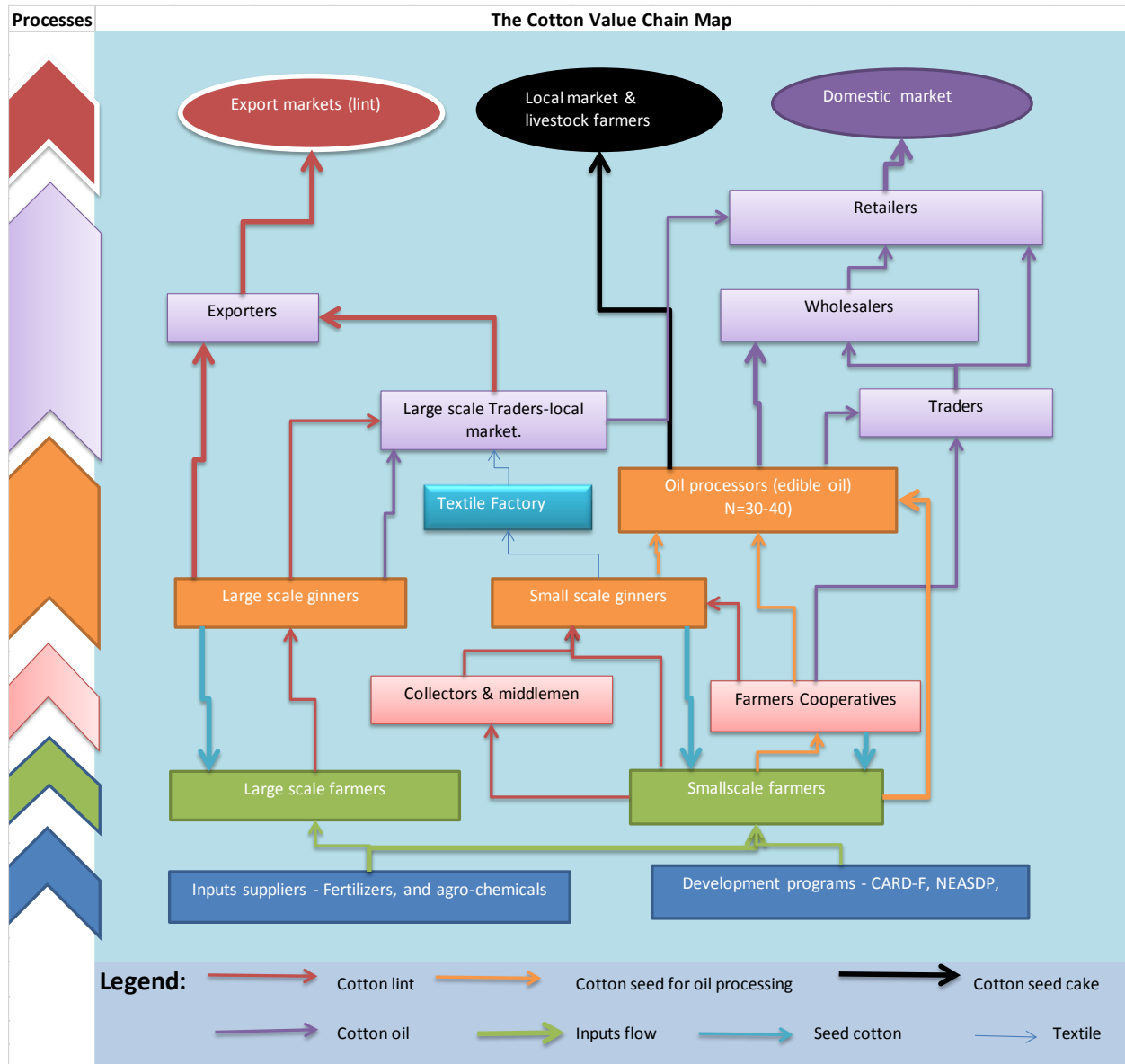
Table 2. Top cotton producing provinces in Afghanistan:

Sn	Province	Area Under production(hectares)	Quantity produced (unprocessed) in MT/Ha
1	Balkh	21000	29,400
2	Helmand	6,150	6,150
3	Takhar	4,672	5,606
4	Nangarhar	4,048	4,003
5	Kunduz	3,400	4,420
6	Baghlan	1,340	1,099
7	Herat	1,170	1,138
8	Laghman	980	980
9	Jawzjan	720	576
10	Sarepul	180	180
	TOTAL	43,972	53,878

Source: Provincial Directories of MAIL 2015

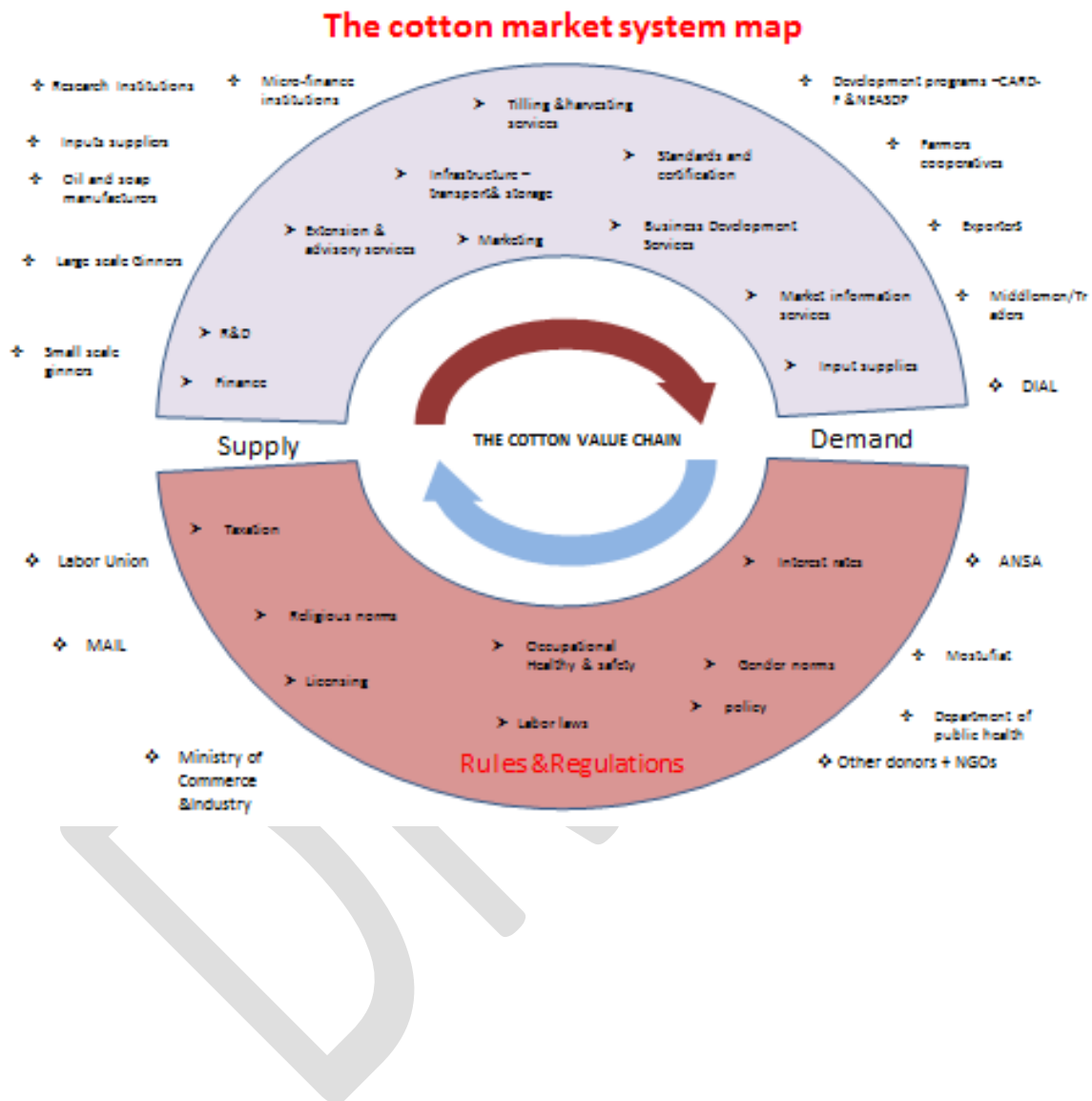
³ April 2016; ILO: Rapid Market Assessment of the Cotton Sector

5.3. The cotton value chain map.



6.o. COTTON VALUE CHAIN STRUCTURE AND PERFORMANCE:

6.1. The cotton market systems map.



6.2. Cotton value chain support services:

Table 3: Cotton value chain support services

Support Function	Status and performance
Inputs Supplies	<p>Input supplies is one of the key functions in agriculture that contribute towards increased agricultural productivity. Agricultural inputs include: seeds, fertilizers, agro-chemicals, machines and equipment. Due to varying local soil conditions, nutrients, presence of pests and diseases, presence or absence of irrigation water, agricultural inputs play a key role in cotton production. In Balkh and Samangan provinces, there are quite a number of inputs suppliers present supplying mainly fertilizers, agro-chemical and small tools and equipment. Many of them have existed for well over 10 years and have experience in inputs distributions. Cotton seeds are however distributed mainly by ginneries although some market traders also sell cotton seeds at market places. These seeds are however of mixed batches of varieties, contaminated and as a result lead to low productivity. Smaller agro-dealers or village based inputs suppliers' source their inputs from dealers located in major cities like Kabul and Mazar e Sheriff and subsequently sell to farmers. Large scale ag-inputs dealers import fertilizers and agro-chemicals from neighboring countries including Uzbekistan, Pakistan and Kazakhstan.</p> <p>Cotton seeds are supplied through ginneries and donor funded programs. There are no commercial cotton seed suppliers. The quality of agro-chemicals imported and sold is questionable. Although good quality agro-chemicals are available, these come at a premier price that most farmers cannot afford. As a result they buy the cheap, low quality agro- chemicals which have not been able to fight pest and disease infestation.</p> <p>The distribution of inputs supplies is also important to ensure that farmers have access to inputs. The survey revealed that many of the major input suppliers do not have a distribution network for their inputs. They neither have other support retailers nor do they use master farmers to distribute the inputs. As a result, farmers have to incur extra transportation costs to get inputs. For bulk inputs like fertilizers, this increases the cost of the products.</p> <p>For effective ag-inputs supplies, embedded information and advisory is paramount to ensure that farmers are able to handle and apply chemicals and fertilizers in the right way. Although ag-inputs suppliers do give some instructions during the time of sale, this information is inadequate considering that many smallholder farmers are not able to read and write. It is advisable that the field advisory be enhanced to ensure safe use and handling and application.</p> <p>In a bid to ensure that farmers have access to quality inputs, the government through the Afghanistan Agricultural Inputs Project (AAIP) has established a complex of laboratories. The complex consists of 13 laboratories which are aimed at checking and</p>

