Improving Livelihoods of Small Farmers and Rural Women through Value-Added Processing and Export of Cashmere, Wool and Mohair

IFAD Grant 1107 – ICARDA

Mrs. Dildora, a lead spinner and goat farmer from the Andarob village in Badakhshan, is pleased with her earnings from selling cashgora yarn. Her yarn will be sold by the "Knit Outta the Box" company in Washington D.C, USA.

Seventh Progress Report

1 July – 31 December 2012

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List of Acronyms

AKF	Aga Khan Foundation
ASRI	Animal Science Research Institute, Karaj, Iran
CACSARC-kg	Central Asian Craft Support Association's Resource Center - Kyrgyzstan
CESVI	Italian, "Cooperazione E Sviluppo", cooperation and development
FAO	Food and Agriculture Organization of the United Nations
GIZ	German Society for International Cooperation
ICARDA	International Center for Agricultural Research in the Dry Areas
IFAD	International Fund for Agricultural Development
INTA	Instituto Nacional de Tecnología Agropecuaria (National Agricultural Research Center in Argentina)
KGS	Kyrgyz Som
NGO	Non-Governmental Organization
OFDA	Optical-based Fiber Diameter Analyzer
US	the United States
USA	the United States of America

1 Introduction and grant background

1.1 Grant goal, objectives and target groups

OLD text:
The overall goal of the programme is to improve the livelihoods and income of small livestock producers and rural women through improved production, processing and export of value-added fiber in producing areas of Tajikistan, Kyrgyzstan and Iran.
The objective of the project is to set up a value chain focused on fiber goat production and fiber harvesting, processing and marketing.

The target groups are small producers of cashmere, mohair and wool and women processor groups. The pilot sites at the four project sites in Iran, Kyrgyzstan and Tajikistan have been selected to represent typical fiber producing and processing areas.

The IFAD-ICARDA project works at four sites:

1. Sugd region, northern Tajikistan: on breeding Angora goats and processing mohair into yarn and products;
2. Badakhshan region, eastern Tajikistan on breeding cashgora goats and processing cashgora and cashmere into yarn and products;
3. Naryn region, Kyrgyzstan: on improving wool quality and producing wool felt handicrafts for regional and international markets;
4. Kerman province, Iran: on cashmere goat breeding and spinning cashmere yarns by women's groups.

At each of the sites, the project collaborates with producers of sheep or fiber goats on improving breeding, animal husbandry and fiber quality, and with women's groups on processing these fibers into luxury handicrafts for export. The objective of these activities is to improve the income of the target groups. Improvements in sheep and fiber goat production help farmers earn additional income from selling wool, mohair and cashmere. Production and sale of yarns, knitted products, felts and other handicrafts helps poor women in remote, rural areas to earn income and improve livelihoods.

1.2 Changes in grant implementation context and grant design having occurred during the reporting period

No significant changes in implementation context or grant design occurred during the reporting period.

2 Progress and performance by component

2.1 Project Activities in Sugd region, Northern Tajikistan

2.1.1 Component 1: Characterize production systems and improve fiber production of small ruminants at all target sites

In Northern Tajikistan hundreds of households and small farmers produce Angora goats for mohair and thousands of women are involved in mohair processing. The ongoing transition to a market-driven economy has led to the dissolution of state farms that produced Angora goats during the Soviet period and the emergence of new private producers. The newly emerging Angora goat farmers are unable to undertake methodical breeding activities and ensure access to genetically improved animals without scientific and technical support. Additional problems facing the new producers are deficiencies in mohair quality that make it difficult to satisfy the requirements of buyers and processors, and poorly developed linkages to international fiber markets. These problems threaten the long-term competitiveness of the Tajik Angora goat sector and the incomes of poor rural women for whom Angora goats and mohair processing are the only sources of livelihoods. The project supports Tajik scientists and private producers in setting up a sustainable production system that will lead to long-term improvements in Angora goat breeding and higher quality and competitiveness of Tajik mohair.

2.1.1.1 Monitoring Angora goat breeding flocks on pilot farms

In 2012 the team continued the monitoring of nucleus flocks with farmers in Asht and Gafurov districts (table 1).

Table 1. List of farmers involved in the nucleus breeding program and characteristics of their goat flocks

#	Name	Total flock, heads	Nucleus does		Color of goats	District
			heads	%		
1	Gafur Fozilov	210	81	38.6	White	Asht
2	Nemat Raimkulov	245	68	27.8	White	Asht
3	Kholmatov Usarboy	180	37	20.6	Dark	Asht
4	Turgunboy Madaliev	158	74	46.8	White	B.Gafurov
5	Uktam Ibragimov	144	47	32.6	White	B.Gafurov
6	Khujam Mamarasulov	125	53	42.4	Dark	B.Gafurov
	Total	**1062**	**360**	**33.9**		

The project collaborates with six farmers on breeding activities. Four farmers breed white goats (n=757) and two farmers breed goats with colored mohair (n=305). In the course of the project the two groups of farmers practiced targeted breeding, focusing on white or colored goats, and consolidated their best does into a nucleus group. The nucleus group includes 360 does, 270 white and 90 colored.

In 2012 the project team trained the nucleus farmers how to evaluate their goats based on mohair quality and volume and how to select the best breeding goats. The farmers also received recommendations regarding veterinary care, feeding and maintenance of their breeding flocks. During the severe winter of 2012 the team provided weather forecast information to farmers and helped them decide what type of feed was the most economical to purchase. During the long and cold winter of 2012, feed and especially forage prices increased rapidly: grain feed prices doubled (from 1.4 up to 2.9 Tajik Somoni), the forage prices hiked 3-5 times (from 0.6 to 2.5 TJS). The team compared the cost and energy value of different types of feed. The results showed that 1 kg of grain feed equaled to approximately 3.5 kg of forage in energy value. At the same time, the market price of one unit of concentrated grain feed was 3 TJS, while that of forage 9-11 TJS. In other words, procurement of concentrated feed with higher energy valued was three times cheaper than buying forage. In addition, the goats could find the required cellulose (forage) on pastures. The team discussed these results with farmers and, after considering their financial options, many farmers decided to buy only concentrated feed. In addition each farmer received additional 600-800 kg of concentrates and 50-60 kg of mineral feed as an assistance from the project.

Harsh days on winter pastures in 2012.

2.1.1.2 Assessment of kids produced through artificial insemination with imported semen

Despite the low kidding rate reported in the last progress report, the team and the farmers consider the AI results as an important step forward. The farmers are very pleased to have obtained Tajik/American Angora crosses and discuss this topic widely. They raise these kids with a great interest, hope to increase their number and use them to improve the quality of their flocks.

Group of crossbred kids at 4.5 months of age.

Cross-bred kid with fine, curly mohair.

Farmer Gafur shearing his 5 months old crossbred kid.

The crossbred kids have shown good growth and development which is an indication of their satisfactory adaptation capacity. Their fiber is long, fine with a high curvature and the kids can be easily distinguished from local kids. To assess fiber quality of the crossbred goats, four kids were shorn in August 2012, at 5 months of age. Their fiber was 14-17 cm long and the fiber diameter was 18-23 micron. The fiber was homogenous, without kemp or with minimal kemp content and suitable for processing into luxury yarn. The results are shown in table 2.

Table 2. Mohair production from 5-6 month old crossbred kids in August 2012

ID number of a kid	Mohair produced, kg
A11	0.800
A20	0.775
A39	0.530
A24	0.500

The shearing results show that mohair productivity of the crossbred kids is twice as high compared to local kids of the same age and the crossbred kids also produce higher quality mohair. The team plans to conduct a more detailed comparative assessment of the crossbred and control (local) kids, including fiber volume, quality indicators and overall productivity when they are one year old in spring 2013.

It is expected that mohair obtained from the crossbred kids will not require dehairing during processing.

2.1.1.3 Veterinary support for nucleus goats

Based on the annual plan, farmers of the nucleus groups were provided with the necessary veterinary medicine (tetracycline, nitox, ivermek, albosin 2.5%, neocydol, syringes etc.) and preventive veterinary services were conducted in their flocks. Special attention was paid to CCPP cases. Farmers were asked to report any new cases to the veterinary service and to use antibiotics (tetracycline, nitox) to treat the infected animals. No new cases of the disease were reported in 2012.

2.1.1.4 Artificial insemination with imported frozen semen in October 2012

Preparations for conducting artificial insemination started in early October 2012. These activities were widely discussed among farmers when they met at the market or during social events. The first Tajik/American crossbred kids obtained from the first AI campaign in 2011 became a sensation among farmers. Many farmers became interested in the breeding program and requested that their flocks were included in the AI in 2012. The project team selected two additional farmers (Azizjon Khojimatov and Sokhib Ibragimov) because of their extensive experience in goat breeding and good quality goat flocks.

Nine farmers participated in the AI campaign in autumn 2012 including three farmers involved in the previous IFAD-ICARDA project (Turgunboy Madaliev, Fattokh Khonaev and Khujam Mamarasulov). Three groups of farmers were established, and 308 of their does were selected for the AI (I group – Dulana site, II group – Takli site and III group – Taboshar site, with participation of the super nucleus). For the first time the project team selected for the AI the best does (n=40) from super nucleus owned by a Branch of the Livestock Institute. In addition, naturally colored goats (n=25) from a nucleus group owned by farmer Kh. Mamarasulov were selected as an experiment.

Mr. Ramin Aliverdi Nasab, an AI Specialist from Iran, was invited by the project for the second time to conduct the AI. In fall 2012 the project team and Mr. Aliverdi agreed on a schedule for the AI activities and the AI station, supplies and equipment were prepared prior to starting the work. Frozen semen in the nitrogen tank was sorted and a list (map) of the location of semen from individual bucks' (n=9) in the tank's compartments was prepared. Experimental assessment of semen motility rate (n=6) was conducted using a microscope. Recorded motility rate of defrosted semen in the six straws was low - from 15 to 40%. The team concluded that the low motility of the semen was a key factor that contributed to the low insemination rate in 2011.

Dr. Kosimov and Mr. Aliverdi examined the motility of the semen.

The AI implementation schedule is indicated in table 3. Prior to inserting the CIDR all does were marked on their horns using a special marker and paint.

Table 3. Schedule for the artificial insemination (AI) campaign in 2012

Activity	**Day**	**Time**	**Date**
Group 1			
Sponge or CIDR pouting	0	8-10 AM	10/10/2012
PMSG + PGF2A	9	10-12 AM	19/10/2012
Sponge remove	11	10-11 AM	21/10/2012
Heat detection	12	15-17 PM	22/10/2012
Artificial insemination	13	7-10 AM	23/10/2012
Group 2			
Sponge or CIDR pouting	0	8-10 AM	11/10/2012
PMSG + PGF2A	9	10-12 AM	20/10/2012
Sponge remove	11	10-11 AM	22/10/2012
Heat detection	12	15-17 PM	23/10/2012
Artificial insemination	13	7- 10 AM	24/10/2012
Group 3			
Sponge or CIDR pouting	0	8-10 AM	12/10/2012
PMSG + PGF2A	9	10-12 AM	22/10/2012
Sponge remove	11	10-11 AM	23/10/2012
Heat detection	12	15-17 PM	24/10/2012
Artificial insemination	13	7-10 AM	25/10/2012

During the AI, the team and the farmers invited specialists and insemination technicians from the cooperatives and the Regional Department of AI. Assessment of semen motility rate in most straws (n=136) was conducted using a microscope immediately prior to insemination of goats in groups I (Gafur Fozilov and Sokhib Ibragimov) and III (Supernucleus, Khujam Mamarasulov). Observed motility rate of the sperm in straws was low: minimum 10% and maximum 55%. The motility rate of semen in the majority of straws was between 25 and 40%. Results of the AI campaign are shown in table 4.

Table 4. Results of conducted AI by semen of Angora bucks in fall 2012

Group	Farmers	Total no of selected does	Total no of inseminated does	Number of does inseminated by each buck (ID number)						
				45	**9**	**19**	**59**	**20**	**21**	**23**
I	Gafur Fozilov	95	50	15	14	14	7	-	-	-
	Sokhib Ibragimov		34	7	7	10	10	-	-	-
II	Uktam Ibragimov	148	31	8	8	6	9	-	-	-
	Ulugbek Beknazarov		19	9	-	-	10	-	-	-
	Azizjon Khojimatov		15	-	8	7	-	-	-	-
	Turgunboy Madaliev		26	15	-	11	-	-	-	-
	Fattokh Khonaev		10	-	-	-	10	-	-	-
III	Supernucleus	65	40	1	-	3	-	19	6	*11*
	Khujam Mamarasulov		25	4	-	21	-	-	-	-
	Total	**308**	**250**	**5**	**8**	**24**	**10**	**19**	**6**	**11**

From the best does (n=308) selected for AI, 250 were accepted, and the semen of 7 Angora bucks was used. A "Supernucleus" was established to provide farmers in the nucleus groups with high quality breeding bucks and to continue the breeding work. In 2012 the best does in the super nucleus (n=40) were inseminated with the Angora goat semen. In 3-5 days after the AI, selected local bucks were used for natural mating of unfertilized does during their following heat cycle.

2.1.1.5 Selection of goats for nucleus flocks

Selection of the best bucks and does for nucleus groups as well as culling of inferior goats are important activities in mohair goat breeding. The project team conducted evaluation, replenishment and culling of the nucleus flocks in spring and fall 2012. In the spring the team evaluated mohair productivity and quality of the nucleus goats, and in fall it assessed the size, body condition and age of the animals. 18-25% of goats, including old animals, goats with low mohair quality, and bucks unsuitable for reproduction were culled from the nucleus flock of each farmer, and 20-26% of quality young animals joined the nucleus groups. This work was conducted with farmers who participate in the current project (Gafur, Nemat, Uktam, Khujam, Ulugbek, etc.) and also with flocks of farmers who participated in the previous project (Turgunboy, Tirkashali, Makhmudali, Khaydarali). The project team also regularly provided farmers with recommendations regarding improvements in the flock structure and preparation, storage and rational usage of forages and feeds.

2.1.1.6 Storage of frozen semen

The liquid nitrogen production plant in the Sogd province underwent privatization and stopped working for several months. As a result the team had to procure liquid nitrogen from Dushanbe. There was no failure in refilling the nitrogen tank with the imported frozen semen. The tank is being refilled regularly, every 1.5-2 months taking into account changes in the external temperature.

2.1.1.7 Procurement of kid mohair

The project team assisted women processors with the purchase of quality kid and young adult mohair in spring 2012. The team also facilitated meetings and business contacts between the farmers and women processors and used advertising to further promote the new market for fine kid mohair. Contact information for farmers who sold kid mohair to processing groups was collected for future collaboration. The quantity of mohair procured during the 2012 shearing season is shown in table 7.

Table 5. Quantity of Mohair purchased in spring 2012

#	Type of mohair	kg
1	For fine yarn	1340.7
2	For blankets and single yarn	44.5
3	For carpets	13.6
	Total	**1398.8**

2.1.1.8 Yarn procurement

The amount of $2,235 was advanced to women's groups for procurement of finished yarns. The quantity of yarn produced so far is indicated in table 6.

Table 6. Quantity of yarn produced till 31 December 2012

#	Name	Quantity, kg
1	Fine yarn	33.6
2	For blankets	3.5
3	For socks	9.1
4	For carpets	14.0
	Total	**60.2**

2.1.1.9 Yarn and product export

A total of 52.85 kg of dyed and undyed yarn, scoured mohair fleeces and other mohair products (Table 7) was sent to Dushanbe to be shipped to the USA with the help of "Jahonnek" NGO based in Dushanbe.

Table 7. List of products and mohair sent to Dushanbe

#	Products	Weight, kg
1	Dyed yarns	20.32
2	Undyed yarns	10.04
3	Samples of socks and yarns for socks	0.74
4	Socks (48 pieces)	7.60
5	Carpet	2.47
6	Blanket	0.68
7	Scoured mohair	11.00
	Total	**52.85**

2.1.2 Component 2: Work on formation and capacity building of women's groups to develop fiber processing and export of value-added fiber and products in all pilot sites.

2.1.2.1 Background

When the project started, women in the Asht region already produced mohair yarn for sale. In some villages approximately 25% of adult women spun and sold yarn throughout the year. The system of yarn production was the following – a spinner went to the market on Saturday and purchased one or two cheap mohair fleeces. She processed them into yarn within a week or two and brought the yarn to the market for sale. She purchased the fleeces for 25 somoni/kg and sold her yarn for 35 – 40 somoni/kg, earning about 10-15 somoni for spinning 1 kg of yarn (about 3 USD). It took her one full day days to spin 1 kg of yarn and additional time to scour it. The value added to the fiber was low and so were the woman's earnings. The quality of the yarn was also low. It could be used only for knitting coarse, heavy socks for the Russian market.

2.1.2.2 Developing New Yarn to Increase Spinners' Incomes

The project objective has been to increase the women's income from fiber processing by adding more value to mohair and producing a high quality mohair yarn for western export markets. Based on the prices of luxury mohair knitting yarns in the USA, the project calculated that a spinner could produce 1 kg of high quality yarn for $50-60 as opposed to 1 kg of low quality yarn for $10. However, she would need quality kid mohair fiber and the yarn would have to be very well spun to compete on the US market.

The project estimated that a new demand for quality fiber for local processing would also have a positive impact on Angora goat production. Prices for quality fleeces would gradually rise, providing higher incomes for farmers and incentives to breed quality goats. Incentives to improve Angora goat breeding were badly needed to stimulate newly emerging private producers who started to replace state farms and cooperatives that managed Angora goat production during the Soviet and early post-Soviet period. The farmers had no support from the government and needed a stable and lucrative mohair market which quality-driven, local fiber processing could support.

The project started working with Tajik spinners in the Asht region to produce high quality, kid mohair yarn that could successfully sell in the USA and Europe. After a number of trials, the project team and the spinners, in collaboration with American knitters who provided guidance and feedback, developed a quality, luxury yarn that was successfully test-marketed in the USA and Europe. After confirming a solid demand for the new yarn at a wholesale price of $140/kg and a retail price of $280/kg, the project team began to collaborate on setting up a new yarn production system that would allow the spinners to: 1) scale up production; 2) maintain quality standard; 3) decrease production cost; 4) fulfill export orders; 5) ensure fair wages for producers and as well as reasonable prices for distributors and customers.

2.1.2.3 A new system for luxury yarn production – 2012 update

Production of a larger volume of high quality yarn for export demands a much more sophisticated production system than a home-based production of small quantities of low quality yarn for the local market by individual spinners. The new system requires a set of synchronized processing operations each of which has to follow a clear set of guidelines to deliver quality output, which is an input for the next processing step. These operations begin with purchasing high quality raw fiber in a sufficient quantity, and dehairing, scouring, carding, spinning and dyeing the fiber according to standard. The following section describes the components of the processing system as developed in 2012.

Raw Fiber Purchase

The team set up a fiber purchasing system to collect enough mohair for processing during the spring shearing season. It established prices and quality standards for kid mohair and trained farmers and spinners how to select quality fleeces. It started to collaborate with traders and farmers to collect fine, clean mohair and established direct linkages between mohair producers and spinners. The team also introduced advertising to draw producers' attention to the new market for kid mohair. The purchasing system works well and the group of trained buyers and women processors has the capacity to collect up to one ton of quality mohair during the season. One ton of mohair can be processed into 700 – 750 kg of yarn and products and provides enough raw material for all processing groups established by the project. While developing the new purchasing system in 2011 and 2012, the project team purchased around 800 kg of mohair which is currently being processed into yarn.

Dehairing

In order to be spun into quality yarn, Tajik mohair first has to be dehaired. The team and the spinners developed a methodology for dehairing mohair fleeces, trained women how to dehair fiber and established a price for the dehairing. In 2012 the main dehairing group located in the Markhamat village in Asht region included 25 women. The women receive $11 for 1 kg of dehaired fiber. Based on interview with the dehairers conducted in October 2012, the women are satisfied with the pay and consider the work easy. They can dehair at home whenever convenient for them. The demand for the dehairing work among women in the villages is strong.

Scouring

The spinners were already experienced in scouring mohair fleeces but only in a small volume.

Under the new system they need to scour large batches of fiber – 10 kg or more. In order to do this efficiently, they need a mini scouring operation. The main fiber processing center is located in the home of a poor family that does not have running water on their property. They have to bring water from 400 meters away to scour the fiber. The project could not help them to improve the scouring as it would have required an investment of approximately $6,000 to build a water supply pipe and buy scouring equipment. Although such funds were not available through the project, the group will have the option to invest proceeds from yarn sales into this operation in 2013.

Carding

The project helped purchase a carding machine for the lead processing group in 2012 for $2,000 and the women are able to card the fiber at the processing center. The carding machine was purchased with project funds and with profits from fiber sales. Although the machine is used and requires frequent adjustments, the group leader is overall satisfied with its performance.

Spinning

In 2012, 22 skilled spinners were part of the permanent spinning group and 25 spinners were being trained to spin fine yarn according to standard. The group leader, Ms. Tuluikhon Abdulazizova, is in charge of working with the spinners – training them, monitoring quality, supplying them with fiber and paying them for the spinning. She also decides when a spinner is proficient enough to join the permanent spinning group. Only spinners who can guarantee a consistent production of yarn according to standard may join the group.

The spinners work on locally produced electric spinning machines. At the home of Ms. Abdulazizova, which is also the processing center, 4 spinning machines are powered by a solar panel purchased by the project. This helps especially during winter months when the village receives only 2-4 hours of electricity per day. When there is no electricity in the village, women come to spin to the home of Mrs. Abdulazizova. The demand to spin there is high and spinners have to take turns according to a schedule. More solar panels and also more spinning machines are needed to give more women the opportunity to spin during winter months.

The spinners are paid per meter of yarn and receive approximately $25 for spinning 1 kg of dehaired mohair (1kg of yarn = approx. 3750 meters). Proficient spinners can produce over 300 grams of yarn per day, earning around $9. This is three times what they could earn producing low quality yarn. In addition they do not have to spend time selling their yarn or invest in buying raw fiber.

The spinners produce two types of yarn from two types of fiber – luxury, very even, fine yarn from dehaired mohair, and slightly coarse yarn from fiber that remains after dehairing. The undehaired yarn will be sold as sock yarn, and locally processed into socks for export. Spinners who produce the lower quality yarn are paid $21 per 3,750 meters of yarn. The project team works on developing a third type of yarn – a lace mohair yarn spun on a silk cord. This yarn will be excellent for knitting lace garments and is expected to find a good market. The silk cord for the yarn will be imported from Uzbekistan.

Spinners led by Ms. Abdulazizova are currently producing 50 kg of yarn that will be shipped to the United States in January 2013. The shipping is expected to cost around $10/kg and will be

arranged in collaboration with a Tajik NGO based in Dushanbe. After the first 50 kg of yarn is exported and all expenses including transport costs and tariffs are known, the project team will adjust the pricing of some operations. Given that spinning requires the most skill, the processing group plans to raise the spinners' wages during the price adjustment.

Dyeing

This operation is not yet fully organized. Similar to scouring, the project did not have sufficient resources to organize a dyeing center which would require running water and large stainless steel containers with a heating element where women could dye large dye lots of yarn. Improving the scouring and dyeing operations is a priority and the processing groups plan to invest some of the proceeds from 2013 mohair sales into these operations in 2013. This also includes the purchase of quality dyes from the USA or Europe. The women were trained how to use imported dyes and how to work with natural dyes.

Accounting

The leader of the processing group, Tuluikhon Abdulazizova, works with the hub leader, Farhod Kosimov on developing an accounting system for all components of yarn processing. Prior to becoming the lead processor, Ms. Abdulazizova had no experience in book keeping. With the assistance of Mr. Kosimov she developed an accounting system which is continuously being improved and will serve as a model for other processing groups in the future. Mr. Kosimov maintains electronic files of the accounts.

Ms. Abdulazizova and Mr. Kosimov working on accounting, September, 2012.

Communication, Coordination and other Logistics - (Hub)

In 2012 the project team organized assistance for the processing groups in terms of shipping, communication with buyers and other logistics. The staff at the Hub will help the groups fulfill export orders. Farhod Kosimov is in charge of the Hub that unites all mohair processing groups supported by the project. Mr. Kosimov has experience with evaluating mohair fiber and products, understands fiber processing technologies and has worked effectively with the women's groups since the start of the project. His brother, Alisher Kosimov, is fluent in English and helps Farhod to correspond with American buyers. All women and men who work in mohair production and processing know and trust Farhod which gives him the authority to represent them vis-a-vis local and international buyers.

Many components of the processing system need to be further improved to scale up yarn production and make the processing operations more efficient, cheaper and easier for the women. Improving the operations will increase productivity and the processors' earnings. The proposed improvements include:

1. Set up a spinning workshop with a stable supply of (solar) power in winter: rent a facility, purchase solar panels, equip the workshop with tables, chairs and additional spinning machines, organize heating and lighting.
2. Improve scouring – set up a mini scouring operation with running water and a heating system.
3. Improve dyeing – set up a mini dyeing operation to dye large batches of yarn.
4. Continue training spinners in spinning quality yarn. Develop new types of unique yarns.
5. Establish strong linkages with yarn importers and retailers.
6. Set up analogous processing groups in other villages where women spin mohair and where Angora goats are produced.

2.1.2.4 Developing other types of processing: Knitting

Production of quality yarn opened new opportunities to add value to the yarn and generate new sources of income for Tajik women. The project team established two knitting groups, one in Alma village and another in Shaidana village. The groups are led by Mrs. Dilorom Khaitova, an experienced knitter who teaches other women how to make a variety of knitted products. The experienced knitters are learning how to make luxury products such as hats, scarves and sweaters from dehaired kid mohair yarn. Knitters who want to make simple products use cheaper yarn from undehaired mohair to knit socks.

Production of luxury knits

In the spring 2012 the project coordinator brought to Tajikistan samples of fashionable Italian knitted products and also knitting books with patterns. Ms. Khaitova is responsible for reproducing some of these products in the luxury yarn. She and other skilled knitters produced several designer sweaters, hats, scarves and other products based on the imported models and patterns. In November 2012 the new products started to be test-marketed at the Hyatt hotel gift shop in Dushanbe, Tajikistan. Mrs. Khaitova and her group already sold some of their products and received orders for more products. Several samples of luxury knitted products were imported

to the US to show to potential buyers. The project team is currently pricing the products and researching the best marketing venues for them.

A pair of fingerless gloves designed by Mrs. Khaitova, September 2012.

The luxury knitting component is developing gradually for the following reasons:

1. To knit quality, high-end products, the knitters need long-term training and re-training. Although many women in the villages know how to knit, they have been accustomed to making thick and heavy hats, sweaters and pullovers whose main purpose is to protect from cold. Knitters who want to make luxury, lightweight products often need to be re-trained to change their knitting style and learn to understand the distinction between coarse, thick utilitarian garments and luxury, lightweight knits. Such long-term training requires more funds than the project could invest in this activity.
2. The project has to increase yarn production to 1) produce enough yarn for export and 2) supply luxury yarn to local knitters. Based on further development of the new yarn production system, in 2013 the project expects to increase output to fulfill export orders and supply yarn to local knitting groups.
3. Production of luxury knitted products requires finding a niche market for high-priced, high-quality knitted items. The yarn is expensive and the project has to work closely with buyers and designers to minimize the risk of producing garments that would not sell either because of problems in terms of quality, design or excessively high prices. The project has to work with buyers who have the capacity to market high-end products, such as the owners of the Hyatt gift shop. Developing contacts and relationships with such buyers takes time.

In addition to knitted products, Mrs. Khaitova and other knitters plan to produce patterns for sale

together with the yarn. Such patterns would be marketed by the yarn distributers and retailers and could also sell online. In order to take advantage of such opportunity, Mrs. Khaitova needs training in reading and recording patterns and her patterns then need to be translated into Russian and English. The project has not been able to organize such specialized training due to the lack of resources – it is expensive to bring a trainer to the village and Mrs. Khaitova has small children and cannot travel. The project team is currently discussing with CACSA-kg the possibility of organizing such training through a new CACSA project.

To scale up production of luxury knits it will be necessary to:

1. Increase production of luxury yarn to supply local knitters.
2. Invest in long-term training for knitters who want to produce complex, luxury knits.
3. Work closely with designers on developing trendy designs specifically for Magic Mohair yarn.
4. Establish close linkages with retailers of luxury knitted products.
5. Train knitters to record patterns and organize translation of patterns into Russian and English.
6. Design a brochure about the yarn, the products and the women who make them.