	<p>preventing the importation and sale of low quality pesticides, fertilizers and to also diagnose diseases. The project also initiated the establishment of a Quarantine Network system throughout the country particularly in border-crossing regions plus Hamid Karzai International Airport, Kabul customs and Post parcel. This network seeks to quarantine, control and check plant pests and diseases as well as issue sanitary and phyto sanitary certificates. This directly promotes quality agricultural materials mainly imports which guarantees sustainable development of the national economy. However, the sustainability of these celebrated interventions is still unknown beyond the life of the project.</p>
<p>Access to Finance</p>	<p>Access to finance is one of the key challenges that farmers, processors and traders face. Farmers lack access to finance credit to purchase improved inputs as well as finance labor operations in cotton production. Cotton production being labor intensive requires adequate finance to manage. Processors of cotton also lack access to finance to purchase enough raw materials for all year round processing. The lack of investment capital by various actors has therefore hindered investments in the cotton value chain.</p> <p>Formal sources of finance through micro-finance organizations are also available. Secondary data sources revealed that there are formal financial products and services that are currently being offered by a number of established and newly emerging Microfinance Institutions. These include the First Microfinance Bank (FMFB), Balkh Islamic Investment and Finance Cooperative (BIIFC), OXUS bank, ADF, and Aga Khan. Smallholder farmers however lack knowledge and information about these financial products and services available. This may be because these MFIs are mainly located in towns and cities and mostly they target other groups for lending rather than smallholder farmers. A few farmers have knowledge about the existence of formal sources of finance. However, interest charged by these formal micro-finance organizations is high (approximately 24%) compared to 15-18% commercially charged. Again these financial products offered by the named micro-finance institutions do not comply with the farmers religious norm in that as per Islamic sharia law in which most farmers are, interest charged on loans is regarded as “not halal”. This makes them stay away from taking loans to use in financing cotton production activities. Lack of guarantors and collateral are also hindering factors to access credit. Before one can be advanced credit, informal lenders require the borrower to provide guarantee from a local economically respected people e.g. shop owners or provide some collateral. This has also hinders access to finance. Direct inputs credit is available from ginneries, oil processors, and traders in the form of seeds, fertilizers, agro-chemicals and sometimes cash advances. This however comes with the condition that farmers must sell their</p>

	produce to the lenders. Prices for purchase of the produce are determined at the time of lending and in most cases it is below the market prices.
Research and Development	<p>In order to increase agricultural productivity, access to new varieties of seeds, new experiments and research centers are imperative for any development. Afghanistan has a unique climate and geographic location, and extensive research is required to improve the agriculture sector. Research centers also play an important role in educating and training farmers. Research and development is therefore important in ensuring that new and improved methods of agricultural production are tested and adopted in the economy. Research institutions and farms are not the only prerequisite to produce and preserve standard agricultural products but are centers for information dissemination and learning. The Agriculture Research Institute of Afghanistan (ARIA) was founded in 1959 but the other auxiliaries came into existence after 2013. Because of instability in the country, the research institute still lacks professional and skilled labor, required technology, infrastructure, machinery, financial support, laboratories, proper arable land, irrigation systems and innovative research programs. Besides that, Afghanistan needs proper plant protection and quarantine stations as well. In Afghanistan public agricultural research is limited especially in regards to research in the cotton sector.</p> <p>Other development programs have also set up research centers for their own purposes. The NEASP program has established a research center in Baghlan province where it has been testing 16 varieties of cotton seeds brought from Turkey, France, Uzbekistan and some other countries. Preliminary results from the research centers have shown that cotton yields can triple when using the approved high yielding varieties. However, this is at research level. There has been little interest from seed multipliers to undertake cotton seed multiplication because of fear of low sales resulting from farmers getting free local low yielding seeds from ginneries and other development partners.</p>
Extension and Advisory	<p>Limited provision and access to extension and advisory services have greatly contributed to low cotton productivity per hectare. Smallholder farmers lack knowledge on good GAP, how to properly apply fertilizers and use agro-chemicals, methods of identification and management of pest and disease control.</p> <p>Although the government through DAIL has extension officers assigned to each districts, they lack the basic resources to discharge their duties well and reach farmers. As the Director of Extension quoted “many of the extension officers are working from behind their desks” due to lack of resources to reach farmers.</p> <p>Some development programs like CARD-F and NEASP have extension officers assigned to their operational areas. Extension services provided by CARD-F in Balkh District have</p>

	<p>limited reach as they are only concentrated in the project areas. Again the farmers lament that these extension officers lack practical knowledge and field experience in cotton production. As many of the smallholder farmers are illiterate or semi-illiterate, the methods of delivery of extension and advisory services should take into account this limitation.</p>
<p>Occupational Health and safety</p>	<p>The Islamic Republic of Afghanistan has gazetted various decrees underlining the basic principal standards governing occupational safety and methods of prevention for occupational health and safety to guide employees, trade unions, employers and administrators in implementing occupational health and safety.</p> <p>The decree stipulates that employers should tell employees about any risks that require the wearing of protective equipment. The employers should provide protective equipment (such as protective clothing, headgear, footwear, eyewear, gloves) together with training on how to use it, where necessary. It is an employee's duty to take reasonable care for his/her own safety and to use any protective equipment supplied. The protective equipment should be provided free of charge to employees if it is intended for use at the workplace only. Usually, employees should be provided with their own personal equipment.</p> <p>Cotton production and processing is a labor intensive activity. As a result it employs many jobless people and immigrant workers. Findings from the survey revealed that employers, mainly large scale cotton farmers and processors do not provide protective clothing and safety devices. Only a few processing companies provide masks to their employees. The employees are expected to have with them any necessary protective clothing. Asked why employers are not providing any protective devices, they lamented the extra costs involved in providing such devices as well as the non-continuous operations for their enterprises. Workers are not permanently employed and they hop from one farm to another or from one enterprise to another looking for employment. This makes it difficult for a single enterprise to bear the costs of providing protective devices to their employees.</p> <p>Farmers on the other hand in both Balkh and Samangan provinces do not use protective gear for health and safety when working in the cotton fields. Many of them see no need of using them as they do not perceive any risks and hazards associated with lack of using the protective gear. They also consider spending money on buying protective gear as an extra expense that they can do away with oblivious of the health risks involved. However, this is due to lack of information on individual health and safety requirements as well as poverty.</p> <p>Presently, despite the existence of laws governing provision of protective devices to workers, only laws governing health and safety in mining operations are active. Laws governing occupational health and safety in agriculture are hardly enforced. For example the interministerial decree regarding the distribution of work clothes and protection of workers against accidents and pollution is hardly enforced in agri-business operations. This decree contains provisions on the types and characteristics of clothing and equipment, duties of administrators, trade unions and employees and</p>

	<p>the circumstances under which it is necessary to distribute work clothes and the requirements of using protective devices. The national labor union - Afghanistan National Union of Workers and Employers is less active. It has in total 10774 registered members out of which 2524 are mine workers. There are no registered cooperatives as members. When asked about the reasons for not being very active, they cited joblessness among many people as the key reason. Many factories that used to employ thousands of people before the war were destroyed. Jobless people accept any working conditions to earn their living and with no subscriptions from members, they are not in a position to enforce basic health and safety standards.</p> <p>Working conditions in the cotton sector are equally not favorable. The Afghanistan government has a policy of 7 official working hours per day. However, many of the employees do up to 12 hours shifts with the same salary. Women are more disadvantaged as they are again paid less than their male counterparts for the same hours worked.</p>
Market information	<p>Access to information is a complementary function that supports other support services in the cotton value chain through the entire cotton value chain processes. Information empowers people to make informed decisions and to respond quickly to changes in circumstances as well as follow up on opportunities.</p> <p>Findings from the research revealed that the provision and access to information by all actors in the cotton value chain is limited. The only information that most farmers acknowledge to get through the word of mouth is price information. This is caused by the limited number of channels of information dissemination available and the trust that players have to the sources of information. It is noted that information dissemination and uptake is determined by the trust that the people have on the sources. Price information however has little impact on cotton productivity. The most relevant information required by farmers on control of pests and diseases, good agricultural practices, application of fertilizers is not readily available. As such the current contribution of information dissemination to smallholder farmers is of limited impact.</p>
Standards and certifications	<p>A standard is a document that provides requirements, specifications, guidelines or characteristics that can be used consistently to ensure that materials, products, processes and services are fit for their purpose. Quality standards and certification are business tools used strategically to regulate and guarantee the quality of a product, reduce costs by minimizing waste and errors, and increasing productivity. They help companies to access new markets, level the playing field for developing countries and facilitate free and fair global trade. Standards and certification also create a unified system of measuring quality of a product thereby eliminating trade barriers and</p>

	<p>accelerating research. Quality standards are set out by industry players and enforced by government agencies and industry bodies. Compliance to quality standards and certification are important for any product to gain international markets.</p> <p>The Afghanistan National Standards Authority (ANSA) was established in 2004 by Presidential Decree 952 under the Ministry of Commerce and Industries which was the cornerstone for the establishment of a standards body. Through 2007, the operations of this body were limited due to a lack of human resources, budget, work plan and strategy. The Council of Ministers approved ANSA as an Independent entity in August 2007 - the first step towards a fully functioning standards body in the country. Recognizing the needs of modern business and cross-border trade - vital for the Afghan private sector - the Parliament of Afghanistan also ratified this decision in February 2008.</p> <p>Findings from the research indicate that quality standards requirement for safety is available. Some processors like Sanaizada, Farid Zargar and Itifaq have attained the international recognized ISO 22000 2005 standards for food safety. There are no quality standards for local soap manufactured. As a result, the soap is only sold in local markets. As a result of lack of quality and certification services and standards, the quality of refined oil is still questionable for it to gain entry into export markets. However, the low volumes of oil processed coupled with increased production costs makes local cotton oil price uncompetitive when compared to lower prices for imported oil. Processed lint from Afghanistan is believed to be of higher quality. However, with the breakdown of textile industries in Afghanistan; unprocessed cotton lint has always been exported to neighboring countries especially to Pakistan. Again the lack of quality certification programs has caused Afghanistan cotton lint not to earn the premier prices.</p>
<p>Policy and Institutional Frameworks</p>	<p>Despite the potential and importance of cotton production, processing and marketing in Afghanistan, there is no national policy in force for cotton production, processing, textile manufacturing and utilization for institutional needs within the country. A national cotton policy and a strategic plan is required to provide direction to the national government, donors, industry stakeholders and other key players in the cotton value chain.</p> <p>According to the National Cotton Production Policy and Implementation Plan draft 2016, states that <i>“The policy involves a holistic approach to sustainability in a cross-sectoral and interdisciplinary manner across the production, processing, utilization and marketing with focus on creation of employment and consumption of the products for institutional needs of the government.”</i> A national policy document and subsequent strategic plan will therefore assist and provide direction to decision makers in the allocation and strategic targeting of funds and resources into the sector where it will provide the best outcomes and impact. It would also provide linkages for the cotton sector to other relevant policies like the national seed policy and the</p>

	<p>national agricultural extension policy as well as help to identify and manage issues sustainable water use.</p> <p>A policy and strategic plan would provide potential investors with the stability and confidence to invest in the sector. Availability of policy framework will contribute and demonstrate continuity of supply to enable attraction of investors in downstream industries and also target exports to other countries.</p>
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6.3. Selected players in the cotton value chain:

1. Department of Agriculture, Irrigation and Livestock.

The Department of Agriculture, Irrigation and Livestock is the government agency of the Ministry of agriculture, Irrigation and Livestock of Afghanistan under the Ministry of Agriculture, Irrigation and Livestock. It has its provincial and district level offices in Balkh province. However, due to lack of resources and staff the ministry cannot provide extension services especially on improved seeds and new methods to all farmers across Balkh and Samangan provinces.