Production of knits from undehaired yarn

2/3 of each mohair fleece gets processed into lower quality, undehaired yarn that has a certain percentage of kemp and medulated fibers. The feel of this yarn is slightly scratchy and although it cannot be used for luxury garments it is very good for socks. The project team started knitting socks from this yarn based on a sample of handknitted socks imported from Mongolia in October 2012. 15 knitters work with the project on making socks that will be exported and sold on the regional market. Many Tajik knitters are experienced in knitting socks and can be easily trained to make socks based on a simple pattern.

The project coordinator also imported several books on sock knitting to Tajikistan in 2012. Ms. Khaitova and other more experienced knitters will use patterns from these books to make new models of fashionable socks for the Hyatt hotel and for export. The samples will be evaluated and the most successful ones will be mass-produced for export in 2013.

Sock yarn can also be exported to the USA and sold together with sock patterns. The project is currently working with the yarn retailer “Knit Outta the Box” on developing this type of production.

Socks made out of undehaired kid mohair yarn, October 2012.

To scale up production of socks it will be necessary to:

1. Test-market the socks and work with retailers to make adjustment to the design and sizing.
2. Develop new designs to produce socks in different styles.
3. Identify the best marketing venues for socks.
4. Design a brochure for retailers/customers that describes the socks and provides information about the knitters. Develop a trademark for the socks.

The production of socks can be scaled up relatively easily given that knitting socks does not require high level of skill, the production of sock yarn is easier and this yarn will be made primarily for local processing as opposed to export. Socks are a cheaper product that can find a broader market than luxury knits, regional as well as international. In 2013 the project team expects fast development of sock production and robust sales in winter 2013 – 2014.

2.1.2.5 Developing other types of processing: Weaving

Another production developed by the project is weaving. In 2011 the project, together with CACSA, trained a group of women from the town of Taboshar to weave on a "Fanny II" loom imported from Canada. The lead weaver is Mrs. Shoira Kosimova who was trained to weave blankets using 100% mohair yarn. In 2012 the project improved the blanket design by using a special dyeing technique that produces multi-colored yarn skeins. The multi-colored yarn is then spun into exceptionally beautiful blankets. In November 2012 the new blankets were test-marketed at the Hyatt hotel in Dushanbe and immediately sold for $165 a piece. The blankets

will also be test-marketed in the USA in winter 2012 - 2013 by “Clothroads”.

The production of blankets has a good potential for expansion – weaving is easy to learn (easier than spinning or knitting) and many women are interested in weaving. Mohair is perfect for blankets and there is a very little competition in terms of hand-woven, 100% mohair blankets of this design and quality on the world market. However, the production cost of the blankets is relatively high and they will have to be marketed as a luxury product which takes more effort.

Blankets make by Mrs. Shoira Kosimova, October 2012.

To scale up the blanket production it will be necessary to:

1. Import additional looms – or produce them locally (the project currently has only one loom).
2. Organize training for weavers.
3. Increase yarn production and/or set up special yarn production for the blankets.
4. Develop yarn dyeing specifically for weavers.
5. Start working with buyers and retailers who specialize in marketing these types of products.
6. Design a brochure that describes the process and provides information about the Tajik weavers. Develop a trademark for the blankets.

2.1.2.6 Developing other types of processing: Carpets

The project team started collaborating with a professional carpet weaver in Istaravshan who can produce high quality mohair carpets. The first sample mohair carpet was produced in October 2012. Currently, the project team is in the process of organizing the carpet production: it set up an adjunct yarn production for carpets in the Markhamat village, selected carpet designs and organized dying specific colors for specific carpets. The weaver in Istaravshan will start producing a collection of carpets that will be ready in 2013.

Carpet weaver in Istaravshan, October 2012.

The project team plans to use the first carpet collection produced in 2013 to find markets for the carpets. It also plans to find a designer who will produce carpet designs specifically for the project. 100% mohair carpets are expected to find a good demand given their superior quality –

luster, softness, bright colors and durability. There is very little competition in 100% mohair carpets on the world market which gives the Tajik producers a competitive edge against carpet weavers in countries where carpet production is much more highly developed.

Another advantage of carpet weaving is that carpet yarn does not require dehairing and is spun from adult mohair. Carpet-production thus provides a new market for quality adult mohair that cannot be used for garments. This is very important for Tajik mohair producers.

To scale up the carpet production it will be necessary to:

1. Produce a small collection of carpet samples
2. Find buyers who will collaborate on test-marketing the samples
3. Expand production based on the results of the test-marketing
4. Develop a brochure that describes mohair carpet production
5. Invest in training in carpet-weaving, carpet yarn production and dyeing
6. Find a foreign designer who will produce designs for the weavers.

2.1.3 Component 3: Develop sustainable market chains that link fiber producers and processors with buyers.

Since the start of the project, samples of yarn and products for $5,263 have been sold and $4,774 was reinvested into processing activities (Table 8). In February 2013, 52 kg of mohair yarn and products is being shipped to buyers in the USA. Proceeds from these sales will be recorded after the shipment reaches the buyers.

Table 8. Product Sales and Reinvestment (updated)

Period	Markets/Buyers	Amount Received from Sales	Amount Reinvested into ICARDA Project	Used for	Remainder
2008	Sow's Ear yarn store, "Spirals" store, Madison WI	$921.22			$921.22
2009 – June 2010	Fair Trade Show, Madison, WI, USA "Sow's Ear" yarn store, Madison WI, USA	$1,020.58 (yarn and scarf samples)			$1,941,80
January 2009			$1,000 (wired to Matazim Kosimov)	Yarn sample purchase	$941,80
August 2010	Yarn store, Vienna, Austria	$392.36 (yarn samples)			$1334,16
November 2010			$500 (to Farhod Kosimov)	Yarn sample & fiber purchase	$834,16
December 2010	Fair Trade Show, Madison, WI, USA	$702 (yarn and scarf samples)			$1536.16
March 2011	"Spirals" store, Madison WI, USA	$153 (scarf samples)			$1689.16
April 2011			$500 (Liba Brent, Farhod Kosimov)	Mohair fiber purchase	$1189.16

May 2011			$500 (Farhod Kosimov)	Samples of yarn & knitted products	$689.16
June 2011	"Sow's Ear" yarn store, Madison WI, USA	$102.60 (yarn and scarf samples)			$791.76
July 2011	"Clothroads" yarn retailer, Colorado, USA	$452.12 (yarn samples)			$1243.88
August 2011	"Sow's Ear" yarn store, Madison WI, USA	$107 (yarn samples)			$1350.88
September 2011			$10.41 (Tuluikhon Abdulazizova)	Yarn samples purchased from Ms. Abdulazizova	$1340.47
September 2011			$300 (Tuluikhon Abdulazizova)	Mohair dehairing	$1040.47
October 2011			$80.83 (Tuluikhon Abdulazizova)	Yarn for carpets	$959.64
October 2011			$62.50 (Dilorom Khaitova)	Knitted samples purchased	$897.14
October 2011			$250 (Nazir)	2 spinning machines purchased	$647.14
November 2011			$520 (Dushanbe market)	Solar panel purchased	$127.14
December 2011	Fair Trade Show, Madison, WI, USA	$761			$888.14
December 2011			$50 (fee for participating at the Fair Trade Show, Madison WI	Fee paid to CALA, Madison, WI	$838.14
April 2012	Yarn to Sara Penhune from US Embassy	$124			$962.14
April 2012	Yarn to Joe Gross from US Embassy	$114			$1,076.14
May 2012			$1,000 to Matazim and Farhod Kosimov	purchase ½ of carding machine for spinner's group	$76.14
June 2012	Yarn to Sara and Joe from US Embassy	$338			$414.14
December 2012	Mohair Blanket sold at Fair Trade Holiday Festival	$75			$489.14
Total Sales					**5,262.88**
Total Reinvestment					**4,773.74**

The project made progress in identifying sustainable markets for different types of products. The

first product is yarn which is being exported and also used by local knitters and weavers to make value-added products such as knitwear, blankets and carpets. The project currently collaborates with two distributors on marketing the yarn – "Clothroads" and "Knit Outta the Box". Clothroads is a company based in Colorado that markets high-end fiber handicrafts from different parts of the world. Knit Outta the Box is a company located in Washington, D.C. that markets luxury yarns.

In 2012, one of the owners of Clothroads sent the Tajik yarn to be reviewed by a prominent on-line knitting magazine the "Knitter's Review": http://www.knittersreview.com/article_yarn.asp?article=/review/product/120419_a.asp. The review, which is read by most professional knitters and owners of knitting yarn stores, has generated excellent publicity for the yarn. The Clothroads company received a number of orders for the yarn and several additional companies showed interest in distributing it.

Knit Outta the Box is interested in marketing unique, luxury, handcrafted yarns with a story. Mohair Magic Yarn fits perfectly the profile of a product the founder, Laurie Gonyea, is interested in. Laurie is a professional knitter and a knitting instructor and plans to design patterns specifically for the yarn. She has been very pleased with the yarn samples she received in November 2012.

Clothroads and Knit Outta the Box are planning to market the first large shipment of mohair yarn that will be exported to the USA from Tajikistan in January 2013. Both of these companies plan to market the yarn and collaborate with the project team on designing new types of yarn as well as products. They plan to provide the producer groups with consumer feedback at the end of the 2013 marketing season. Based on this first marketing experience, the business partnership between the producer groups and these companies will be further developed and strengthened.

In addition, the project established a local outlet for the yarn – several knitters at the American Embassy in Dushanbe tried the yarn and many more knitters from the Embassy are interested in purchasing it. The project is setting up a direct linkage between the Asht spinners and the knitters at the US Embassy who want to continue purchasing the yarn and also plan to visit the spinning and knitting groups in Asht in spring 2013.

Group leader Ms. Tuluikhon Abdulazizova overviewing shipment of yarn for "Knit Outta the Box" company, October 2012.

2.1.3.1 Knitted Products

The project is also exploring market venues for luxury knitted products – scarves, hats and sweaters in the United States. Knit Outta the Box and Clothroads are interested in marketing some knitted products and patterns. The project team is currently discussing with Mrs. Gonyea of Knit Outta the Box and Marilyn Murphy of Clothroads how to organize the production of luxury knitwear and pattern support for the yarn. The project team is also looking for high-end designers who would be interested in designing mohair products that could be knitted in Tajikistan and marketed under the designer's brand name. As noted earlier, the development of knitted products will depend on increasing yarn production, training knitters and developing close ties with designers and retailers.

The first knitted product that will be produced and exported in large quantities in 2013 – 2014 are casual and designer mohair socks made from the undehaired yarn. The first prototypes of the socks were produced in the fall 2012 and will be shipped to the USA in January 2013 to undergo evaluation and test-marketing. The project plans to collaborate with Knit Outta the Box and Clothroads on marketing the socks and improving the design if necessary.

The project also established local market linkages for knitted products – the Hyatt hotel gift shop owner ordered several knitted products from the knitting group in Asht.

2.1.3.2 Mohair Blankets

Clothroads will test-market the first mohair blankets in winter 2012-2013. As noted earlier, the demand for the blankets is expected to be strong on the international and regional market. The blankets successfully sold at the Hyatt hotel gift shop and the group received an order for the blankets from the gift shop owner. In the United States the blankets have to sell for high prices as luxury products given their high production cost. This will require a more sophisticated marketing, including a brand name and a well-designed information booklet about their production. The project team and Clothroads will work on developing a marketing strategy for the blankets in 2013. The blankets are also being successfully marketed at the Hyatt hotel gift shop.

2.1.3.3 Raw Fiber

The company Peace Fleece is interested in importing raw mohair from Tajikistan to blend with American wool to produce a new yarn. The project plans to send samples of scoured raw mohair to Peace Fleece together with the yarn shipment in January 2013. If Peter Haggerty, the owner of Peace Fleece, likes the samples, he plans to purchase larger quantities of Tajik mohair in 2014.

2.1.3.4 Mohair Carpets

Once the first collection of mohair carpets is produced in 2013 the project will explore the possibilities of scaling up production and marketing handwoven 100% mohair carpets in the United States and Europe.

2.1.4 Component 4: Research on changes in income of fiber producers and women processors and their effects on livelihoods and gender roles.

2.1.4.1 Productivity and earnings of fiber processors

The project created new earning opportunities for Tajik women through adding value to mohair. The main yarn-making group currently creates earning opportunities for approximately 40 women who dehair, scour, card, spin and dye the fiber. Additional 25 women are starting to knit socks and weave blankets and carpets. It is important to note that the women still work under sub-optimal conditions given that the organization of the processing activities is new and the processing infrastructure is not fully developed. For example, the spinners, knitters and weavers lack electricity during winter months when they have the most time to work. This severely constrains the productivity of the spinners who use electric spinning machines and also creates problems for knitters and weavers who need a good lighting in their homes.

This problem can be partially resolved by using solar panels that easily power light bulbs and spinning machines. The project was able to supply one $500 solar panel for the lead group that powers 4-5 spinning machines. Several additional panels are needed, as well as a workshop for the spinners and knitters equipped with chairs, tables, heat and good lighting. The scouring and dyeing process is also very difficult and inefficient without running water, heat and proper equipment. It is especially difficult to scour fiber or dye yarn in winter without heat and

electricity. Even under these challenging conditions, the women are capable of producing beautiful, competitive yarn and are starting to earn stable incomes. However, their productivity is much lower that it could be if their working conditions were improved.

In the fall and winter 2012, the lead group produced the first export order that included 50 kg of luxury mohair yarn, 10 kg of sock yarn and 60 pairs of socks. In the process the women earned the following incomes:

Dehairing: 12 dehairers prepared 50 kg of dehaired kid mohair, earning **$550** ($11 for 1 kg of dehaired fiber).
Scouring: Scouring was done by the group leader and her family. The women earned **$120** for sourcing 80 kg of raw kid mohair ($1.50/kg).
Carding: The scoured fiber was carded by the group leader. She earned **$100** for carding 50 kg of dehaired fiber and **$20** for carding 10 kg of undehaired fiber ($2/kg per kg of carded fiber).
Spinning: 15 spinners earned **$1,250** for spinning the first 50 kg of dehaired yarn ($0.0066 per meter, approx. $25/per kg). 5 spinners earned **$210** for spinning 10 kg of undehaired yarn ($21/kg).
Dyeing: 2 dyers earned **$75** for dyeing 50 kg of yarn ($1.5/kg).
Total earnings from yarn production: **$2,325**.

Knitting: 4 knitters earned $**120** for knitting 60 pairs of socks from 10 kg of undehaired yarn ($2.08 per pair).

The total earnings of all 40 producers were **$2,445**.

The results show that under the current level of organization and sub-optimal infrastructure, the group of 40 women can earn $2,500 in approximately 1.5 months from part-time mohair processing (working 4 hours per day). The total earnings average $41 per person. These earnings do not include profits from mohair yarn and product sales the group is expected to earn. The profits will be calculated after the first shipment of yarn is exported and sold in winter 2013 and the full cost of transport, customs and distribution is calculated.

Although the earnings are not high, they represent approximately 1/4 increase in the monthly income of an average rural family in the region. With improved organization of processing and investment in infrastructure such as solar power, water and a spinning workshop[1], the earnings and profits of the group will increase. The project estimates that a skilled spinner could easily earn $100 per month from part-time spinning if electricity was available in winter months and the woman had the option to work at a workshop or at home. The woman could earn around $200 from full-time work. This would increase the income of an average rural family by 50 - 100%. In addition, the processing group would earn profits from sales.

[1] Most women said that although working at home is convenient in some aspects they are often distracted from their work by choirs, children or relatives. If they have to make longer intermissions in their work because of these disruptions their productivity decreases and quality suffers as well. A workshop would allow them to focus on the work, increase productivity and improve quality.

Fiber producers' earnings: Angora goat producers also benefited from value-added mohair processing. In order to produce 60 kg of yarn, the processors used approximately 80 kg of fiber that was purchased from local farmers. The farmers earned approximately $7.30/kg, $580 total. It takes 53 goats to produce 80 kg of fiber - 1.5 kg per goat, which means that farmers earned $11 from one goat in fiber sales. This is a good income by producers' standards. Provided that the farmers produced fine fiber that would not require dehairing, the processors could double the price and pay $20+ for 1 kg of high quality kid mohair. The project works with the famers on producing high quality goats and mohair that could be sold at this price point.

By processing the fiber into yarn, the women added $2,325 of value to 80 kg of fiber, approximately $29 per kg, plus profits from fiber sales to be calculated.

Weavers' earnings: The weaving group is also starting to earn income by adding value to yarn. A weaver will spend one week working part-time to weave a blanket (2.2 square meters in size) and earn $41 for weaving it (approximately $20 for weaving one square meter of fabric). This means that a weaver can earn $82 per month from part-time weaving. This also represents a substantial contribution to the family income.

Knitters' earnings: Women are also starting to earn income from knitting sweaters, scarves and other products. A knitter will earn approximately $50 for knitting a sweater. Knitting part time, she can produce 2-3 sweaters per month, earning $100 - $150.

Women (and men) will also earn income from carpet weaving. The incomes/earnings will be calculated during the production of carpet samples in winter 2013.

Based on the preliminary calculations, a skilled spinner, knitter or weaver will be able to earn around $100 per month for part-time fiber processing and around $200 from full time work. However, most women have the option to work fulltime only if they access to a workshop. In addition, the processing group the artisan is a member of will earn profits from sales.

Based on interview with women processors, they contribute their earnings to a common pool of family income. The husband and wife decide how to use these earnings, but the husband generally has the final say. Although the majority of women do not have a full discretion over the use of their earnings, their status within the household improves once they become a wage earner. They feel more valued by family members and also experience a higher self-esteem. Being part of a successful producer group that makes products for export is a source of pride and prestige for all women who participate in the processing.

The project team noted that the self-esteem and importance of the spinner or weaver increases in proportion to her role in the processing business. The leaders of the spinning and knitting groups who are most skilled and play a key role in organizing the spinning and knitting activities are earning a very high regard from family and community members. They become role models with the capacity to empower, inspire and teach other women and men how to utilize their talents and become skilled fiber processors and leaders in small business.

2.1.5 Component 5: Linkages (business, scientific and cultural) between the pilot communities and the global communities of producers, processors and consumers of fiber and fiber products.

1. The project strengthened linkages between producers and processors during fiber purchase in spring 2012. The farmers who produce quality fiber are developing close linkages with the processors who plan to continue buying fiber from them, providing for a stable market and prices.
2. The project linked processing groups (spinners, knitters and weavers) with new foreign buyers Clothroads and Knit Outta the Box. The companies are prepared to market the groups' products.
3. The project linked fiber producers with the "Peace Fleece" company that would like to start purchasing Tajik mohair to blend with wool and make yarn.
4. The project established marketing linkages between the groups and the Hyatt hotel gift shop. The gift shop started marketing mohair blankets and knitted products and placed orders for blankets and knitwear with the artisan groups.
5. The project linked the yarn producers with knitters at the US Embassy in Dushanbe who enjoy knitting from the kid mohair yarn and plan to visit the groups in spring 2013.
6. The project established linkages with carpet weavers in Istaravshan and connected them to the women's groups in Asht.
7. The project strengthened linkages between the processing groups and the "Hub" managed by the Kosimov family.

2.1.6 Lessons Learned

2.1.6.1 The project helps farmers to clarify breeding objectives

The project is successfully helping farmers to clarify their breeding objectives and focus on breeding either white or colored Angora goats as opposed to mixing white and colored goats in a single flock which decreases the quality and value of their fiber. Out of the six farmers that collaborate with the project four farmers breed white goat (n=757) and two farmers breed goats with naturally colored mohair (n=305).

2.1.6.2 Farmers need to be better prepared for averse changes in weather and climate

Unusually cold temperatures coupled with lasting snow cover in winter 2011/2012 did not allow animals to access pasture forage. The supplies of winter feed most farmers had were insufficient while the demand and prices of winterfeed increased dramatically. The results were catastrophic: around 30% of livestock in Tajikistan had died as a result of cold and starvation.

Some Angora goat farmers were also unprepared for the severe winter weather and by early to mid-February their forage reserves were depleted. The team was able to assist farmers with weather forecast and advise them on the most economical purchase and utilization of available

feed and forage. Farmers learned from this experience and prepared and purchased more winter feed in 2012.

2.1.6.3 Results of artificial insemination with Angora goat semen from the USA

The insemination rate of 11.82% (26 kids out of 220 inseminated does) in 2011 was very low. The project team concluded that the low motility rate of the bucks' semen in straws (25-40% on average) was the main factor. Nevertheless, the team and the farmers consider the results a major success – the farmers are very pleased and inspired with the crossbred kids that are clearly distinct from local goats in terms of appearance and, most importantly, fiber quality. The crossbred kids are showing superior qualities in terms of fiber volume, diameter and kemp content compared to local kids and their usage for further breeding is very promising. The breeding program provides an impetus to all Angora goat farmers in the region to invest in breeding and strive to produce quality goats and fiber. Experienced farmers with quality goats are seeking collaboration with the project and want to participate in the AI. The farmers are also inspired by seeing the new market and local processing of quality mohair from their own goats developed by the project.

2.1.6.4 Veterinary support for nucleus goats

Close collaboration and trust between the producers and the project team helps to prevent the spread of infectious diseases such as the CCPP: the farmers learned to inform the project team and the veterinary services immediately at the onset of infection outbreak among their animals.

2.1.6.5 Production of high quality items for export requires excellent organization, leadership and infrastructure

The project learned that in order to scale up yarn production, all production activities have to be divided into specialized tasks performed by trained groups of women and managed by a capable leader who can assume responsibility for all operations. An efficient production system also requires infrastructure including a stable source of energy, workshop facilities, equipment and tools, accounting and assistance with linkages to markets. The project tried to support the groups primarily through training and market linkages but did not have enough resources to fund processing infrastructure such as solar panels, scouring and dyeing equipment and workshop facilities. Without investing in such infrastructure it is very difficult to scale up processing and increase efficiency and earnings.

2.1.6.6 Producers have to co-invest in the production process

Developing fiber processing requires investment and some of the investment has to come from the producers. Although most producers are poor and have no money to invest, they can invest time and effort in learning new skills and organizing the processing. Investment in acquiring new skills, collaboration and problem-solving with the project team confirms that the processors take ownership of the project and are determined to succeed.

2.1.6.7 Advertising the project through articles, promotional materials and yarn and product reviews is key for soliciting orders and creating linkages with new buyers

Advertising and development of promotional material is very important for marketing the products. Companies who want to market the products are interested in the story behind the production process and information about the artisans. This story replaces a known brand name in terms of attracting customers. It offers a customer the opportunity to be a protagonist in the story by purchasing a product that benefits the producers. However, a sympathetic story about the producers should never try to compensate for a mediocre product. Product quality and competitiveness has to come first.

2.1.6.8 Trust is key among all participants

The experiment of developing a small business in a traditional community where small, women-led businesses are extremely rare presents a level of uncertainty for the participants – women and men are expected to expand beyond their traditional activities and gender roles to try new skills, explore new ways of collaboration and forge new rules of business partnerships. The uncertainty these new activities/engagements generate has to be mediated by the emergence of trust among the participants and confidence in the groups' leaders. Trust among all participants of the value chain is the most important "currency" without which the project cannot work. Trust and confidence is developed gradually, through repeated interactions and transactions among the participant that fulfill their expectations. Therefore, a longer time span (4 years minimum) is essential for projects that seek to develop a small, women-led rural business in countries with no precedent such as Tajikistan.

2.2 Badakhshan, Tajikistan

2.2.1 Component 1: Characterize production systems and improve fiber production of small ruminants in all target sites

Households in the Badakhshan pilot region raise around 10-15 goats primarily for meat. The household flocks in the 9 pilot villages are composed of different types of hybrid goats some of which (about 30%) produce cashmere-type fiber. However, due to the lack of targeted community breeding, the majority of goats are neither good fiber producers nor good meat producers and some show signs of inbreeding. Women shear the goats in the spring and sell their fiber to Kyrgyz buyers who come to Badakhshan to buy cashmere for Chinese processors. Prior to the project involvement the villagers sold shorn goat fiber for $2-3/kg. The project established local processing of goat fiber into yarn and products which gives the households the opportunity to sell combed cashgora for $21/kg. The project also works on improving the productivity of local goats through targeted community breeding, using cashgora breeding bucks imported from the Altai region of Russia in 2010. Several breeding flocks of best local females and the imported bucks were set up in the pilot villages in 2010-2012. The new Altai/local crosses born in 2011 and 2012 are showing good results in terms of live body weight and fiber quality. In 2012 the project team had planned the following activities:

1) Establish female goat nucleuses from household flocks and organize selective mating;
2) Evaluate and describe female goats in the nucleus groups;

3) Evaluate and describe nucleus bucks, select breeding bucks and castrate other bucks;
4) Evaluate and describe offspring obtained from the imported Altai bucks in 2011 and 2012;
5) Collect and analyze fiber samples from goats of different sex and age groups;
6) Deliver veterinary services including vaccination;
7) Support nucleus groups with winterfeed.

The results are covered in the following sections.

2.2.1.1 Comparative analysis of fiber production of local goats and imported Altai goats

Local goats in the Ishkashim pilot villages are characterized by their strong constitution and adaptability to the harsh local conditions that include around 9 months of grazing and 3 months stalled in small pens. There are several different types of goat crosses in the village flocks and some of them produce small amounts of cashmere/cashgora type fiber. Bucks produce 0.3-0.4 kg of coarse hair and 70-170 g of cashmere/cashgora type down per year. The cashmere-type down is 4.7 cm long, while the coarse hair is 6.9 cm. Does produce around 0.37 kg of hair 6.3 cm long and 40-100 g of down that is 3.1 cm long (table 9).

The imported Altay mountain goats produce 65-75% of cashgora fiber, 8-9 cm long with a fiber diameter of 17- 22 micron, and 25-35% of hair with diameter of 75-90 microns. The cashgora fiber is soft and strong: 8-9.5 cH/tex. Bucks produce 750-1000 g (up to 2000 g) and does 550-650 g (up to 1500 g) of cashgora. Medium size bucks have a live weight of 63-70 kg (up to 92 kg) and does 38-40 kg (up to 65 kg), yearling bucks weigh 32-39 kg and yearling does 27-35 kg. Height at the shoulder of 1.5-year old goats is 57 cm on average, and that of adult goats 62 cm (Alkov V.G. 1999).

Altai bucks at the pilot site, October 2012.

2.2.1.2 Evaluation of nucleus goats and progeny

In 2012 the project team conducted monitoring of nucleus flocks and evaluation and description of goats and progeny in nucleus groups in four villages (Khaskhorog, Andarob, Dasht and Garmchashma) (table 9).

Table 9. Selection of goats for the nucleus groups

	Site	No of women farmers	No of goats	Average liveweight, kg	Average cashmere yield, g	Quality of cashmere, %		
						I	II	III
1	Khaskhorog	29	159	31.6±0.53	118	91.3	8.5	0.2
2	Andarob	35	75	30.4±0.47	122	90.4	8.9	0.7
3	Dasht	32	85	29.7±0.62	109	91.7	7.8	0.5
4	Garmchashma	11	49	31.0±0.55	117	90.3	9.2	0.5
	Total, average	**107**	**368**	**30.7±0.55**	**117**	**90.9**	**8.6**	**0.5**

Villagers bring their goats for vaccination and evaluation, October 2012.

107 women farmers from the pilot villages collaborated with the project on breeding activities and contributed 368 goats to the nucleus flocks. The average live weight of the selected nucleus does was 22.3 kg to 35.0 kg, and their average fiber productivity was 90 to 140 g. Over 90.0% of the does produced cashgora-type fiber in quality category #1.

The total number of kids obtained by breeding the selected nucleus does with the Altai bucks was 73 kids in 2011 and 122 kids born in 2012 (tables 10 and 11).

Kid from an Altai buck can be easily distinguished by exterior and fiber, October2012.

The crossbred Altai kids born in 2011 weighed 2.7-3.6 kg at birth and 14.8-19 kg at one year of age (Table 10). Their cashmere/cashgora productivity varied between 305 g and 367 g. The data show that the first generation progeny of the Altai bucks exceeded cashmere/cashgora productivity of their mothers 2.6 - 3.0 times. This indicates a highly positive impact of the Altai bucks on fiber productivity of local goats.