The ministry has also recently conducted a research on cotton sector and identified key constraints in the value chain. They plan to implement certain interventions in the cotton sector.

2. North & North East Agricultural Development Support Project (NEADSP).

NEADSP is a five year project which started in December 2009 and has been extended by another year until 2017. The overall objective of the project is to promote the development of agriculture in the North and North Eastern regions of Afghanistan, particularly in cotton and cereals value chains as alternate crops thereby contributing to income generation and food security in the region. It also aims to reduce the area of land used for poppy cultivation. These are expected to be achieved through:

- i. Support for the implementation of research and development activities in key value chains.
- ii. Support for the implementation of a productive and distribution network for certified cotton and cereal seeds.
- iii. Facilitate the development of agricultural cooperatives and professional organizations in the region covered by the program.
- iv. Establish cotton monitoring unit and regional rural economic cell.

NEADSP works in three provinces namely Balkh, Baghlan and Kunduz. They have established a total of six (6) processing centers in the three provinces (2 centers in each province). In Balkh province, they have established a processing center in Chintal and Nahrishahi. These processing centers have transformed farmers groups into farmers' cooperatives. The processing centers operate as all-inclusive farmers' centers that support its members to access subsidized inputs, access to processing centers, training on good agricultural practices of cotton production, business management and access to markets for their cotton and cotton products. The centralized processing centers are managed by a board of directors who oversee the overall operations of the processing center including finance and marketing of processed cotton. NEADSP has a research center in Baghlan province where it has been testing 16 varieties of cotton

seeds brought from Turkey, France, Uzbekistan and some other countries. According to NEASP officials the Yield/HA has been doubled or tripled in their research plots.

NEASP has also established a number of farmer's cooperatives. Each cooperative has 100 members.

Based on the lifespan of the project due to end next year, collaborations with R2J project should focus on learnings and knowledge sharing.

3. Comprehensive Agricultural and Rural Development Facility (CARD-F).

The Comprehensive Agriculture and Rural Development Facility (CARD-F) is one of the Ministry of Agriculture programs funded by the British government's Department for International Development (DFID) and The Danish Development Agency (DANIDA). The CARD-F project is a nationwide project working in 16 provinces in Afghanistan, four of which are in the Northern region. It is working in different value chains in different areas of which the cotton sector is one of them. CARD-F is concentrating on the production and marketing level of the cotton value chain. CARD-F has established cotton farmer's cooperatives and through its extension officers, it is providing training on cultivation techniques (such as land preparation, weed control, pest and diseases control, etc.) Their coverage is currently limited to 1,250 farmers in Balkh district (out of 10,000 farmers in Balk district and 20,000 in the whole province). Planned outreach is 10,000. One of CARD-F interventions ran into trouble, when better seeds that were distributed gave lower yields. CARD-F plans to buy refining equipment for one of the processing factories (Farid Zargar Co) in a 50% cost sharing manner.

4. Farid Zargar.

Farid Zargar is the biggest cotton processor/exporter in Balkh province which is located in Balkh district. The company is dealing with hundreds of farmers including the smallholder farmers in 6 districts of Balkh province namely Balkh, Sholgar, Chemtal, Dehdadi, Charbolak and Dawlatbad. This company buys directly from farmers and also from middlemen and ginners. The small ginners separate seeds from fiber and sell to Farid Zargar who in turn further processes and exports the lint to Pakistan. According to the company the small processors cannot properly process and separate the seeds from lint, therefore they affect the quality of the lint.

According to Mr. Mobashir the manager of the company cotton yields have decreased 25-40% during the last two years mainly due to an unknown disease. According to him they sought the help of ministry of agriculture to handle this problem. He further added that the ministry has asked them to send a sample of the affected plant in order for them to diagnose the disease.

The manager listed the problems in cotton sector as follows:

- There is no good local market for the cotton cake they process.
- The market has been dominated by imported oil so there is no good market for the cottonseed oil they process.
- There is no adequate support from the ministry of agriculture
- No export market for cotton lint apart from Pakistan

- The factory cannot process year round as there is not enough cotton available in off season.
- There is no laboratory for diagnosing the cotton diseases.
- No improved seeds
- Lack of knowledge of farmers on new cultivation methods.

The manager of the company added that they are also involved in distribution of improved seeds to farmers which they import from China and Tajikistan. However, he stated that farmers prefer the local seeds. He added that they give the farmers the gunny bags to help them avoid mixing plastic materials with cotton BUT the farmers sell those bags and use the plastic bags which affect the quality of the cotton they receive from the farmers.

Farid Zargar also works with large farmers who own more than 400 jeribs of land and the company also provides the transportation for them to transport the cotton from their field to the factory site.

The company also provides the farmers with input on credit bases. They deduct their money when the farmers sell their cotton to the company.

5. The Afghanistan National Standards Authority.

The Afghanistan National Standards Authority (ANSA) was established in 2004 by Presidential Decree 952 under the Ministry of Commerce and Industries which was the cornerstone for the establishment of a standards body. Through 2007, the operations of this body were limited due to a lack of human resources, budget, work plan and strategy. The government then placed greater attention in this area. The Council of Ministers approved ANSA as an Independent entity in August 2007 - the first step towards a fully functioning standards body in the country. Recognizing the needs of modern business and cross-border trade - vital for the Afghan private sector - the Parliament of Afghanistan also ratified this decision in February 2008. ANSA now works toward the following objectives:

1. Serve Afghanistan stakeholders (government, industry and consumers etc.) in the fields of standardization, conformity assessment, accreditation and metrology
2. Improve commercial interactions, build the technical infrastructure and capacity, develop human resources, and establish closer ties amongst relevant institutions
3. Encourage the private sector to participate in standardization, conformity assessment, accreditation and metrology activities to contribute to commercial interactions within Afghanistan
4. Enhance implementation of international standards as well as regional and national standards and their application in business and industry
5. Improve awareness of the role and to promote the benefits of standardization and conformity assessment, accreditation and metrology amongst government, the private sector and the general public.

ANSA operates in 13 fields (Food and Agricultural Products, Pharmaceuticals and Cosmetics, Construction Materials, Petroleum, Oil and Lubricants, Electro-technical, Textile, Metrology, Environment, Demining

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and Afghanistan building codes (Structural Codes, Architectural Codes, Urban Development Codes and Highway and Bridge Codes) and plans to expand its activities to new fields. Technical committees (TC) are being established in all fields of operation.

6. Sanaizada Edible Oil Production Co.

Sanaizada Edible Oil Production Company is an ISO 22000 2005 certified company established in 1995 and is based in Mazar e Sharif. It deals with the extraction, refining and packaging of edible oil from cotton seeds, sesame, mustard, rapeseeds, soya beans and sunflower seeds. At present, the main raw material used is cotton seeds. SEOPC has 25 permanent staff and hires more than 30 other support staff during peak operations per day. The company is registered with the Afghanistan Investment Support Agency (AISA) and the Ministry of Commerce and Industry. Sanaizada Oil Company has a refinery, a packaging line that packs the oil and also makes different sizes of packaging containers. The company sells its products to the local markets in Mazar e Sharif and other towns in Afghanistan. This is due to lack of enough volumes for export.

Due to lack of high volumes of cotton seeds for processing, the company is not operating all year round. There are over six months of processing shut down. This shut down leads to loss of jobs to many unskilled workers. SEOPC buys most of its cotton seeds requirements directly from farmers but also from local ginneries as bigger ginneries have their own oil extraction facilities. In order to maintain a good stock of cotton seeds, SEOPC supports a network of farmers with agro- chemicals, fertilizers and training in GAP. The recovery is done through deductions at the time of sales. This is enforced by a contract the management enters with the farmers who receive the inputs and for which must be guaranteed at the village level by a prominent personality mostly village shop owners. However, circumstances of farmers being dishonest at repayment times have occurred. They mix the seed with other impurities like sand and water to increase its weight thus eventually contaminating the seeds which makes the quality of the seeds low.

Discussions with the proprietor of Sanaizada Oil Company revealed high interest and willingness to support farmers to improve productivity of cotton which will eventually lead to increased sources of cotton seeds for oil production. The company has been supporting cotton farmers with agro-chemicals, fertilizers and also offers advice of best methods of cotton production. With the limited access and provision of extension services to cotton farmers, Sanaizada is well placed to embed provision of some advisory services in its strategy as well as offer credit facilities in forms of inputs provision and certified seeds.

The program can therefore hold further discussions with SEOPC to map out specific activities that can be supported to increase farmers' productivity which will eventually contribute to more good quality seeds and improve the company's revenues and employment capacity.

7. Farmers' Cooperative.

Farmers' cooperatives are collective farmers' institutions that offer its members with various agribusiness and agricultural support services. They help members in collective bargaining for better inputs prices,

produce aggregation, advocacy and business management services. According to CARD-F, there are a number of farmers' cooperatives in Balkh province. However, only a small percentage are active with many of them existing only as channels to be used for distribution of government and donor program subsidies and support respectively. They lack the capacity to actively engage in agricultural business practices. They lack the basic structures in place.

CARD-F - a development program mentioned earlier, established a number of cooperatives in Balkh district. CARD-F has supported these cooperatives in building their capacities to work as commercial enterprises. However; it seems these cooperatives are still low in capacity and orientation to provide the required services and functions to their members.

8. National Union of Afghanistan Workers & Employees.

National Union of Afghanistan Workers & Employees (NUAWE) is representing the workers in Afghanistan and is one of the three social partners of ILO Afghanistan. This union has a provincial office in Mazar which is staffed by three people including a female staffer. The union is very weak in terms of provision of services to its members and the active members are very few. This union needs capacity building in order to increase its subscription and providing good services to the member workers. None of their staff speaks English and therefore cannot attend any capacity developing program of the ILO abroad.