Table 10. Description of Nucleus Progeny born in 2011

#	Site	Number of kids	Sex of progeny		Birth weight, kg		Live weight at 6-7 months, kg		Live weight at 1 year, kg		Cashmere productivity, g	
			♂	♀	♂	♀	♂	♀	♂	♀	♂	♀
1	Khaskhorog	39	20	19	3.8	2.9	13.0	11.2	19.0	15.2	340	303
2	Andarob	19	8	11	3.7	2.7	12.6	11.0	18.3	13.8	346	318
3	Dasht	13	5	8	3.6	2.7	11.5	10.3	17.7	14.8	335	305
4	Garmchashma	2	2	0	3.6	-	13.6	-	19.2	-	356	-
	Total	**73**	**35**	**38**								

Table 11. Description of Nucleus Progeny born in 2012

#	Site	Altay buck ID number	Local buck	Name of the farmer who maintained the bucks	Progeny (males +females)	Birth weight, kg		Live weight at 6-7 months, kg	
						♂	♀	♂	♀
1	Khaskhorog	9295, 5069-5085, 5057-2295	Without tag	Fozilbekov Tilobek	34+24=58	3.6	2.9	12.7	11.8
2	Andarob + Dasht	060-089, 5315	Without tag	Sultonmamadov Dushanbe	19+15=34	3.5	2.8	13.6	11.2
3	Garmchashma	5215	Without tag	Yusufbekov	19+11=30	3.6	3.1	11.3	10.7
	Total	**6 bucks**			**72+50=122**	**3.6**	**2.9**	**12.5**	**11.2**

Progeny obtained by crossing local does with Altay cashmere bucks differs both in terms of exterior traits and cashmere productivity (table 12). Among the Altai/local crosses, there are male kids that significantly exceed the average productivity indicators in their groups. These males were selected as candidates for further breeding.

Fathers and sons: the Altai kids share many similarities with their fathers, October 2012.

Table 12. Productivity of the parent breeds and obtained progeny

Indicators	Altay bucks	Local adult does	1.5 year old crosses	
			males	females
Live weight, kg	50-50	32-38	28-36	22-32
Cashmere productivity, g	750-700	70-170	280-344	230-308
Cashmere fiber diameter, microns	22-20	11-14	18-19	16-17
Cashmere content in the fleece, %	70-75	40-42	55-60	52-57
Cashmere fiber length, cm	10-9	4-6	7-8	6-7

Crosses obtained from the Altay bucks produce mainly white cashmere/cashgora. 94% of kids produce white cashmere/casghora in class category I, 4% produce fiber in category II and 2% in class category III. The percentage of down fiber in the combed fleece is the same for grey and white cashmere: category I class – 94%, category II – 90% and category III – 80% or less. The percentage of down in the combed fleece also depends on the combing technique and timing and also on the type of comb used.

Altai kids were weighed and fiber samples collected, October 2012.

2.2.1.3 Selection of breeding bucks for nucleus groups

Highly productive bucks, steadily handing down their best traits, play the most important role in cashmere/cashgora goat breeding. Based on the agreement with villagers and women farmers, local inferior bucks were castrated. About 300 kids born in 2011 and 2012 were castrated within one year.

In early June 2012, the village goat flocks were moved to summer pastures. To ensure successful breeding, 31 quality bucks were separated from the village flocks to be grazed as a separate flock on the Rostov site of the Garmchashma village. Shepherd Okimbek Olimbekov from Snib village was hired for four months to graze the breeding buck flock. In addition to pasture forage, the animals were fed 300-400 g of concentrated grain feed during the summer season to prepare them for mating. Upon the completion of summer grazing, bucks in the nucleus group were inspected and distributed to the sites at the beginning of October 2012 (table 13).

Altai bucks were well prepared for mating, October 2012.

Table 13. Live weight of the breeding bucks after return from summer rangelands

#	Site	Tag number	Live weight (kg)	Breed
1.	Dasht	9860	53.0	Altai
2.	Khaskhorog	9169	31.4	Altai cross
3.	Khaskhorog	9508	53.0	Altai
4.	Kukhi lal	5315	51.0	Altai
5.	Andarob	7166	35.0	Local
6.	Andarob	7377	31.0	Local
7.	Andarob	Without tag	44.5	Altai cross
8.	Khaskhorog	7310	32.0	Local
9.	Andarob	Without tag	21.0	Altai cross
10.	Khaskhorog	9166	28.8	Altai cross
11.	Khaskhorog	9065	34.0	Local
12.	Khaskhorog	9221	33.0	Local
13.	Khaskhorog	7198	33.0	Altai cross
14.	Khaskhorog	9138	23.4	Altai cross

Note: In addition to 14 Altai bucks and Altai crosses, 17 best local cashmere-type bucks were used for mating. Adult Altai bucks had the highest average live weight exceeding 52.0 kg. The largest local buck weighed 34.6 kg while the same indicator for young Altai crosses (1.5 year old males) was 28.0 kg.

Altai bucks in the Khaskhorog village flock, October 2012.

2.2.1.4 Breeding goats in nucleus groups in 2012

In September 2012, the selected bucks were mated with the nucleus does kept by village households. To avoid inbreeding, Altai bucks and their crosses and the selected local bucks were relocated at each site to ensure that each village had a different buck than in 2011 (Tables 14 and 15). To prevent other bucks from mating, the team castrated inferior local bucks with the assistance of village households in early 2012. The villagers collaborated on castrating all bucks identified by the project team as unsuitable for breeding. They were impressed by seeing the first results of targeted breeding that showed how using quality breeding bucks resulted in offspring that produced a large volume of quality fiber and had a higher live weight. The team also assisted the villagers with winterfeed and distributed 5.0 tons of hay and 1.4 tons of barley among households that took care of the nucleus bucks during winter months.

White nucleus flock, Khaskhorog village, October 2012.

Table 14. Location of bucks in A. Zamirov community as of 1 October 2012

#	Farmer	Tag number	Breed	Village
1	Zanjirbekov Tilobel	53-15,2525	Altai	Khaskhorog
2	Zanjirbekov Tilobel	9760	Altai cross	Khaskhorog
3	Zanjirbekov Tilobel	7110	Local Altai	Khaskhorog
4	Zanjirbekov Kuchaksho	9868	Altai	Andarob
5	Shakhsavorbekov Mavlodod	9192	Altai cross	Andarob
6	Kishkarov Khushmamad	7166	Altai cross	Andarob

#	Farmer	Tag number	Breed	Village
7	Utalbekov Muzofir	9508	Altai	Dasht
8	Utalbekov Muzofir	9379	Local	Dasht
9	Ibrokhimbekov Nazarbek	8428	Local	Dasht
10	Yusufbekov Mamadrizo	5080(5434)	Altai	Garmchashma
11	Yusufbekov Mamadrizo	9642	Local	Garmchashma
12	Rustamov Muzaffar	9852	Local	Snib
13	Nozumbekov Odina	9169	Altai cross	Snib
14	Nozumbekov Odina	9166	Altai cross	Snib
15	Mirzoev Alibakhshi	9138	Local	Dasht

Table 15. Mating of nucleus does and expected progeny

#	Site	Number of does	Number of bucks	Altai and local bucks by tag number	Projected progeny
1.	Khaskhorog	180	4	9760,7110,9868,5315-2525	160
2.	Andarob	130	2	9192,7166.	100
3.	Dasht	150	4	9508,9379,8428,9138.	115
4.	Garmchashma	160	2	5080-5434,9642.	118
5.	Snib	80	3	9852,9169,9166.	60
	Total	700	15	15 bucks	553

2.2.1.5 Veterinary activities at pilot sites

Animal diseases are one of the key problems causing significant losses for households at project sites. Spreading of several infectious and parasitic diseases, such as pleuropneumonia of goats, smallpox and helminthosis, was observed in 2011 and to a lesser degree in 2012. Vaccines were provided to women farmers to prevent and treat the diseases, including 2,800 doses of vaccine against sheep and goat smallpox, 1,600 doses of vaccine against pleuropneumonia, and 800 doses of antihelminthic drug (Alben). Vaccination against the mentioned diseases was repeated in September – October 2012 as follows: 719.5 doses against sheep and goat smallpox and 1439 doses of antihelminthic (tables 16 and 17). There were no new cases of pleuropneumonia in the fall 2012.

Vaccination at pilot sites, October 2012.

All required veterinary services ensuring safety of the flocks were implemented at the project sites according to the workplan schedule (Table 16 and 17). The project team continued to discuss the importance of vaccinations with livestock owners to convince them of the importance of making a small investment for protecting their animals.

Table 16. Vaccination against small pox (0.5 ml per dose) of goats from 1 to 5 October 2012

#	Site	Sex and age groups of goats				Total no of goats
		does	bucks	progeny	castrated	
1	Khaskhorog	180	6	130	45	361
2	Andarob	130	5	110	37	282
3	Dasht	150	6	123	39	318
4	Garmchashma	160	5	131	51	347
5	Snib	80	3	30	18	131
	Total	700	25	524	190	1439

Table 17. Trenching of goats against endoparasites from 1 to 5 October 2012

#	Site	Sex and age groups of goats				Total number of goats
		does	bucks	progeny	castrated	
1.	Khaskhorog	180	6	130	45	361
2.	Andarob	130	5	110	37	282
3.	Dasht	150	6	123	39	318
4.	Garmchashma	160	5	131	51	347
5	Snib	80	3	30	18	131
	Total	700	25	524	190	1439

2.2.2 Component 2: Work on formation and capacity building of women's groups to develop fiber processing and export of value-added fiber and products in all pilot sites. Encourage the development of women-led small businesses

2.2.2.1 Introduction

Women in the pilot villages in Ishkashim raise small numbers of goats for meat and milk. Approximately 30% of their goats produce cashmere type-fiber. The women shear these goats and sell the hair to Kyrgyz traders for $2-3 kg. The traders take the fiber to Osh Kyrgyzstan and from there to China. Value added processing of the goat fiber is practically non-existent. Some women spin yarn from undehaired goat fiber to make traditional Jurabe socks but the majority of knitters use cheap, brightly colored acrylic yarn they purchase at the market. Acrylic Jurabe socks make a cheap souvenir for tourists. However, the tourist market for such souvenirs is limited and the acrylic Jurabe cannot become an export product due to the low quality of the yarn, bright colors and non-standard shape.

The project objective has been to establish a processing of goat fiber harvested in the pilot villages into luxury yarn for export and use it to knit high quality Jurabe and other products for export and for the tourist market. Value-added fiber processing is expected to create more lucrative earning opportunities for women and men goat producers and fiber processors.

The project team began by organizing fiber combing and collection in the pilot villages to assess fiber volume and quality. It also started experimenting with different processing technologies to indentify the appropriate method of processing local fiber into quality yarn. The team imported and distributed combs to village households and organized the first fiber collection in spring 2010. It sorted and evaluated nearly 70 kg of combed fiber collected in pilot villages, test-spun yarn from the best fiber samples and concluded that in order to produce high quality yarn the fiber had to be professionally dehaired. Based on this information the team started to collaborate with women and men goat producers, spinners and knitters to organize fiber production and processing system that includes: 1) improving goat breeding and quality fiber; 2) combing the goats and collecting and sorting the fiber; 3) organizing fiber dehairing in Afghanistan; 4) organizing spinning and knitting from dehaired and undehaired fiber; 5) developing marketing channels for yarn and products.

The project collaborates with women and men from 9 pilot villages on these activities. The most active and well organized groups of women and men goat producers and fiber processors are located in 4 villages: Khaskhorog – 29 women/households, Andarob -35 women, Garmchashma -11 women and Dasht – 32 women. The following section describes the development of the fiber processing system in 2012.

2.2.2.2 Progress in fiber processing

Fiber Collection Organized

The project worked for 3 years to organize fiber collection in all villages. The collection is now fully developed. Women and men in all villages received combs and were trained to comb their goats. The leaders of the main yarn spinning group from Andarob village were trained to evaluate, sort and purchase the fiber. A fiber collection point will be set up in the Andarob village in April 2013 and managed by the Andarob processing group. Villagers will be able to bring their fiber to the collection point whenever convenient. The price for 1kg of first class fiber will be 100 somoni – approximately $21, price for second class fiber will be $14.50. Fiber will be evaluated primarily based on the amount of guard hair. The women have been encouraged to comb their goats at the right time and use maximum care to avoid contaminating the down with guard hair. The majority of households in all villages participate in the combing and bring their fiber for sale. In 2012 the project purchased 48.7 kg of cashmere and cashgora fiber and over 90% (44.3 kg) of the fiber was of 1st quality.

Fiber collection point in Andarob village, April 2012.

In 2012 collection of cashgora fiber was also organized in Roshkala valley, Sezd village. The fiber collected in Roshkala is very good and does not need to be dehaired if spun into yarn for Jurabe socks. (Yarn used for Jurabe can have a small percentage of guard hair.) The Roshkala villagers have experience in combing and collecting fiber from the Soviet period when they worked for a large collective farm that produced cashgora goats and harvested their fiber. The project is now successfully building on that experience and collaborating with the villagers on fiber collection. In spring 2013 the goat producers in Roshkala valley plan to collect and sort their fiber and sell it to the project. A collection point will be organized in Sezd village. The Roshkala farmers are very pleased that once again there is a market for their fiber and enthusiastic about continuing to breed the Altai fiber goats. Fiber collected in Roshkala will be processed in the Ishkashim pilot villages. After the processing is well organized in Ishkashim the project can consider setting up a fiber processing group in Roshkala.

Dehairing Organized

Cashmere and cashgora fiber collected in Ishkashim has a relatively large percentage of guard hair and has to be dehaired. Unlike with mohair, manual dehairing of cashmere or cashgora is not an option as it is too time-consuming and does not yield acceptable results. This means that dehairing has to be done at a cashmere processing factory. One of the greatest accomplishments in 2012 was organizing the dehairing of Ishkashim fiber collected in 2010 – 2012 in Herat, Afghanistan. With the help of AKF, the project transported 118 kg of fiber collected in the Ishkashim pilot villages to Heart. The fiber was dehaired at the "Herati Cashmere" plant and 54 kg of dehaired material was sent back to Badakhshan in July 2012. The scouring yield was 92% and the dehairing yield was close to 60%, which is very good.

The quality of the dehaired fiber was excellent, even by the standards of the Afghan cashmere processors, and confirmed that the cashgora fiber collected in Ishkashim could be processed into a quality raw material through dehairing. The dehaired fiber can be spun into high quality yarn that feels very much like cashmere and can be exported or used locally to make luxury products for export. The lead spinning group in Andarob village started to spin the dehaired fiber in winter 2012-2013.

In the fall 2012 a second dehairing plant opened in Faizabad, Afghanistan, only about 100 kg from the Ishkashim pilot site. The project already made arrangements with the manager of the Faizabad plant, Mr. Abdul Hotak, to dehair fiber there. The price for dehairing is very reasonable - $5 for 1kg of dehaired material. Dehairing in Faizabad will decrease the shipping cost and allow the women to earn more income from spinning.