9. Tamadon Agricultural & Seeds Services Company.

Tamadon Agricultural & Seed Services Company is one of the large agricultural inputs supplies companies in Afghanistan. It was established in Baghlan province in 2012 and presently has established seven sub offices for products distribution and consultancy services. At inception time, Tamadon concentrated mainly on agricultural equipment and wheat. Within a short period of time, Tamadon started seeds multiplication for wheat, paddy, vegetables and other cereals and has continued to produce the following seeds: oil plants, industrial plants, soy bean and saffron seeds.

Tamadon also offers the following services:

- Training to farmers on good agricultural practices – theory and practice
- Drip irrigation systems and equipment
- Installation of green houses and related equipment
- Livestock services – veterinary
- Poultry feed and vaccines
- Research

Tamadon has collaborated with different partners and NGOs in implementing different agricultural projects which include:

- SMS Marketing in partnership with RADP –N
- Live radio discussion shows in partnership with RADP-N, and IDEA
- Contact Harvesting in partnership with RADP – N
- Melon Production Upgrade in partnership with RADP – N

- Conservation Agriculture in partnership with RADP-N
- Seeds Multiplication in partnership with MAIL since 2002.
- Various projects with FAO

Discussions with the management of Tamadon revealed that the company is well oriented to support growth of the cotton sector especially in improving access and usage of improved agricultural inputs by farmers. From the broad range of activities undertaken by Tamadon as well as its regional sub-offices, the company is well positioned to partner with the project to address challenges faced by farmers in accessing and using improved inputs. With expertise in seed multiplication, the project can work to support Tamadon in undertaking commercial seed multiplication of improved varieties cotton seeds. With a wide range of agricultural consultancy services, further discussions with Tamadon are necessary to map out key areas of feasible interventions that the company can undertake on a commercial scale. Although farmers are aware of the benefits accruing from the use of improved seeds, the society is accustomed to getting cheap or free seeds from ginneries. As a result, there are few incentives for input suppliers to stock cotton seeds. To create incentives and market for improved seeds, the program should work alongside other organizations/stakeholders in the cotton sector to raise awareness and create markets for improved cotton seeds.

7.o.CONSTRAINTS ANALYSIS:

Main constraints in cotton value chain.

The main constraints in the cotton sector cut across all levels of the cotton value chain from input supplies constraints to trade and marketing. Poor people in the cotton value chain are mostly involved at the production function of the cotton value chain as producers and workers and also at the processing function as workers. There are very few poor people involved in trade and marketing of cotton and its products. However, the activities and efficient functioning of other players can influence the poor people's participation and increased benefits to the poor. With a number of key binding constraints experienced in the sector as outlined hereafter below, the competitiveness of the cotton value chain in Balkh and Samangan province as compared to world standards is low. The potential of the cotton sector to improve poor people's participation and benefit is enormous but only if strategic interventions will be put in place to stimulate private sector growth and investments and address sector constraints in a more sustainable way. Although the perceived quality of cotton from Afghanistan is high, this has not translated to increased benefit for cotton farmers. Traders and exporters are buying the cotton as conventional cotton. There is no price incentive for good quality cotton and all the cotton produced is bought at the same price. This results from lack of any grading and certification systems in place to sort out good quality cotton. As such farmers have been isolated from premier benefits arising from production of good quality cotton. There are no incentives to farmers to invest in production of higher quality cotton. In the last couple of years, cotton farmers have experienced declining yields and reduced the area under cotton cultivation. There is continued fear that if there will not be further incentives for increased benefits for cotton production, more farmers will abandon cotton farming in favour of the illicit poppy and opium production.

The key binding constraints inhibiting economic growth and performance of the cotton value chain for poor participation and benefits include:

7.1. Production Related Constraints:

1. Inadequate access to and use of improved, high yielding cotton seed varieties.

Seed is a living product that must be carefully grown, harvested and processed correctly to maximize its viability and subsequent crop productivity. Farmers therefore need to carefully select good quality seeds if they have to experience increased yields. For yield potential of any cotton variety to be realized, good quality seeds must be sown. Better choice of good seeds with good genetic composition result in healthier seedlings, low pest and diseases infestation and this significantly increases yields and quality of the produce.

The survey revealed that cotton farmers in Balkh and Samangan provinces do not have access to reliable sources of high yielding improved seeds varieties. It is estimated that 70% of the farmers source their seeds from the local markets and ginneries while the others use their own seeds from the previous harvests. Seeds from ginneries are a mixed batch made up of unknown varieties and seed types. As a result there are inconsistencies in crop maturity, different genetic compositions, disease contaminated, different moisture content and levels of pest infestation which counteract good plant health. Imported high yielding varieties have been mixed with local varieties just in their first years of processing through the ginning process and cross pollination. This has led to seeds degeneration over time. As such their viability and productivity is low.

Causes:

- i. Limited capacity and existence of research and development agencies to develop commercial quantities (foundation seeds) for commercial multiplication.

The Agricultural Research Agency in Afghanistan has over the years been undertaking research and developing small quantities of trial improved local adaptable varieties. However, their capacity to develop commercial quantities of foundation seeds for further multiplication is limited. As a result, approved foundation seed varieties developed are not available to commercial seed multipliers for multiplication resulting to lack of improved seeds in the market.

- ii. Lack of or limited incentives to seed multiplication companies to undertake commercial multiplication of the new, approved, improved, high yielding and adaptive cotton seed varieties to satisfy local demand.

The research revealed that there are many commercial seed multipliers in Afghanistan. However, many of them are only willing to undertake seed multiplication and processing of rice and wheat seeds as opposed to cotton seeds. There is fear from private sector businesses to undertake commercial cotton seed multiplication because of uncertainties for market. Currently, local cotton seeds are provided either free or at a lower price by ginneries. This does not give enough assurance and incentives for seed multipliers to undertake cotton seed multiplication.

Effects:

- i. Cotton farmers experience declining cotton , low sells and low income
- ii. Farmers lack incentives to increase land area for cotton production thus declining area put under cotton
Cotton farmers use local seed varieties that are mixed up in varieties during ginning process. These seeds lost viability and good genetic composition due to recycled generational seeds.

2. Low usage of fertilizers and agro-chemicals to boost plant nutrition and fight pests and diseases.

Fertilizers and agro-chemicals are major agricultural inputs determining increased productivity and cotton as well. However, in Balkh and Samangan provinces, the use of fertilizers and agro-chemicals by farmers is relatively low. Farmers in the surveyed areas appreciate the use fertilizers and agro-chemicals to increase their productivity, employment and income. However, the high cost of fertilizers especially for areas far away from towns contributes to lack of usage. The quality of agro-chemicals is also low to an extent that the chemicals are not able to fight common cotton pests and diseases. To ensure that farmers' uptake and use of fertilizers and agro-chemicals is adopted, access to reliable sources of fertilizers at reasonable cost near to their farms as well as good quality agro-chemicals is necessary. The fertilizers should be appropriate for the local soil conditions and the agro-chemicals should be, effective in fighting pests and diseases and according to the set quality standards.

Causes:

- i. **Limited information, knowledge and skills by farmers on proper use and safe handling of fertilizers and agro-chemicals:** Lack of extension and advisory services, high illiteracy rates by farmers to read instructions has led to farmers not being keen on using fertilizers and agro-chemicals to improve their productivity. There is therefore need to strengthen field based training for farmers.
- ii. **Weak border controls to regulate importation of cheap, poor quality products (especially agro-chemicals) into the market:** The infiltration of sub-standard quality of agro-chemicals in the region is attributed to weak border controls and standards board policies to curb the infiltration of cheap, poor quality agro-chemicals. As a result, most agro-chemicals in the market are not able to fight the common cotton pests and diseases causing poor productivity.
- iii. **Lack of finance by farmers to purchase inputs:** Cotton farmers have little access to acceptable sources of finance to purchase quality inputs. They are mostly dependent on traders and some ginners who provide them with inputs at higher than market prices. They also have to commit to sell their products back to the lenders usually at lower than market prices. Produce prices are agreed at the time of loaning rather than at the time of sale.
- iv. **Poor distribution networks for fertilizer and agro-chemicals:** There are very few reliable input suppliers at village level to supply farmers with the right fertilizers and chemicals. Farmers have heavily relied on development organizations, traders and ginneries as sources of inputs while commercial input suppliers are better placed to provide a sustainable source of inputs to farmers. As a result access and usage of fertilizers and agro-chemicals by cotton farmers is limited.

Effects:

- i. **Continued crop infestation by pests and diseases:** Pests and diseases are a major threat to cotton production. The survey revealed that many farmers have been victims of sporadic pests and diseases infestations which lead to dropping of flower buds and the cotton balls. The farmers also lack the knowledge on how to identify pests and diseases and how to stop the spread of pests and diseases. At the same time, there is the claim that the quality of agro-chemicals is very poor and unable to fight the common pests and diseases.
- ii. **Poor plant nutrition leading to poor yield:** Farmers lack knowledge and skills on soil composition and nutrient and fertilizers selection and application. As a result of improper, fertilizer application, they experience high vegetative growth where flowers and cotton bulbs drop.
- iii. **Decrease in cotton yields:** Due to poor plant nutrition and infestation of pests and diseases, farmers yields are usually lower than potential.

3. Lack of sufficient irrigation water for cotton irrigation.

Cotton growing is a water intensive activity that requires sufficient supply of water to realize good production. The availability of water is therefore of paramount importance in cotton production. Over 60% of the farmers in the survey indicated that they do not have access to enough water for irrigation. As a result, they do not realize maximum yields.

Causes:

- i. High fuel costs of pumping water using fuel run generators.
- ii. Poorly maintained irrigation canals and systems leading to blockage of drainage systems denying cotton farms required water quantities.
- iii. Lack of irrigation equipment and tools.

Effects:

- i. Increased soil salinity
- ii. Shedding of flower buds and cotton bolls during flowering and boll formation.
- iii. Poor productivity

4. Inadequate provision of extension services and limited capacity of extension officers to deliver services in cotton production.

Availability of agricultural extension services is a recipe for good agricultural practices, adoption and use of improved inputs as well as access to agricultural information. Over 90% of the farmers engaged indicated that extension services are limited. Only a few farmers in CARD-F operational areas have had access to extension services from CARD-F officers. However, though they appreciate the services of these extension officers, they also complain that the extension officers from CARD-F have limited practical experience in cotton production. DAIL extension officers are thought to be poorly resourced and do not have the current skills and experience in cotton production. Moreover, the low extension officer to farmer ratio across all cropping systems is such that the existing DAIL extension officers have

little chance of delivering effective services to farmers to the required level even if well resourced. As the Director of Extension Services at DAIL put it, *“most of my extension officers are working from behind their desks due to lack of enough resources to get them reach out to farmers”*

Causes:

- i. Government extensions services are highly under-resourced and mainly work from behind their office desks with less time and resources spent to reach out to farmers.
- ii. Limited expert knowledge and skills in cotton growing by extension officers. Farmers lament that the extension officers from CARD-F have good agricultural theories and principles necessary for cotton production but lack practical experience in cotton production. However, in a context where majority of the farmers lack basic literacy skills, coupled by the lack of field experience and practice by extension officers adversely affects delivery of extension services to farmers.

Effects:

- i. Poor agricultural/crop management practices by cotton farmers leading to poor cotton productivity
- ii. Farmers fail to adopt improved agricultural practices to increase their yields.

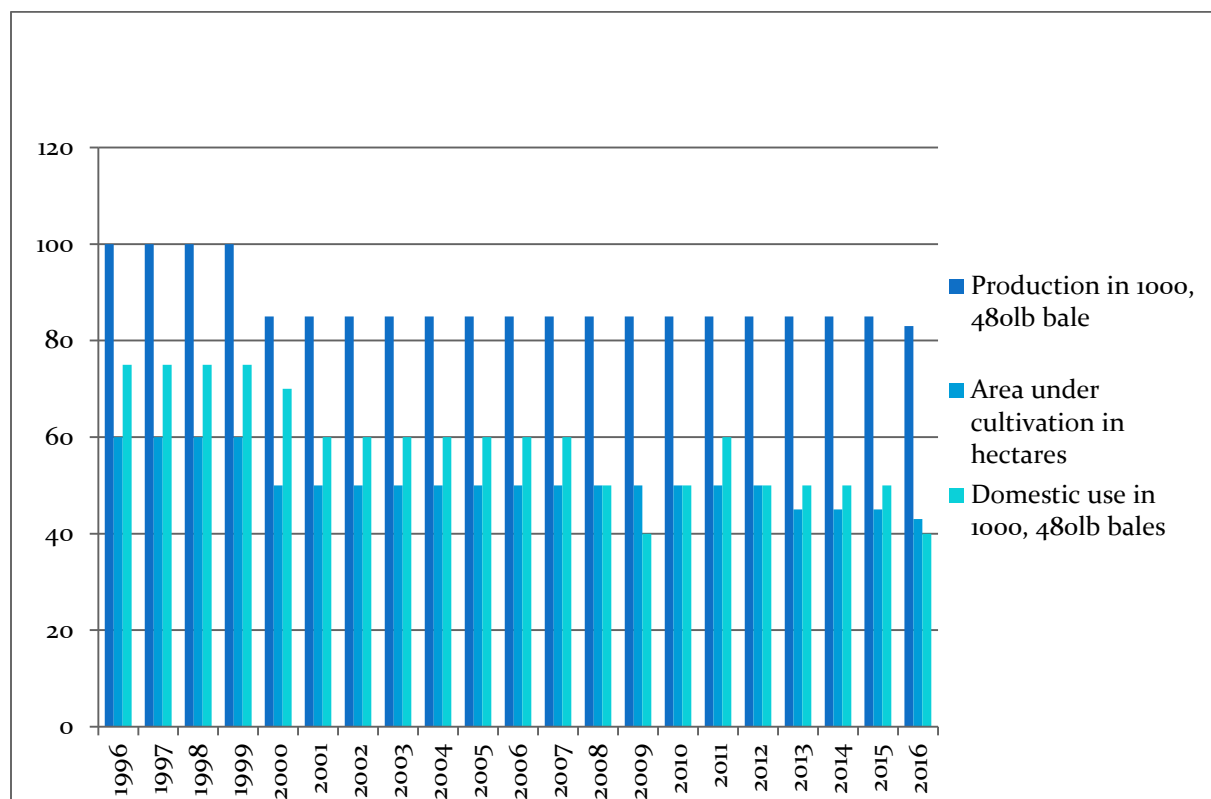
Opportunities:

- i. **Proximity to major cotton lint importing countries with rising international demand for cotton fiber:** Afghanistan has close proximity to some of the major cotton consuming countries including Pakistan, China, India and Bangladesh that provide ready market for Afghanistan cotton lint. As a result, increased production of Afghanistan cotton will readily get access to these demand raising markets.
- ii. **Presence of producer organizations:** Many cotton farmers are registered with farmers' cooperatives. However, it is noted that these cooperatives were formed as channels used to distribute government and NGOs inputs and services and only satisfy the requirements of the organizations spearheading their formation. As a result cooperatives are viewed by members as social enterprises formed to receive and distribute free inputs to its members from NGOs and government rather than to function as profitable business entities offering beneficial services to its members. An organized and business oriented cooperative has the potential to support its members address various needs ranging from capacity building to transfer of technologies, collective bargaining for production inputs, access to credit, produce aggregation and market access. Assistance targeting to farmer groups and the community will be more systematic, cost-effective and more efficiently. A program targeting cotton producers can therefore leverage the existing network of farmers' cooperatives to advance its objectives. However, for sustainability, these cooperatives must be supported into

business orientation. Capacity building interventions should be initiated to make them operate profitably.

- iii. **Existing knowledge, skills and willingness by farmers coupled by an established network of traders and other support services:** Cotton production has been a long term economic activity by many farmers in Afghanistan. Although farmers continue to get discouraged by the declining productivity, they are still willing to try better methods of production that would increase their productivity.

Chart 1: Trends in cotton production and domestic use in Afghanistan.



Source: united States Department of Agriculture

While cotton production and processing has declined over the last three decades, the global and regional markets for cotton have prospered. There is an evident decline in production in the last two decades shown above. This trend is likely to continue if constraints along the cotton value chain are not addressed. Farmers are threatening to abandon cotton farming due to lack of incentives and hope to continue cotton production. This increases the risk that farmers might turn cotton producing farms into poppy and opium growing farms.

7.2. Processing Related Constraints.

Processing is a value addition activity that transforms a product from its raw or processed form to another with added value. Cotton in Afghanistan is mainly processed into various products like: cotton seed, cotton lint, cotton oil, soap and oil cake. Textile processing which was one of the main value addition activities and was previously active in Afghanistan and employed a large number of people has declined. Wars, mismanagement and declining cotton productivity, the sector declined in totality drastically cutting down on the number of people the sector employs. An active cotton processing function would create more jobs directly and also in related support industries for men and women as well as increase the income of cotton farmers. However, the function is faced with a number of constraints inhibiting the growth potential of the cotton value chain. Among the key constraints of the processing function are:

1. Lack of adequate good quality cotton seeds for oil production.

The production of good quality and quantity of cotton oil is dependent on the quality of cotton seeds pressed. Processors mainly buy their seeds from farmers and ginneries. Good quality seeds can produce up to 140kgs of oil from every 1000kgs of seeds. However, most processors interviewed achieve between 100-120kgs of oil from every 1000kgs of seeds pressed. Another key challenge facing cotton oil processors is the contamination of cotton seeds with different impurities including dust, weevils, sand stones and moisture content.

Causes:

- i. **Contamination of cotton seeds with impurities:** Farmers, traders and ginneries are the main sources of cotton seeds for oil extraction. However, most of the seeds are contaminated with impurities like sandstones, dust, water and weevils. This results in low quality oil.
- ii. **The cotton varieties planted do not produce good quality seeds.** Good quality seeds are bigger in size and produce more oil when pressed. However, the current varieties used do not produce much oil.
- iii. **Lack of proper storage facilities for cotton seeds:** Cotton seeds need to be stored in dry places away from any contaminations. Due to lack of proper storage facilities, cotton seeds lose their good properties and moisture content thereby leading to poor quality at the time of oil extraction.
- iv. **Dishonest from cotton farmers and traders:** There have been frequent cases that some farmers and traders deliberately contaminate cotton seeds with water and impurities to gain extra weight. This has caused mistrust between cotton seed processors and traders.

Effects:

- i. **Low productivity of cotton oil.** Good quality seeds can produce up to 140kgs of oil from every metric ton of cotton seeds pressed. However, when the quality of seeds is low, the quantities realized decline.
- ii. **Increased production expenses:** Poor quality seeds that are contaminated or have higher moisture content require extra labor to remove the impurities and get the right moisture content. Contaminated seeds also reduce the efficiency of the processing machines. As a result these short comings add to the extra production costs making cotton oil prices uncompetitive.

2. Lack of precision equipment and machinery for processing.

Cotton processing is a value adding activity. Cotton seed is initially separated from the lint through the ginning process before the seeds can be processed either to cotton oil or processed as seed cotton for replanting. Processed oil and its residue are the main ingredients in soap manufacturing.

There are many local ginneries available to separate the cotton seed from the lint. However, due to the breakdown of the textile industries during the wars and the declining cotton productivity,

textile industries have not been rehabilitated after the war. As a result ginneries and traders have been forced to sell unprocessed cotton lint to neighboring countries at lower prices.

Causes:

- i. Lack of finance capital to invest in precision equipment for cotton processing.
- ii. Lack of professional skills to run the equipment. As an example, at Itifaq Brothers Company, the plant engineer is an expert from Pakistan. When he goes on leave, the plant has to stop its operations till he is back thereby denying revenue to the company as well as loss of employment by casual workers during the same periods.

Effects:

- i. Farmers and traders sell unprocessed cotton lint to neighboring countries at lower prices.
- ii. Many oil extraction and processing enterprises have not attained the international quality standards to access high value markets.

3. Lack of finance to purchase adequate volumes of cotton seeds for all year processing.

Cotton processors have had limited access to finance to enable them buy adequate quantities of cotton seeds for all year round production. This has had an effect of reduced revenues for the processors as well as contributing to job losses to many employees. It is estimated that cotton processing facilities run for only four months as a result of lack of adequate raw materials for processing.

Causes:

- i. Interest charged by micro-finance organizations is high to cover investment costs and profitability in the cotton production processes.
- ii. Interest charged by micro-finance institutions is regarded as “not halal” according to the religious beliefs of the majority Muslim people.

Effects:

- i. Processing facilities are not fully utilized as they operate for very few months only in the year and close down for most part of the year due to lack of raw materials.
- ii. Processing facilities are not able to hire and retain skilled labor for their operations. This contributes to inefficiencies thus increasing the operational and production costs making cotton product to be price uncompetitive.
- iii. Market players keep away from formal sources of finance and as a result are not able to finance the labor intensive operations leading to declining productivity.

4. Lack of adequate volumes of cotton seeds for all year round processing.

In the recent past, the level of cotton production and area cultivated has declined due to the issues mentioned herein. As a result, cotton processors are not able to get enough raw materials for all year round production.

Effects:

- i. Processing enterprises are operational for only a few months and shut down for most part of the year. This leads to underutilization of the equipment and as a result, investments in cotton processing have a longer pay-back period.
- ii. Loss of jobs. During the shut-down period, processing enterprises lay off workers rendering them jobless.