The Badakhshan spinners can work with dehaired Ishkashim fiber, undehaired or dehaired Roshkala fiber and also with dehaired Afghan cashmere that could be purchased from Herat or Faizabad. The project team has been evaluating the comparative advantages of these fibers for processing. Preliminary results show that the Tajik cashgora will be cheaper and easier to process than Afghan cashmere and will be able to compete with cashmere yarn in terms of softness and other qualities.

Electric spinning machines delivered to a lead processing group in Andarob village; training for spinners organized

Some Pamiri women had traditional spindles and old wooden spinning wheels that were much less efficient and more difficult to use than electric spinning machines used by spinners in Northern Tajikistan. Another important accomplishment in 2012 was the delivery of 26 electric spinning machines from northern Tajikistan to the Andarob village. The spinning machines were given to the lead spinning group in Andarob. Some were distributed to other villages so women could learn how to use them.

In the fall 2012 the team visited all pilot villages and started training women how to use the electric spinning machines. Two women who were trained on the machines in northern Tajikistan in spring 2012 worked as trainers. Women in all villages were very enthusiastic about learning to spin on the machines and found them much more productive and easier than their traditional spinning tools. The team left one or two electric spinning machines in each village for the women to continue training. The machines are essential for establishing successful fiber processing at the Ishkashim pilot site.

Lead spinning group and a workshop organized in Andarob village

The project collected yarn samples from women in all villages to select the best spinners and formed the first spinning group in the Andarob village in 2011. The group is led by Mrs. Dzholnamo who is an excellent spinner, and her husband Khuzh, who is the village leader and very supportive of the spinning and knitting business.

Mrs. Dzholnamo trains women to spin on an electric machine, Sist village, October 2012.

Mrs. Dzholnamo, who participated in the training of trainers in fiber processing in northern Tajikistan in spring 2012, is training spinners how to use the new spinning machines and how to scour, card and spin undehaired Roshkala fiber into yarn that will be used to make Jurabe socks. Although the women in Badakhshan have less experience in spinning compared to the Asht spinners, they are enthusiastic learners committed to producing luxury yarn according to standard. Dozens of women from all pilot villages are coming to Mrs. Dzholnamo's house for training. Mrs. Dzholnamo and her husband are very proactive in organizing the spinners and dedicated to developing a successful community business.

Training in spinning in Dasht village, October 2012.

The dehaired cashgora used by the Badakhshan women will be more expensive raw material than the mohair used in northern Tajikistan. This means that the cashgora processing will require a high level of training and will have to be carefully managed, organized and monitored to prevent any errors that would result in the waste of raw fiber or yarn. This kind of monitoring is more easily done in a spinning workshop. The Andarob group took the initiative to set up a spinning shop where women from all villages could come to train and spin together. With the support of the project team, Mrs. Dzholnamo and her husband rented a 2-room house near their own house and made it into a workshop. The house was equipped with lights, tables and stools and heated in winter. Women from the pilot villages can come there to spin whenever convenient.

The women can either train to spin using their own wool or, once they gain enough skill to make yarn according to standard, start spinning undehaired cashgora yarn for Jurabe socks and earning income. If their yarn from undehaired fiber is of high quality they will be given dehaired cashgora to make yarn for export. Mrs. Dzholnamo and other experienced spinners are responsible for monitoring the trainees and deciding when a spinner is ready to work with

cashgora fiber. By spring 2013 the group is expected to be ready to fulfill export orders for the cashgora yarn. Their first order will come from knitters from the US embassy in Tajikistan.

House rented for a spinning workshop, Andarob village, October 2012.

The Andarob group will work with two types of fiber, undehaired Roshkala fiber and dehaired Ishkashim fiber. The underhaired Roshkala fiber will be scoured, carded, spun, dyed and used to knit Jurabe socks. Fiber dehaired in Afghanistan will be spun into yarn for export and used to knit value added products such as scarves, hats and sweaters. Mrs. Dzholnamo and her husband will be responsible for organizing fiber purchase in 2013.

Carding machine delivered from Asht to Badakhshan

The processing technology for Roshkala fiber includes scouring, carding and spinning. To card the fiber, the Andarob group needed a carding machine. The project team and the villagers searched for a suitable used machine all over Tajikistan and found one in the Asht region in October 2012. The project purchased the machine for the group and delivered it from Asht to Andarob. The group will now be able to card the undehaired Roshkala fiber and also some Ishkashim fiber that is relatively free of guard hair. The carded fiber will contain some guard hair but can be spun into yarn for Jurabe socks.

A carding machine was delivered from northern Tajikistan to Badakhshan, November 2012.

The carding machine is a key piece of processing equipment that will help the group to fully develop their business. The remaining problem is to organize a mini-scouring center and a dyeing center. The team and the Andarob group will work on this in 2013.

Organizing knitting

The project started to organize knitting from dehaired and non-dehaired cashgora yarn. The fist samples of dehaired cashgora yarn were delivered to experienced knitters in northern Tajikistan to be processed into first product samples. The lead knitter, Mrs. Dilorom, designed a hat and a scarf sample from the yarn. Based on discussions with potential buyers and distributors, the hat and scarf are of excellent design and quality and could be produced for sale in winter 2014.

Scarf and a hat knitted from dehaired cashgora yarn by Mrs. Dilorom, October 2012.

In the fall 2012 the project team and the knitters in Badakhshan started to develop a new model of Jurabe socks from undehaired cashgora yarn that could be used for the local tourist market and for export. The new model will combine traditional and contemporary design elements and is intended for export and for tourists. To develop the new model, the project team solicited the most experienced knitters in the pilot villages to make a sample of improved Jurabe socks based on specific suggestions, and offered a $50 reward for the best prototype. A knitter from the Sist village won the contest and was given an order for a new pair of Jurabe. The Jurabe model will continue to be improved until the project has a fully developed, standard prototype that can be mass-produced. Other products such as leg warmers and gloves from the undehaired cashgora will also be designed and produced. The dehaired cashgora will be used for scarves, hats, sweaters and other products for high-end export markets.

The project plans to concentrate on working with the knitters as soon as the new cashgora yarn is produced in the spring and summer of 2013. Given that the knitters will work with expensive yarn, they need precise instructions regarding what to produce to avoid wasting the yarn. The project team will work carefully with the knitters and with professional designers to produce marketable products. It will search for the most talented knitters who can lead the Badakhshan knitting groups and establish collaborative ties with knitters in Northern Tajikistan.

Knitters discussing how to improve traditional Jurabe socks, October 2012.

Organizing weaving

The project would like to organize blanket weaving with undehaired and dehaired cashgora yarn in Badakhshan. The team transported some dyed, undehaired cashgora yarn from Badakhshan to northern Tajikistan and weavers in Taboshar made a sample blanket from the yarn on their Fanny II loom. The blanket is very beautiful and will be test-marketed in the USA in winter 2012- 2013. Based on a preliminary assessment, blanket weaving in Badakhshan can be successfully developed if the project can supply the women with looms.

2.2.3 Component 3: Develop sustainable market chain that links fiber producers and processors with buyers

The project is starting to produce different types of yarn and products from cashgora fiber and will start test-marketing these products in 2013. The team plans to use some of the market linkages developed to sell mohair yarn and products and create additional market outlets specifically for cashgora yarn and the Pamiri knitwear.

In winter 2012 the first samples of dehaired cashgora yarn were shown to buyers and received highly positive feedback. All buyers, including Clothroads, Knit Outta the Box and Swans Lake are interested in marketing the yarn and are impatiently waiting for the first shipment. Because the cashgora yarn is similar to cashmere in softness and because there is no handspun cashgora yarn on the market and no quality double plied, handspun cashmere yarn, the Pamiri yarn will have very little competition and the demand for it is expected to be strong. Based on the project

calculations, the production price of 1 kg the cashgora yarn will be approximately $80 and the yarn will retail for approximately $300/kg – a highly competitive price for this type of product. The full pricing of the yarn will be completed after the mohair yarn shipment reaches the USA and the transportation and other costs are known.

The positive market response gives the project and the Pamiri spinners the green light to scale up production. Scaling up production of dehaired cashgora yarn will be easier than organizing mohair yarn production now that the dehairing of the cashgora fiber has been arranged in Afghanistan. While the mohair processors have to dehair, scour and card the fiber themselves before spinning, the Pamiri spinners will receive clean, dehaired, disinfected fiber from the factory that is ready to be spun. This means that the only limiting factor will be the women's spinning skills. The project expects that in 2013 approximately 10-12 women from each village will be trained to spin cashgora yarn according to standard, and that the number of skilled spinners will gradually increase. The project team estimates that later in 2013 the lead spinning group in Andarob village will be able to export the first 50 kg of cashgora yarn to the United State and also produce yarn for knitted products and blankets. The Pamiri spinners benefit from having uninterrupted electricity in winter months which will also help in scaling up production.

2.2.4 Component 4: Research on changes of income of fiber producers and women processors and their effects on livelihoods and gender roles

The Pamiri women started spinning cashgora fiber on electric spinning machines only in the fall and winter 2012 - 2013. The project team expects that trained cashgora spinners will earn similar wages as spinners who work with mohair. In the spring 2013 the project team plans to interview the women about the spinning experience this winter and calculate the earnings of trained spinners who are part of the permanent spinning group. The project estimates that a trained spinner will be able to earn around $100/month from part-time work and $200 for full time work. The availability of a spinning workshop makes it much easier to for the women to spin full time.

In addition to creating new earning opportunities for spinners and knitters, the project already benefits women who sell their goat fiber. Prior to the project involvement in the pilot region the women sold 1 kg of shorn fiber to Kyrgyz traders for $2-3. Now they sell 1 kg of combed fiber to the project for $21. One purebred cashgora goat gives 400 g of fiber. If a woman sells fiber from her 12 goats, she will earn $100 – a monthly income of a poor Pamiri family.

The project is helping the women to produce quality Altai fiber goats through its breeding activities. The productivity of local goats is terms of both meat and fiber is expected to continue to rise as a result of using quality Altai breeding bucks in all villages. This will also continue to increased earnings and improved livelihoods of fiber goat producers.

2.2.5 Component 5: Linkages (business, scientific and cultural) between the pilot communities and the global communities of producers, processors and consumers of fiber and fiber products

1. The project strengthened linkages between women who produce goats and harvest and sell cashgora fiber and women and men who buy and process fiber. The Andarob spinning group will work closely with fiber producers to organize fiber purchase in 2013.
2. The project developed a linkage with goat and fiber producers in the Roshkala region.
3. The project organized a "technology transfer" from northern Tajikistan to Badakhshan – it delivered spinning machines and a carding machine from Asht region to the main fiber processing group in Ishkashim region.
4. Linkages between the mohair and cashgora women processors were strengthened through training of trainers in May 2012 when women from the Badakhshan site were trained in Asht, northern Tajikistan.
5. Important linkage was created with AKF and Afghan cashmere processors when cashgora fiber from Badakhshan was successfully dehaired in Herat, Afghanistan in July 2012.
6. The project introduced potential buyers to cashgora yarn spun from dehaired fiber and product samples and established marketing opportunities for the yarn and products with US companies.

2.2.6 Lessons Learned

2.2.6.1 Revitalizing breeding efforts of villagers at pilot sites

The import of Altai fiber goats to Badakhshan and the breeding efforts organized by the project helped change how the villagers think of goat production and revitalize their interest in breeding quality animals that produce more meat and fiber. Key components of community breeding organization have been put in place and the progeny of the Altai goats can be effectively used to gradually improve the productivity of local goats, contributing to improved livelihoods of the producers. It is likely that after a few years the percentage of fiber-producing goats in the villages will substantially increase.

2.2.6.2 Experience in Northern Tajikistan is making work in Badakhshan easier.

The project team gained experience with setting up fiber processing in northern Tajikistan. This know-how helped the project team accomplish good results in a short time in Badakhshan. Marketing channels developed for mohair will are being successfully used to market cashgora yarn and products.

2.2.6.3 Strong community ties and flexible culture help the project team to make fast progress.

The Pamiri community is very tightly knit, people live in close proximity, news spread very fast and there is trust between people because of strong kinship ties. This makes it easy for the project and the community members to collaborate. It also helps that the value of reciprocity is

strongly internalized in the community. If the project team helps the community, the community responds by helping the team. The gender roles in Badakhshan are also more flexible relative to other parts of Tajikistan. Women are more active and vocal and men are more willing to offer practical help to women's groups which makes collaboration on developing women-led fiber processing easier.

Men in Badakhshan collaborate with women and show interest in their work, October 2012.

2.2.6.4 Hybrid fiber goats in Ishkashim produce fiber which is good for handspinning

Around 30-35% of goats produced by villagers in Ishkashim produce cashgora and cashmere-type fiber. These goats are not selected fiber goats but hybrids of various breeds – local meat goats, Altai fiber goats, Angora goats and others. Although breeding is very important to increase the percentage of fiber-producing goats and fiber production per goat, and also to improve fiber quality, fiber harvested from these hybrid goats can be easily dehaired and spun into luxury yarn. This gives the villagers the opportunity to work with the fiber they have while improving breeding.

Although the Ishkashim fiber is "good enough", it can be improved. How breeding improves fiber production and quality can be seen when comparing the Roshkala and Ishkashim goats. The Roshkala producers have a breeding system and better husbandry practices. Their goats produce double the amount of fiber compared to the Ishkashim goats, the fiber can be easily harvested and is relatively free of guard hair. The community breeding program with Altai bucks established by the project in Ishkashim will lead to improvements in fiber production of the Ishkashim goats.

2.2.6.5 Cashgora fiber has some clear advantages over cashmere.

In terms of processing qualities, the local cashgora fiber, dehaired or undehaired, is easier to spin than cashmere because the fibers are longer. The cashgora yarn and products are somewhat coarser than cashmere products but less likely to pill and have more luster, strength and longevity. It is sensible to continue working with cashgora as opposed to cashmere genetics in Ishkashim and Roshkala.

2.3 Kyrgyzstan

2.3.1 Component 1: Characterize production systems and improve fiber production of small ruminants in all target sites

2.3.1.1 Study of wool quality

Shearing of sheep at the Min-Bulak project site was conducted in April and in Lakhol in May manually using special scissors. Manual shearing affects the shorn fiber length as 0.5-1.0 cm of fiber remains on the animal's body, i.e. it reduces the shorn fiber length. It should be noted, that fiber length and fiber diameter were visually estimated from a wool sample shorn from the sheep's side.