Opportunities in cotton processing:

- i. Presence of many cotton processing equipment that requires some rehabilitation: Before the political and security instability followed by prolonged drought, there were many functional cotton processing facilities in Afghanistan ranging from local ginneries, oil processing facilities to textile mills. However, many of the functioning processing infrastructures was broken down or mismanaged. This affected local processing of cotton products. With some investments in rehabilitation of this equipment, local processing can revamp.
- ii. There is also strong local demand for cotton products like cotton oil for food production, cotton seed cake for livestock feed and the residual oil soap.

7.3. Trade and marketing related constraints.

Cotton trade and marketing is one of the key functions that offer incentives to different actors along the cotton value chain. An effective cotton trade industry would translate to more jobs for men and women, increased income for farmers, increased profitability for traders and growth of service industries to support the cotton sector. The cotton value chain in Afghanistan is however faced by a number of trade related challenges that inhibit growth and investments in trade and related industries Key among these challenges include:

1. Lack of to access high value markets for cotton products.

Cotton processing is one of the key value addition processes in the cotton value chain. Cotton can be processed into different high value products that have international demand. Among the highly demanded cotton products include lint, cotton oil, cotton seed, and soap and cotton cake as a by-product.

The quality of a product determines its ability to access high value markets. Apart from cotton lint which is mostly exported to other countries especially to Pakistan, China, India and to other countries through traders, all the other products have not been in a competitive position to gain entry into international markets. Lack of quality standards and certification and increased costs of processing due to lack of reliable national grid power has also contributed to lack of competitiveness for cotton oil and soap.

Causes:

- i. **Lack of quality standards and certification.** Quality standards and certification services are a door way for any product to gain entry into high value international markets. The absence of

the same limits sales of products to local markets only. There is no grading system in place for cotton products.

- ii. **Absence of local textile industries.** Afghanistan had many old textiles mills that were once operational and served as an incentive to cotton farmers as they provided ready markets for cotton. However, due to the over-a-decade-long war, drought and mismanagement of textile industries, many of them are currently non-functioning. As a result, cotton lint from local ginneries is sold through middlemen and traders to neighboring countries especially to Pakistan, China, India and Bangladesh. Middlemen offer low prices for the cotton. As a result farmers are discouraged from growing more cotton. Reduced cotton production also leads to reduced quantities of cotton seeds for oil processing.
- iii. **Farmers are not organized to collectively leverage on opportunities in collective marketing and access to inputs and knowledge.** Farmers' cooperatives are many. However, they were formed just to meet donor requirement for distribution of free seeds, fertilizers, agro-chemicals and equipment. They do not operate a sustainable business approach, they provide fewer business support services to their members and there is no evidence of long term coordination and collaborations among the actors after a project ends. As a result farmers' cooperatives have not been able to serve as marketing agents for their members to access high value markets for their products.
- iv. **Low quality of cotton seeds for oil processing.** The quality of cotton seeds for oil processing is poor. Processors can get yield of up to 140kgs of oil from every 1000kgs of seeds pressed. However, due to impurities, contamination and different moisture content, many processors just realize between 100-120kgs from every 1000kgs pressed. This production is therefore low to meet international markets demand.
- v. **Lack of knowledge on export procedures and markets:** Many ginneries, oil processors and soap makers do not have knowledge on the processes and procedures for export markets. As a result, they sell their products through traders or in the local markets.

Effects:

- i. The competitiveness of the cotton sector is weak. Volumes of products produced are low while the costs of production are high leading to higher prices of the final products. A key example is the cotton oil. Locally produced cotton oil is more expensive in local markets than imported oil. This price difference is however not caused by quality difference but due to increased production costs for local processed oil.

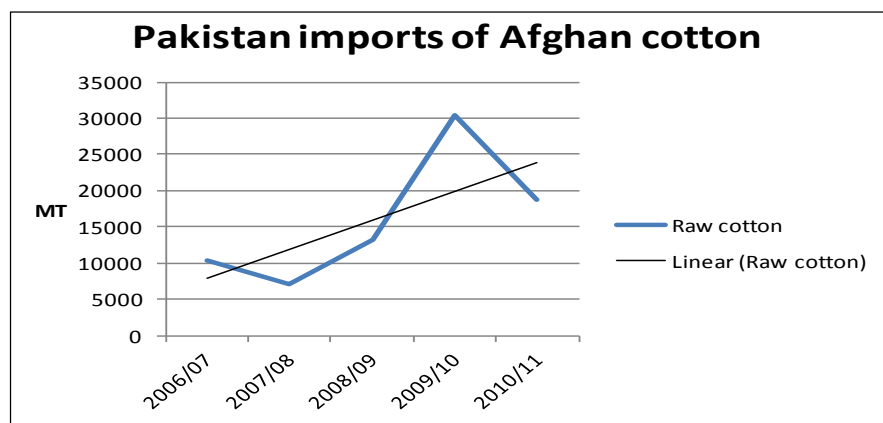
Opportunities in trade and marketing of cotton:

Afghanistan is well placed geographically to tap into international markets for cotton products. Bordering China, Pakistan and with close proximity to India which are large consumers of cotton products, Afghanistan cotton can be competitive when key constraints are addressed. China is both the largest producer and consumer of cotton in the world with India second in both categories. Pakistan is equal fourth largest producer and third largest consumer after China and India. Afghanistan is centrally

positioned to export to these three biggest world cotton consumers with two of those countries sharing a common border.

Lint is largely exported from Afghanistan to Pakistan for onward use in textile related manufacture whereas other products are generally consumed locally. Cotton is imported into Pakistan from 19 countries; India is a lead supplier with imports from USA, and Brazil. With close proximity to Pakistan, Afghanistan is well positioned to equally tap into this market. Trade relationships between Afghanistan and Pakistan do exist and the two countries are good trading partners. Pakistan cotton import data from Afghanistan shows a variable but increasing level of imports of raw cotton during the period of rising world prices, with a peak of 30,000 MT recorded in 2009/10 falling back to 18,643 MT in 2010/11.

Chart 2: Trends in Afghanistan cotton imports to Pakistan



Source: APTMA data reported in Card-F International Market Study, 2011

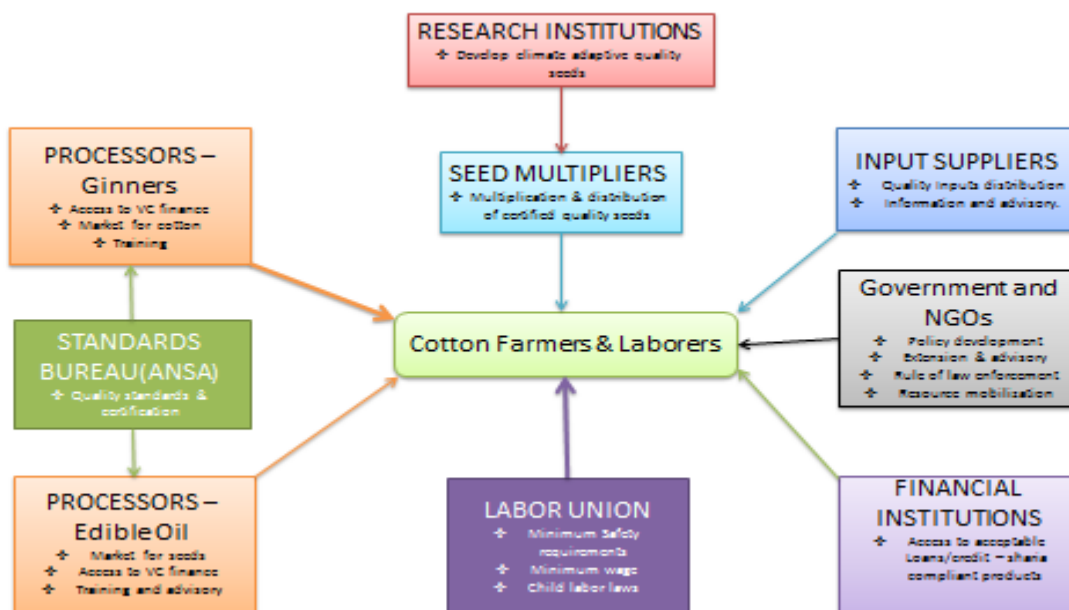
8.o. PROPOSED INTERVENTIONS.

To address the underlying constraints that inhibit job creation and inclusive growth in the cotton sector, feasible market based interventions that address the root causes of the constraints need to be implemented. Emphasis is placed on those interventions/market based solutions that are feasible within the timeframe of the program (although creating an impact in a market systems program takes a longer time than the project life), have partners who are willing and have the capacity to influence change of the market system and those that can have the potential to create wider pro-poor opportunities and reach.

As a desire to induce systematic changes within the cotton value chains, the structure and functioning of the cotton value chain should be as shown below:

Chart 3: Desired cotton sector support services provision:

Cotton Value Chain Desirable Support Services Provision Chart



1. Support the Ministry of Agriculture, Irrigation and Livestock to undertake interventions and collaborations leading to further development and adoption of the National Cotton Production Policy.

Discussions from the stakeholders' validation workshop revealed that the cotton sector has been identified as a key industrial crop in Afghanistan. As a result, the MAIL has planned to launch some cotton sector growth interventions like:

- Development of the cotton production policy that will incorporate creation of a cotton sector department within MAIL.
- Establish a cotton research department.
- Build the capacity of private sector enterprises to undertake commercial cotton seed multiplication.
- Create four zonal cotton sector sub stations.
- Through the Agricultural Development Bank, make access for loans for agriculture sector investments.

The development and adoption of National Cotton Production Policy will provide strategic direction in prioritizing allocation of resources and guide investments along the cotton value chain by various stakeholders. It will also facilitate linkages with other supporting functions and policies in agriculture, trade and industry that will ultimately address unemployment, mass migration and will help attract investors in downstream industries thereby creating more employment.

A draft National Cotton Production Policy and Implementation plan was developed by the Ministry of Agriculture, Irrigation and Livestock ready for discussions with other relevant ministries, departments and agencies of the Government of Afghanistan. The program can

therefore facilitate further partnerships and discussions between the MAIL and the other agencies to ensure that an inclusive policy document is developed and adopted. The program can therefore work closely with MAIL to facilitate round table discussions between agencies, provide technical assistance to develop a more inclusive policy document and implementation plan as well as identify key entry points.

2. Work with market actors to improve the cotton seed supply system.

Currently there are rules and regulations governing the importation of improved seeds from other countries. However, stakeholders held that there are better, local climate adaptive foundation seeds available in the country. The main challenge is that there are hardly any companies interested in undertaking commercial cotton seeds multiplication. In order to improve access and availability of high yielding new varieties, the program can work in collaborations with:

- i. Research Institutions to undertake interventions aimed at improving the incentives and resource capacity of research organizations to implement interventions that produce more foundation seeds for commercial sale to seed multipliers. Public/private and donor driven research programs also do exist that can undertake development of new improved and locally adaptable cotton varieties. The Agricultural Research Institute of Afghanistan (ARIA), the NEASDP and the World Bank funded Afghanistan Agricultural Inputs Project (AAIP) have actively been engaged in research activities for the development of new cotton breeder and foundation seed varieties. This can also be backed by linking research organizations and programs to commercial seed multipliers and distributors to ensure ready market for foundation seeds and this can be a good incentive to encourage breeding and production of high quality foundation seeds for sale to seed multipliers by research organizations.
- ii. **Seed multipliers and agro-dealers to develop commercial cotton seed multiplication and distribution system.** The program can support building of linkages between the seed multipliers, research organizations and seeds distributors to ensure that a commercial seed distributions system is in place and that new high yielding seeds are available to the farmers.

The ginneries role in seeds distribution should be acting as agents of certifies seeds as opposed to processors of seeds. This should also be coupled with sensitization and awareness rising among various stakeholders to appreciate buying quality seeds from seed dealers as opposed to getting free or cheap contaminated seeds from ginneries, traders and own seeds.

Risk:

There are many seed multipliers and processors for cereal seeds in Afghanistan. The reason as to why they have not been active in cotton seeds multiplication is due to lack of a commercial incentive (sales and profit) to undertake commercial cotton seeds multiplication. However, if farmers and other stakeholders are sensitized on the need to purchase improved seeds as

opposed to dependence on cheap or free seeds from ginneries, then these seeds multipliers and processors can undertake cotton seeds multiplication and distribution.

3. Facilitate consultations and coordination among ILO's Tripartite Constituents to address decent work issues in the cotton value chain.

A decree is in place to address occupational health and safety, and minimum wage requirements by employers in the cotton industry. However, the implementation of this decree is hardly enforced. The program through the ILO's tripartite constituents can facilitate discussions leading to adherence to minimum decent work standards.

The enforcement of occupational safety and health for employees can best be advocated through active trade unions. The National Union of Afghanistan Workers and Employers is highly under-resourced to advocate for the rights of employees. On the other hand, due to joblessness of many people and the closure of many textile factories, membership of the union has decreased. Therefore empowering trade unions through capacity building and resource support can lead to the voice of the employees heard.

4. Support cotton market actors to develop and improve a cotton grading system to create incentives to farmers, traders and ginneries on production and sale of quality of seeds.

An effective cotton grading system will ensure that quality products attract a premier price. Presently there is no incentive for improved quality as there is no grading system in place.

The program can therefore work with market actors to develop a grading scheme for cotton seeds producers, buyers and processors to create incentives that reward or offer a premier price for high quality cotton seeds based on a compliance to set standards like minimum moisture content, impurity levels, size of seeds, etc. This can be achieved through introducing a grading system for cotton seeds. As a result, this is likely to improve the quality of seeds for oil processing, the productivity and ultimately profitability of the enterprise. Increased profitability of the enterprise will enable processors to buy more seeds for processing thereby increasing the period of machine operations thus creating more job opportunities for people.

5. Facilitate access and provision of extension and advisory services to farmers through private sector managed partnerships.

Provision of extension services has always been a public role of every government. Private extension services are limited in area and scope. The government of Afghanistan through the DAIR has extension officers available 20 extension officers attached to each district in Balkh province. However these extension officers lack the resources to reach out to farmers. The extension officers also lack updated practical skills in cotton production. Supporting improvement in provision of extension services will also help support on-field training to farmers on safe use and handling of agro-chemicals.

Discussions from the stakeholders' MSA validation workshop, noted that there is a drastic decline in yields caused by the lack of improved seeds. As such it is recommended that any support to

improve access and reach of extension and advisory services should be backed by access to improved seeds. To improve provision and accessibility of extension services, the program can therefore:

- i. Work in partnership with DAIL to help build the capacity of extension officers in cotton modern cotton production techniques and support in resource mobilization/commercial extension officers at village level.
- ii. To improve the reach of extension services to farmers, the program can support establishment of village/regional based resource centers.
- iii. Work with tertiary institutions to develop and introduce modules specializing in cotton production for extension workers and trainers. This could include working with local agricultural faculties in universities and other tertiary institutions to offer cotton based training and refresher modules for extension workers and trainers.
- iv. Recent IT applications have also had a good effect in reaching out to many farmers with extension and advisory services accessed through mobile phone applications. The program can support development of IT based mobile applications that will offer key messages to farmers. Key messages can include advice on land preparations, seed selection, disease diagnosis and control, plant health management, efficient water harvesting and management, crop rotation and post-harvest management that will eventually lead to improved yields.
- v. In many rural areas, the radio is the most trusted and accessible source of information. The program can therefore partner with local radio stations to develop audience based radio programs broadcasted at predetermined times that will offer information on extension and advisory in specific issues of cotton production. Radio based programs can include, news, price information, live radio discussion talks, entertaining radio drama capturing the good practices in cotton production, etc. Capacity building of radio stations staff on programming to produce audience focused radio based products on the cotton value chain is important.

6. Facilitate interventions that improve access to affordable and acceptable sources of finance for sector value chain actors.

Access to finance is a cross-cutting constraint experienced by players at each level of the cotton value chain. There are few agricultural lending products in the market that incorporate agricultural value chain lending. The program can therefore:

- i. Work with selected micro-finance organizations to pilot value chain financing options which are sharia compliant as well as capacity building of financial services providers to develop and offer acceptable agricultural lending products.
- ii. Facilitate linkages and relationships between agro-inputs suppliers and village based agents/master farmers for direct product loans/credit extensions to ag-inputs agents.
- iii. Work with existing village based savings and loans schemes that are easily accessible and owner managed to aid farmers' access credit. This may include collaborations with organizations like Hand in Hand.

- iv. Support capacity building initiatives for farmers' cooperatives to operate in a sustainable business-like manner while offering inputs credit to farmers, act as produce aggregation and marketing centers while managing farmers' credit payments through the produce.

7. Support quality assurance and inspection organizations to develop and implement quality assurance schemes to improve products quality and access to high value markets.

Afghanistan cotton lint is said to have a long staple length and high strength characteristics that are attractive to the textile industry. However, there is lack of a grading system in place to take advantage of this.

Major cotton consuming countries like China, India and Pakistan where Afghanistan cotton is exported have established standards and grading system for cotton. The country can therefore adopt and benefit from the established standards and grading system from the major cotton consuming countries. The program can therefore:

- Facilitate the development of quality assurance standards for the cotton sector by industry players with support from ANSA. ANSA will commit to overseeing the adherence of agreed set standards. However, the sole responsibilities of enforcing standards developed lies with the respective line ministries. As such this can be best addressed through the round table discussions that bring together industry stakeholders.

8. Work with existing inputs suppliers to develop a viable inputs supply and distribution system to improve farmers' access to inputs.

Farmers' access to inputs plays a greater role in improving farm productivity. Many cotton farms being rural based, there is need to have a network of agro-inputs distributors based at village level. Interviews with inputs suppliers indicated that many of them do not have subsidiary outlets that will ensure adequate reach of inputs by farmers. Lack of capital by inputs distributors and trust from suppliers has hindered the expansion of more inputs distribution outlets.

To ensure that farmers have more access to inputs, the program can undertake the following:

- i. Work with existing market players to improve the inputs distribution systems to improve farmers' access to inputs.
- ii. The program can support lead ag-inputs enterprises to develop a business expansion pitch and present a business case to potential entrepreneurs to help identify and select entrepreneurs willing to undertake a profitable agro-input distribution business as agro-inputs agents.
- iii. Support establishment of linkages between the selected inputs agents and ag-inputs suppliers.
- iv. Train identified agents in management of ag-inputs business and inventory management.
- v. Support lead enterprises to build the capacity of selected ag-inputs agents in business development and marketing services of the established ag-inputs agents.

9. Strengthen partners' capacities to undertake quality control checks for agro-chemicals at border points to weed out poor quality agro-chemicals from the market.

Farmers interviewed decried that the quality of affordable agro-chemicals in the market is low and therefore not able to control pests and diseases infestation. However, discussions with a leading Agro-inputs supplies company – Tamadon Agriculture and Seeds Company revealed that although there is a lot of uncontrolled entry of poor quality chemicals from neighboring countries, there are good quality agro-chemicals available in the market. The good quality agro-chemicals are however sold at a much higher price as compared to the low quality ones. The entry of sub-standard agro-chemicals in the country is attributed to weak border control procedures that fail to contain entry of sub-standard agro-chemicals. The program can therefore work with the Ministry of Commerce and Industry and existing quality assurance organizations to strengthen cross border quality control processes that limit the entry of sub-standard agro-chemical. This can be backed by policy enforcement as a possible government intervention to control entry of sub-standard products into the market.

9.0. ENVISIONED SYSTEMIC CHANGES:

1. Cotton farmers increase their farm productivity thereby increasing income and employment opportunities to themselves and farm workers respectively.

Cotton production is a profitable labor intensive activity. It has the potential to create employment opportunities and support growth of other support services if farmers earn a decent profit from cotton farming. The program will support intervention geared towards increasing cotton farmers farm productivity and creation of more employment opportunities through facilitating interventions that improve the access and usage of quality agricultural inputs, access to and usage of new high yielding and climate adaptive cotton seed varieties; expanded ag-inputs distribution channels/network and adoption of GAP through provision of agricultural extension and advisory services. Farm workers will have health and safety equipment and earn an equitable wage from their employers.

2. Cotton and cotton products processors have access to sufficient good quality raw materials for all year round production of cotton products.

Cotton processors have been challenged by lack of enough raw materials/cotton seeds for a continuous all year round processing. This has led to a reduced return on investments and reduced levels of employment for many people. Cotton seeds are also contaminated with impurities and reduce the percentage of oil extracted from the seeds. Ultimately this results to low profits for the investors. To increase employee retention, produce high quality products, increase employment opportunities, and produce good quality products that meet domestic

demands and also access export markets, the program will support interventions aimed at addressing some of the challenges mentioned.

3. Inputs distributors and suppliers offer easily accessible and affordable good quality inputs to farmers to increase their farm productivity.

The use of quality inputs in agricultural production is a sure way of increasing farmers' productivity. Farmers interviewed expressed fears of high costs of the inputs, limited availability of inputs when required, and limited. They also expressed lack of knowledge on use and application of the inputs. To address these challenges, the program can facilitate interventions that lead an effective and expanded inputs distribution network that will ensure improved access to, affordability and reach to smallholder farmers besides integrating information and advisory services.

4. Financial services providers offer acceptable and affordable financial credit to various cotton value chain actors to finance productive operations in the cotton value chain.