The visual assessment of wool (table 18) showed that out from 458 kg shorn sheep wool 204 kg or 44.5% were semi-fine wool. Out of the 204 kg of semi-fine wool, 79 kg or 38.7% met the standards for cross-bred wool (fiber length of 11 cm and more and fiber diameter corresponding to 58th and 56th QS). The wool had 3-4 big and small crimps per cm of fiber, grease and luster were not well pronounced due to early shearing.

Table 18. Visual evaluation of the shorn wool on the "Min-Bulak" site

Farmer	Harvested wool, kg		Quality of the semi-fine wool, kg						Semi-fine wool rated as cross-bred
			Length, cm			Fiber diameter, quality standard			
	total	semi-fine	7-8	9-10	≥11	60	58	56	
A. Musaev	39	7		3	4	3	4		4
O. Ismadiyarov	26	10		10			10		6
S. Musaev	49	28		18	10	28			10
E. Musaev	104	61	30	25	6	50	11		11
B. Asankulov	150	66	10	35	21	30	15	21	21
Zh. Sharshenbaev	67	30		30			30		25
B. Musaev	23	2		2		2			2
Total	**458**	**204**	**40**	**123**	**41**	**113**	**70**	**21**	**79**
Share, %	**100.0**	**44.5**	**19.6**	**60.3**	**20.1**	**55.4**	**34.3**	**10.3**	**38.7**

Results of the visual assessment of wool at the Lakhol site (table 19) indicated that 680 kg or 82.2% of the shorn wool met the standards for crossbred wool. The analysis of fiber diameter

indicated that the produced wool mainly (77%) consisted of medium crossbred wool (56th and 50th QS). Although the wool mostly meets the requirements for crossbred wool, it is insufficient in grease; some parts of fleece have coarser and dryer wool, especially on the back.

Table 19. Visual evaluation of the shorn wool at the Lakhol site

Farmer	Harvested wool, kg		Distribution of the crossbred wool, kg						
			Length, cm			Fiber diameter, quality standard			
	total	crossbred	10	11	≥12	60-58	56	50	≤48
G. Usupbaeva	270	270	21	24	225	43	145	71	11
N. Akunov	78	45	3	16	26	3	20	22	-
R. Kasmaliev	140	90	9	32	49	9	45	31	5
Y. Sadykov	180	157	15	26	116	15	78	21	43
M. Asanaliev	159	118	3	45	70	3	61	30	24
Total	**827**	**680**	**51**	**143**	**486**	**73**	**349**	**175**	**83**
Share, %	**100.0**	**82.2**	**7.5**	**21.0**	**71.5**	**10.7**	**51.3**	**25.7**	**12.3**

21 samples collected from the three age/sex groups were studied with OFDA-2000 equipment (6 from rams, 3 from ewes and 12 from yearling females). The results of the analyses confirmed that wool shorn from sheep at the pilot site corresponded to crossbred wool (table 20).

Table 20. Results from OFDA analyses of wool sample

Sheep groups	Site	Number	Fiber diameter, micron	Fiber length, cm
Rams	Min-Bulak	2	25.1	11.3
Rams	Lakhol	4	27.8	13.1
Ewes	Lakhol	3	26.7	14.0
Young females	Lakhol	12	29.2	12.9

According to the artisan women, crossbred wool can be easily processed into felt due to its good felting characteristics, it is easier for primary processing (cleaning, scouring). Thus, it is a good raw material for production of slippers, chair mats and ala-kiyiz with national patterns.

2.3.1.2 Mating of sheep

To continue the breeding program directed to improve wool quality of smallholder sheep farmers and to reach standard "crossbred" wool quality in the fleeces of semi-fine wool sheep, the project funded the procurement of another two Tian-Shan rams for Lakhol site and two rams for Min-Bulak site in 2012. Thus, a total of 7 Tian Shan rams are being used at the sites, one ram had died at Min-Bulak site. The analysis of results from mating in 2011 indicated that, due to mating with the pure Tian-Shan rams with crossbred ewes owned by farmers at Min-Bulak site, the percentage of female lambs born in 2012 with crossbred wool traits reached 77.1%, which is 4.8% higher compared to 2011. At Lakhol site, the percentage of female lambs born in 2012 with full Tian-Shan breed traits was 80.5% compared to 75.0% recorded in 2011.

As a result of the breeding program, the associated training of household owners and smallholder farmers, and the use of Tian-Shan rams, the sheep producers are now more interested in breeding of semi-fine wool sheep. At the end of 2012, the share of semi-fine wool ewes with crossbred wool standard formed 70.4% among ewes at Min-Bulak site and 73.7% at Lakhol site. Natural mating of ewes was conducted in October-November in 2012.

2.3.1.3 Monitoring of flocks

The livestock specialists A.S. Ajibekov, D.V. Chebodaev, and I.A. Ajibekov regularly visited the project sites. They provided practical advice on sheep breeding and management and also continued the monitoring of the flock composition (Table 21 and 22). The farmers at both sites were provided with anthelmintics for their sheep; and the farmers at Lakhol with preventive agents against mange. Information on the flock composition in December 2012 is provided below.

Table 21. Flock composition at Lakhol site on 20 December 2012

Farmer's name	Total number of sheep	Tyan-Shan sheep					Coarse wool sheep			
		total	including				total	including		
			ewes	female lambs	rams	castrate		ewes	female lambs	castrate
G. Usupbaeva	116	115	67	23	5	20	1	1	-	-
N. Akunov	34	27	18	5	1	3	7	4	3	-
R. Kasmaliev	90	65	37	24		4	25	17	8	-
Y. Sadykov	67	50	36	9	2	3	17	14	2	1
M. Asanaliev	73	32	27	5			41	30	3	8
Total	**380**	**289**	**185**	**66**	**8**	**30**	**91**	**66**	**16**	**9**

Table 22. Flock composition at Min-Bulak site on 20 December 2012

Farmer's name	Total number of sheep	Tyan-Shan sheep					Coarse wool sheep		
		total	including				total	including	
			ewes	female lambs	rams	castrate		ewes	female lambs
A. Musaev	5	5	5	-	-	-	-	-	-
O. Ismadiyarov	30	13	10	3	-	-	17	10	7
S. Musaev	36	31	20	4	3	4	5	5	-
E. Musaev	36	32	26	6	-	-	4	4	-
B. Asankulov	57	45	32	13	-	-	12	12	-
J. Samakov	41	30	21	9	-	-	11	11	-
B. Musaev	26	18	16	2	-	-	8	4	4
T. Asenov	90	52	39	13	-	-	38	25	13
Total	**321**	**226**	**169**	**50**	**3**	**4**	**95**	**71**	**24**

2.3.2 <u>Component 2:</u> Work on the formation and capacity building of the women groups in all project sites to develop value added processing and export of wool and wool products. Encourage the development of women-led small businesses.

2.3.2.1 Increasing the competitiveness of products made by the pilot groups

<u>Introducing new design and processing technologies to meet market demand</u>

The project works with five felting groups in the Naryn region of Kyrgyzstan on producing felt handicrafts for local, regional and international markets. By 2012 the project designed and tested the following products: felt pillows, ala-kiyiz felt chair mats, scarves and slippers. The project assessed the demand for these products by test-marketing them on a variety of local and international markets. The test-marketing results clarified the level of demand for different products and showed how the demand varied across markets.

1) **Felt pillows** found little or no demand on local and regional handicraft markets. Felt pillows could potentially sell on high-end export markets. However, the women's groups would need assistance from professional designers to make luxury felt pillows for export. The pillows also have a relatively large weight and volume which would make their shipping cost prohibitively high. Based on this analysis, the project stopped producing this type of product.

2) **Ala-kiyiz felt chair mats with traditional ornaments** found a strong demand on local and regional markets and craft fairs. The groups plan to continue producing this product.

3) **Chair-mats with non-traditional ornaments** found a strong demand on local, regional and international markets. However, similar to pillows, the chair mats would be expensive to export because of their weight. The project team calculated that the shipping cost would make them too expensive to sell at the handicraft market in the USA. It would be difficult to sell felt chair mats on luxury markets. The groups plan to continue producing these chair mats for local and regional markets and the project team plans to continue exploring different shipping options.

4) **One-sided ala-kiyiz felt chair mats**. The team worked with the groups to produce one-sided chair mats to save time. However, test marketing showed that consumers prefer double-sided version.

5) **Felt slippers** are likely to be the most prospective product on all markets. After a number of trials, the team produced felt slippers with a leather sole based on imported Danish design. The plastic shoe forms needed to produce the slippers had to be special ordered from China twice as the first form was inaccurate. This is why the development of the final prototype took almost two years. The new slippers are the highest quality slippers produced in Kyrgyzstan to date by any felting group and there is a strong demand for them on local, regional and international markets. The groups plan to focus on producing the slippers in a large volume and work with designers to develop new, decorative versions for women.

6) **Felt stitched slippers** – the groups started to produce a new version of sewn felt slippers based on a prototype made by an Italian designer from "Altra Qualita" who worked with felting groups in Tajikistan. Although a strong demand for these slippers has not been identified, the project team believes that the basic form is good and with improvements in decoration & felt quality these slippers will also find a good market. Another reason why the team wants to invest in fully developing this product is that the sewn slippers are easy to make, can be produced in large quantities, and their production does not require wet felting. This means that the women's groups can produce them even in winter.

7) **Felt scarves** found a good demand on local, regional and some export markets. However, their production requires high quality, expensive merino wool tops and the more interesting types of these scarves are demanding in terms of artisan skills, design and color. It is unlikely that the Naryn groups will be able to make such scarves for luxury export markets without close monitoring and continuous assistance from professional designers. The scarves also require wet felting and can be produced only in the summer.

8) **Silk scarves with traditional felted ornaments** were successfully test-marketed on local and regional markets and at international craft fairs. However, the competition in these types of products is extremely high as most Kyrgyz felting groups produce such scarves and the local and regional market is saturated. The scarves require wet felting and can be produced only in the summer. The scarves are relatively simple in terms of the felting technique but the women groups require assistance from a professional designer in choosing colors and color combinations.

9) **Silk & felt scarves with non-traditional ornaments** can be sold on all markets including export markets and their light weight makes them cheap to export. However, marketable scarves of this kind have to be designed by a professional designer who has a strong artistic sense to select and combine design and color and who has studied the preferences of western consumers. The Naryn groups cannot design these types of scarves intended for export on their own and in some cases have difficulties copying a more complex scarf design even after training. This is unfortunate as all groups enjoy making the scarves because they are relatively easy to make give the artisans the opportunity for self-expression. The problem is that the consumers of these products have in general different tastes than the artisans. These scarves are also wet felted and can be made only in the summer.

Based on the experience with producing and test-marketing different types of products, the project plans to focus on developing the production of felt slippers with leather soles and also sewn felt slippers. The Naryn artisans will also continue to produce some models of felt scarves and silk & felt scarves under a supervision of a professional designer. In 2012 the project made a

good progress in developing the slipper production – it ordered specially crafted shoe forms from China, conducted training on making the slippers and analyzed the availability and prices of raw materials used for slippers production. Production of scarves was also further developed - the project provided artisans with designer samples, albums with photographs of scarves of various designs and raw materials such as silk and merino tops. It organized trainings on producing high quality scarves with a professional designer who specializes in these types of products.

2.3.2.2 Improving trainings methods in design and processing

During the first years of the project, trainings on design and technologies for the groups were conducted on-site in the villages. In 2012 the project team focused on trainings through fellowships or long-term internship trainings in Bishkek for the most capable members of the groups. The project focused on those groups and artisans who had the most capacity to effectively apply the training to produce quality products and train other women in their groups. These most capable and dedicated artisans and groups were given priority support by the project. In addition, five talented young artisans from Acha-Kaindy, Lakhol and Min-Bulak villages who study at universities in Bishkek have been regularly invited to attend master-classes on design and technologies conducted by CACSARC-kg.

In the second half of 2012, fellowships and practical trainings on slippers production were conducted in Bishkek for all project groups (5 artisans from each group).

Min-Bulak artisans at the training on felt slippers, CACSARC-kg Office

Artisans from Acha-Kaindy, Min-Bulak and Lakhol villages
Results of the training on slippers, CACSARC-kg Office

In September 2012, training on natural dyeing was conducted in Min-Bulak village by trainer Kenjekan Toktosunova. The dyes were prepared from local plants: herbs, onion peels, pomegranate membranes and barberries. Local crossbred wool dyed with the plant dyes was then used to produce chair mats that were submitted by the "Uz-Nu-Ayim" group for the UNESCO Award of Excellence for Handicraft Products.

Burulush Zhamanbaeva, dyeing of wool with natural dyes

2.3.2.3 Research on raw materials

The project provided institutional support to the artisans by helping them to equip and furnish their working places and supplying them with raw materials and tools. The project team researched the availability, prices and quality of different materials the artisan groups use to select the best and most economical inputs for specific products.

Wool

The project initially decided to use merino wool for all types of products. However, experience showed that Merino wool is a relatively rare type of wool and quality merino cannot be easily found in the Naryn region. Merino wool purchased in 2011 was of low quality and difficult to scour. The project team and the artisans decided to substitute local, crossbred wool for products such as chair mats. Dr. Ajibekov arranged a supply of 300 kg of high quality crossbred wool for the five groups from farms in the Lakhol village. Replacing merino wool with crossbred wool lowered the production cost of the chair mats without decreasing quality. Crossbred will also be used to produce slippers.

Although crossbred wool is good for chair mats and slippers, products such as scarves require very fine merino wool of 19-20 micron. The artisans purchase merino wool in the form of tops from a wool processing factory in Tokmak near Bishkek. Merino tops were regularly purchased with the assistance of the project and also from earnings from product sales. At the end of 2012, 31 kg of white tops was purchased for $12.8 per kg and distributed among five artisan groups.

Felt

First samples of the slippers were produced from felt purchased at the factory "Asia – Runo". However, the factory currently produces felt of very low quality; the felt is dirty, uneven and has defects that result in considerable losses when it is cut into patterns. In addition the price of the felt is high at 550-600 Som (USD 12-13) per kg, contributing to a high production cost of the slippers. The high price and poor quality of the factory felt is making it difficult to fully develop slipper production.

The project decided to resolve this issue by producing suitable felt on a felting machine in the Acha-Kaindy village. However, each attempt resulted in felt of different thickness and quality. The project team is not giving up on the idea of producing quality felt "in house." In spring 2013 the team plans to concentrate on producing a standard felt that works well for slippers in all pilot groups. The team will receive assistance from a professional felter from Kyzyl-Tuu village, Issyk-Kul oblast, Gulbara Toksombaeva. Her husband produces felting machines and the couple has worked together to produce different types of felt for many years. The project team agreed to launch slipper felt production in all villages that have felting machines in spring 2013 with their assistance.