Access to finance credit has been one of the major hindrances of sector growth across all cotton value chain functions and actors. The current available formal lending products from micro-finance institutions are high in costs, not acceptable as per the Islamic sharia and the people have limited knowledge about these lending products. Value chain financing on the other hand tends to take advantage of distressed borrowers as they are bound to sell their products or repay to the lenders on conditions that are not favorable to the borrowers. The program can support interventions that may increase access to finance credit to value chain actors through working with micro-finance institutions to develop lending products that are sharia compliant and borrowers have good information about the products.

5. A national cotton policy is in place to guide investors, donors and operations in resource allocation, mobilization and prioritization for the cotton value chain development.

A national policy document and subsequent strategic plan will therefore assist and provide direction to decision makers in the allocation and strategic targeting of funds and resources into the sector where it will provide the best outcomes and impact. It would also provide linkages for the cotton sector to other relevant policies like the national seed policy and the national agricultural extension policy as well as help to identify and manage issues sustainable water use. A policy and strategic plan would provide potential investors with the stability and confidence to invest in the sector. Availability of policy framework will contribute and demonstrate continuity of supply to enable attraction of investors in downstream industries and also target exports to other countries.

9.1. Cotton Sector Vision Statement:

Actors in the cotton value chain increase their livelihoods income and employability. This will be achieved through: Smallholder cotton farmers increasing their farm productivity through increased access to and use of high quality agricultural inputs including high yielding seed varieties, quality fertilizers and agro-chemicals. Farm workers have secure working environment, health and safety equipment and earn an equitable wage determined by the nature of work they do as opposed to gender based disparities in wage rates. Cotton processors have access to enough and quality raw materials for all year round production of quality cotton products that meet domestic demand and also have access to high value markets within and outside the borders of Afghanistan. The financial markets in Afghanistan develop and offer acceptable and affordable financial lending products that meet credit demands for cotton value chain actors to finance their productive operations.

10. Sustainable matrix: Desired performance.

Desired performance of the cotton value chain			
Function/Rule	Who does	Who pays	Narrative
CORE FUNCTIONS			
Cotton production, processing and marketing.	Cotton farmers are engaged in growing cotton using modern crop management practices.	Cotton farmers able to hire labor and purchase quality inputs for increased production independent of donor support programs.	Cotton productivity including processing and marketing has declined in volumes and value over the last three decades. This has been attributed to various constraints as outlined above including a prolonged drought and lack of the necessary infrastructure, incentives and policy frameworks to encourage growth of the sector. A collective effort between the government, industry stakeholders and farmers should be made to bridge up the gaps that prevent an efficient production, processing and marketing system that would benefit those involved. Farmers should be in a position to increase cotton productivity, processors should have access to required volumes of raw materials for processing and traders should have a conducive environment for trading in cotton products. The sector should also lead to an emergence and growth of a vibrant support services sectors.
	Cotton oil processors buy cotton from farmers for processing to various products including lint, oil, cake, soap.	Cotton processors are able to invest in quality equipment and buy enough quantities of cotton seeds for oil processing and other derivatives.	
	Ginners buy raw cotton from farmers for separation of cotton fiber and seed.	Ginners purchase raw cotton from farmers at market rates for initial processing.	
	Cotton and cotton products traders buy cotton products from farmers, processors, and ginners for sale to local and international markets.	Local, institutional and international markets for cotton products.	A vibrant cotton trade should have access to both domestic and international markets. There is good domestic demand for cotton oil, soap and cake. However, due to the collapse of the textile industry, Afghanistan exports raw cotton lint. Afghanistan should leverage on opportunities in cotton trade created by Afghanistan's close proximity to major world cotton consumers. Quality standards for cotton oil should be implemented to gain international acceptability.
SUPPORT FUNCTIONS			

Input supplies	Inputs suppliers (wholesale and retail) supply high quality inputs to farmers/farmers groups, large scale buyers, other traders and village based agents.	Farmers, cooperatives, institutional buyers	The use of improved inputs in agricultural production is a sure way of increasing productivity. Access to affordable good quality inputs by farmers should be a priority. However, for optimal productivity, timely access to improved inputs coupled by provision of advisory services on inputs dispensation and usage must be prioritized or embedded in ag-inputs supplies interventions.
	Farmers Co-operatives timely supply its members with quality inputs for cotton production.	Farmers (members), individual farmers	Farmers' cooperatives are good avenues through which farmers can access good quality inputs. Cooperatives, when managed as commercial businesses have the potential to offer enormous benefits to members. A farmers' cooperative can serve as a produce aggregation entity besides distribution of improved inputs to its members and access to inputs credit. Most farmers' cooperatives were formed as avenues by development organizations to distribute inputs without taking into considerations their sustainability through business orientations. Programs should therefore strive to capacitate farmers cooperatives in business development to enable them offer more services to their members.
	Master farmers/village based agents	Other village based farmers	Due to a thin network of inputs distribution channels, master farmers can act as input suppliers serving a number of farmers closer to him/her. Usually the master farmer does operate from his family house and does not separate the family house from the business house. Master farmers are more trusted as sources of inputs and advice. Agro-inputs suppliers and dealers therefore can identify and select master farmers as their agents for inputs distribution.
Access to finance	Micro-finance organizations - Microfinance organization develop sharia compliant loan products for value chain actors	Farmers and all other value chain actors	From the assessment, farmers do not have access to acceptable sources of credit. Some of them decry the complex procedures of obtaining credit. Financial services providers design appropriate products and streamline procedures to make their products client-friendly
	Micro-finance organizations - Microfinance organizations develop sharia compliant loan products for value chain actors	Farmers, processors, cotton products traders	Farmers, processors and traders have kept away from using MFIs to access credit. This is partly due to lack of proper understanding of the processes and procedures besides interest charged regarded as high and "not halal". Micro-finance institutions therefore should develop sharia compliant agricultural

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			lending products that do not charge interest. The MFIs should also sensitize members on the procedures and processes required for one to obtain a loan.
	Village lenders – village lenders continue to provide soft loans farmers	Farmers	Village lenders have been an important source of affordable and acceptable finance and credit to farmers. Although it is difficult to formalize village lending through development or commercial interventions, relationships should continue to be strengthened to ensure that they continue providing the service.
	Value chain lenders and other value chain actors provide inputs loans to farmers to finance cotton production activities.	Farmers	Value chain finance plays a key role in improving access to inputs and finance. Produce buyers/traders, ginner, cotton oil processors support networks of farmers with inputs and sometimes cash for emergence needs to farmers and usually deduct during harvest times. Prices of produce are agreed upon at the time of lending rather than at sell time. As a result, prices given for the produce is less than the market price. The prices of inputs are also offered at above market prices. As a result, the burden is borne by the distressed farmers. Program should therefore support interventions that improve access to finance by farmers to purchase inputs without pre-sale conditions that are counter-productive to farmers.
Research and Development	Agricultural Research Institute of Afghanistan and other National Agricultural Research Centers	Government of Afghanistan.	Research and development of improved cotton seeds varieties is a function of the government through its research agency – ARIA. Trials of new varieties are being conducted at the research centers. However, due to lack of resources, the research centers do not have the ability to do commercial production of approved varieties. Linking ARIA with seed multiplication businesses can be a better option. Research organizations in this case will concentrate on breeding foundation seeds for multiplication by private sector multipliers.
Extension and Advisory	MAIL/DIAL	MAIL/DIAL	The Ministry of Agriculture, Irrigation and Livestock through the Department of Irrigation and Livestock has in its various district headquarters extension officers. However due to lack of resources and limited practical skills in cotton production, they have not been in position to deliver extension services to farmers. To support DIAL extension staff to reach smallholder farmers, they should be attached to community farmers’ advisory centers where farmers can access them.
	Community Farmers Advisory Centers -	Farmers	

Occupational Health and safety	Public Health	Public Health	Occupational health and safety are important for meeting employee's health, safety and welfare. Public health under the ministry of health should continue to ensure that processing facilities conform to minimum health requirements. This is a public good and can only be enforced through the municipal councils and the national government. The National Union of Afghanistan Workers and Employees should be advocating for safe and secure working conditions for employees. It is the platform for negotiations between employers and employees. However, due to limited resources to run its operations, the union has been dormant except for membership from miners. Strengthening the capacity of the union will ensure that workers have safe working environment and are compensated adequately based on the workloads.
	National Union of Afghanistan Workers and Employees	Members	
Standards and certification	ANSA ensures that local products are quality certified to meet set international standards.	Government of Afghanistan, Industry Associations	Industry bodies and the government are responsible for setting up products standards. Product standardization ensures that a country's products are acceptable beyond the country's borders.
RULES AND REGULATIONS			
Policy and institutional frameworks	Government of Afghanistan		The absence of a cotton policy in Afghanistan is a factor that had held growth in the cotton sector. A cotton policy would mobilize, prioritize and direct resources towards priority areas.

11.0. CONCLUSION.

The success of improving the performance of the entire cotton value chains to make it an economic warehouse for smallholder farmers, workers and sector SMEs remain elusive unless industry stakeholders including the government of Afghanistan collaborate to address the binding constraints mentioned herein. While it remains paramount that the ILOs Roads to Jobs projects plays a crucial role to improve the sector performance, collective coordination with other programs, donors and the private sector remains the best option to address the various sector challenges.

Discussions from the stakeholders' validation workshop revealed that MAIL has embarked on an ambitious plan to develop and adopt a national cotton production policy that will coordinate cotton sector improvement interventions. This is a good opportunity for various stakeholders and development programs to support its implementation.

The ineffectiveness of the seeds supply chain is as a result of the absence of commercial multiplication and distribution of the high yielding varieties. Discussions revealed that foundation seeds are available in non-commercial quantities in research stations. This is as a result of lack of sufficient capacity by the same research institutions to undertake commercial production of foundation seeds as well as lack of incentives from the private sector seed multipliers to undertake commercial multiplication of improved cotton seeds. The program can therefore facilitate collaborative initiatives between the private seed multipliers, the research institutions and seed suppliers to identify gaps to address and incentives that would create a viable profit oriented seed multiplication and supply system.

The government of Afghanistan through the MAIL has within its regional offices extension officers attached to various stations. However, lack of resources by MAIL and limited knowledge and capacity on modern cotton growing techniques by the extension officers have limited extension services delivery and farmers reach. Limited availability of improved seeds has also not helped showcase better yields for the few areas accessing extension services. As a remedy, there is a need that any interventions targeting improvement in delivery of extension services be backed by improved access to quality seeds.

Improved productivity should be backed by improved access to markets. High domestic demand and access to international markets are key factors of products out take. To achieve this, cotton products have to be more competitive in quality and pricing. Absence of quality standards, certification and grading systems or lack of adherence to the same are blockers of access to both domestic and international markets for cotton products. The Roads to jobs projects can therefore work to bring together existing market players to discuss and deliberate on how best to develop standards, incentives and execute interventions that improve products quality.