As an experiment, the artisans also produced 5 pairs of the slippers using the ala-kiyiz technique. The ala-kiyiz slippers were very well received by customers (in Almaty, Kazakhstan and in Germany). Although this method is quite time-consuming and unsuitable for mass production of slippers, it can be used to produce unique, exclusive slippers that are expected to have their own market niche. Currently, the project is considering the production of dyed felt with patterns and ornaments on the felting machines that will be used to make unique slippers and other products.

Hand-made slippers from ala-kiyiz felt

Silk

Production of scarves depends on silk imported from Uzbekistan. The quality of silk varies throughout the year but all Uzbek suppliers bring in the same silk during their periodic business trips to Kyrgyzstan. The groups plan to save some of their earnings from sales in 2013 and purchase a large quantity of silk when the Uzbek traders happen to bring in the highest sort.

2.3.2.4 Training on product quality

The quality of felt products depends on the quality of raw materials, design, artisans' skills and felting technologies. Experience shows that the artisans often fail to apply a high enough standard during production and do not allocate enough attention to details that strongly influence product quality. Continuous improvement and maintenance of quality standards is one of the most important and also most challenging tasks of the project team.

The project team uses a variety of methods and incentives to ensure quality standards. Every new product designed for sale is examined by a professional designer who gives feedback to the producers and works with them to make improvements if necessary. The artisans also receive feedback during their internships with lead felt designers in Bishkek. The project team rewards artisans who produce quality products: best producers are awarded special prizes and invited to participate in additional trainings. They also receive support with marketing their products at crafts fairs such as the International Annual Festival "Oimo" and the projects staff takes their handicrafts to international fairs and festivals. Kamala Abdykadyriva, a chief designer involved with the project, monitors product quality, helps develop and improve product sample designs and provides consultations to individual artisans and the groups. The leaders of the Min-Bulak and Acha-Kaindy groups, Burulush Zhamanbaeva and Toyunbubu Amanova, can already conduct quality control quite professionally.

The strong emphasis on product quality has yielded good results - products of two groups supported by the project were awarded the UNESCO Award of Excellence for Handicraft Products in Central Asia by the International Jury session which took place in November 2012 in Tehran. 387 handicraft products made by artisans from Central Asia and Iran were selected for this prestigious contest, and 212 of them (54%) were awarded the UNESCO Award of Excellence for Handicraft Products.

Burulush Zhamanbaeva presented a set of two-sided ala-kiyiz chair mats from wool dyed with natural dyes on behalf of the Min-Bulak Group.

UNESCO Award of Excellence for Handicraft Products:
Line of two-sided ala-kiyiz chair-mats made from naturally dyed wool, Min-Bulak

Toyunbubu Amanova was awarded the UNESCO Award of Excellence for Handicraft Products for her round-shaped shyrdak (felt carpet). As a laureate of the UNESCO Award of Excellence for Handicraft Products, T. Amanova was included in a delegation to Kuwait where she will conduct a training on shyrdak production during the Traditional Arts Festival organized by the World Crafts Council Asia-Pacific on 20-25 January 2013.

2.3.3 <u>Component 3:</u> Develop sustainable market chains that link fiber producers and processors with buyers.

2.3.3.1 Test-marketing felt products on local and regional markets

During the reporting period, the pilot groups continued to actively promote their products on local and regional markets. The artisans received orders from customers and sold their products in Naryn and Bishkek. CACSARC-kg also helped the artisans to sell products during regional and international craft fairs. In summer and fall, products made by the groups were successfully sold to tourists and guests visiting CACSARC-kg and at craft fairs organized in Bishkek. 10 artisans from the pilot groups participated in the Seventh Annual International Festival "Oimo" which was held on 24 July – 2 August 2012 in Bishkek and Cholpon-Ata on lake Issyk-Kul.

One day before the start of the Festival the participants gathered in the CACSARC-kg Office where the designer Kamala Abdykadyrova who has been working with the groups examined all their products and provided them with feedback.

Designer Kamala Abdykadyrova is examining the quality of products to be sold at the "Oimo" Festival

Preparations for the Festival at CACSARC-kg Office.

At the "Oimo" Festival the artisans sold products in the amount of $2800. However, the artisans' expectations of even stronger sales have not been fully realized – the groups produced more items compared to last year, but, unlike last year, did not manage to sell all their products.

The project artisans expressed special gratitude to the ICARDA Tashkent Office for placing an order for the production of souvenirs for participants of the ICARDA Committee Meeting in Kyrgyzstan in September 2012 (15 scarves, 46 chair mats).

CACSA-kg organized a presentation about the project for the ICARDA delegates in Boom Gorge (on their way from Cholpon-Ata to Bishkek). During the presentation the ICARDA representatives discussed the project with the artisans and the CACSA project team, purchased handicrafts made by the Naryn artisans and witnessed the production of felt chair-mats demonstrated by artisans of Min-Bulak village.

Dr Zakir Khalikulov, Deputy Head CGIAR-PFU and Deputy Regional Coordinator ICARDA-CAC, Dr Kamel Shideed, ADG International Cooperation and Communication, ICARDA, Burulush Zhamanbaeva, group leader from Min-Bulak village, Boom, September 2012.

To promote the project and the artisans' products, CACSA-kg published leaflets, posters and business cards for the group leaders throughout the year.

2.3.3.2 Test-marketing in the USA

Some scarves still remain for sale in the USA; the income from selling felt products in the USA in winter 2011-2012 was partially used to buy a German industrial sewing machine for stitching felt and leather.

The best products for the US market are felt slippers designed in 2012. The project received an order for the slippers from a retail store in Madison, Wisconsin and other marketing outlets in USA and Canada are being developed. The project team will focus on scaling up slipper production in 2013 to satisfy the demand.

Burulush Zhamanbaeva submitted an application for participation in the prestigious Folk Arts Market in Santa Fe, USA that will take place in August 2013 www.folkartmarket.org. Unfortunately her application was not accepted but the jury had given her recommendations how to improve the application for 2014.

2.3.3.3 Test-marketing felt products in Europe

The year 2012 has become a real "discovery" of Europe for the artisans and their products. The project team explored in particular the handicraft markets in Hungary, the Netherlands, Belgium and Germany.

Hungary

The project helped finance Svetlana Balalaeva's trip to the 26th Festival of Folk Arts in Budapest in 17-21 August 2012. Ms. Balalaeva's visit was also supported by the invitation from the Association of Hungarian Folk Artists.

The folk arts exhibition in Hungary, August 2012.

Studying the market demand, dialogue with buyers.

Ms. Balalaeva had the opportunity to test-market handicrafts made by the Naryn groups and receive feedback from customers. The buyers showed a keen interest in the felt slippers, especially in large sizes. Chair mats were less popular but there was some interest in chair mats with traditional Kyrgyz ornaments. The demand for felt and silk scarves was low partially due to a strong competition from similar products at the Fair.

The Hungarian Association of Folk Artists agreed to invite Kyrgyz artisans as guests to the next Festival that will be held in August 2013. 15 Kyrgyz artisans received an official invitation to present an assortment of traditional felt handicrafts at the festival in August 2013. The guest status includes a full coverage of expenses on the territory of Hungary by the hosting party, including a rental of a booth at the festival; the Kyrgyz side has to cover only the cost of airfare for the participants. The project plans to cover the airfare of one participant - Burulush Zhamanbaeva, the leader of "Uz-Nur-Ayim" group from Min-Bulak village. It is a reward for her exceptional leadership that contributes to quality products and strong sales for the group.

Boutiques for Festival guests (15 boutiques). Guest country of the 2012 Festival was Slovenia, Kyrgyzstan will be a guest country of the Festival-2013.

Ms. Balalaeva also sought potential buyers in the Netherlands. In Amsterdam she met with the owner of the «Shirdak» Salon, Ms. Tuerlings who works with many artisans from Central Asia www.shirdak.nl. Ms. Tuerling showed interest in the products of the groups, purchased felt and silk scarves and ordered slippers in sizes 43-45.

The project also collaborates with another Netherland Company "Felt for you" that is starting to sell the groups products through their website www.felt4you.nl and also at handicraft fairs in the Hague where the Company has its office. Between September and December 2012, the Company has bought products in the amount of 1100 Euro: scarves, chair mats and slippers.

The project team also agreed with the founders of www.caravanistan.com about placing 20 scarves made by the Naryn artisans on consignment in Belgium and selling them through an online store that will open in February 2013. However, all scarves successfully sold before the New Year at holiday fairs in Belgium.

Saule Kalysheva (www.caravanistan.com) with scarves of Naryn artisans at the fair in Belgium.

Products purchased from the artisans by the project were also sold at international fairs attended by members of CACSA and the project staff. In November 2012 the project designer Kamala Abdykadyrova successfully sold slippers and chair mats made by the Naryn artisans at an annual holiday Fair in Berlin, Germany.

Products of Naryn artisans (slippers and chair mats) at the fair in Germany, November 2012.

These marketing experiments allowed the project to compare different types of markets, local, regional and international, and provided the artisans with valuable information regarding the types of products that sell and the price points the products can sell at at different markets. The test-marketing showed that holiday fairs in Europe provide an excellent market for many of the products. Internet sales through European companies may become another important market channel.

2.3.4 <u>Component 4:</u> Research on changes of incomes of fiber producers and women processors and their effects on livelihoods and gender roles.

2.3.4.1 Data on handicraft sales and earnings of artisan groups

In 2012, the project team and the artisans sold products for $5,018. This money is being re-invested into the project and used as a revolving fund to purchase more products, pay artisans for their work on filling orders, purchase raw materials and tools needed to implement orders, and cover marketing expenses.

During the first reporting period, the project bought products from the artisans for $773. During the second reporting period all products were purchased using the revolving fund. Products are purchased from artisans at retail prices which include profits of 20-40% for different types of products. Final sale prices of the products are negotiated with the customers and wholesale buyers on individual basis.

The project team has successfully sold all products purchased from the artisans using the project budget and the revolving fund and by the end of December 2012 the project had no products left for sale. Products remaining from 2011 were also sold for $263.

The earnings of US$5018 from product sales in 2012 were utilized as follows:

- Products purchased from the artisans: $1533

- Payments to artisans for their work on filling orders: $664
- Raw materials for production and trainings: $1255
- Payment to designers for improving scarf designs, dyeing wool and silk for product orders and designing new templates for slippers: $273
- Payment for meals and travel expenses of artisans who worked on orders in Bishkek: $128;
- Equipment and tools for the groups: $529;
- Expenses on marketing the products outside of Kyrgyzstan: $448;
- Communication expenses, transport: $60
- Remainder from sales on 31 December 2012: $128.

According to information received by the project team from the groups, by the middle of September 2012 the artisans themselves sold products in the amount of $16,900.

2.3.5 Component 5: Linkages (business, scientific and cultural) between the pilot communities and the global communities of producers, processors and consumers of fiber and fiber products.

The project continued to develop and support multiple new linkages between the Naryn pilot groups and Kyrgyz designers, raw material suppliers, buyers of handicraft products and international organizations.

1. Continued cooperation between the Naryn groups and Kyrgyz designers who provide feedback, consultations, trainings and internships on designing new, quality products to the artisans.
2. Strengthened relations between the Naryn artisans and the CACSARC-kg Office which provides marketing support to the artisans as an organizer of the International Festival "Oimo" and craft fairs in Bishkek. CACSARC-kg also takes the artisan's products to international fairs in Europe and other countries.
3. Linked Naryn felters with buyers of felt products on the local, regional, European and American markets and solicited new orders for felt slippers, chair mats and scarves.
4. Linked the artisans with organizers of craft fairs in the USA, Hungary, and Kazakhstan.
5. Expanded and strengthened relations between the Naryn artisans and communities of craftspeople and raw material suppliers in Kyrgyzstan and other Central Asian countries.
6. Established contacts with the owners of marketing websites in Europe and Kazakhstan to promote awareness about the project and the artisans and promote on-line sales of products.
7. Established cooperation between the project artisans and UNESCO through participation in the UNESCO Project "UNESCO Award of Excellence for Handicraft Products in Central Asia and Iran". T. Amanova from Acha-Kaindy village and B. Zhamanbaeva from Min-Bulak village were awarded the UNESCO Certificate of Award of Excellence for Handicraft Products. Project artisans participated in preparing the nomination documents submitted to UNESCO for inscribing Kyrgyz traditional felt carpets *ala-kiyiz* and *shyrdak* in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity. Application, submitted by Kyrgyzstan to UNESCO in March 2012, was signed by all pilot group leaders. In December 2012 in Paris the Kyrgyz Traditional Felt Carpets Ala-Kiyiz and Shyrdak have been inscribed in the UNESCO Representative List of the Intangible Cultural Heritage of Humanity

8. Established links between the artisans and governmental institutions including the Ministry of Culture and Tourism of the Kyrgyz Republic that awarded 14 artisans with Diplomas and Honorary Certificates for their contribution to safeguarding of the Ala-Kiyiz and Shyrdak felt carpet. Among the distinguished awardees were project artisans T. Amanova (Acha-Kaindy village) and S.Omuralieva (At-Bashy village). The awards were handed to them in Naryn by representatives of the local government.
9. Established ties between project artisans and the World Crafts Council CACSARC-kg is a member of. B. Zhamanbaeva received an order for chair-mats certified with the UNESCO Award of Excellence from "China Arts and Crafts Association" affiliated with the Council. The chair-mats will be displayed at an exhibition in China. As a winner of the UNESCO Award of Excellence, T. Amanova was invited by the World Crafts Council to deliver a presentation on the Kyrgyz shyrdaks at an international Crafts fair in Kuwait in January 2013.
10. Linked the project artisans with representatives of the ICARDA Committee. The CACSA staff and the artisans presented on the project during the Committee's Session held at Issyk-Kul, Kyrgyzstan in September 2012.
11. Established links with donor organizations, in particular with the Democracy Commission of the US State Department, which supported a mission of S. Balalaeva to Tajikistan in October 2012 to plan training and marketing activities for ICARDA artisan groups in Sogd region of Tajikistan in 2013. The activities will be implemented through a CACSARC-kg project funded by the US State Department.
12. Prepared methodical aids on different handicraft technologies and designs.

2.3.6 Lessons learned

The production of felt handicrafts is seasonal and constrained by weather conditions. The Naryn oblast has severe climatic conditions compared to other regions of Kyrgyzstan. Because of long and cold winters, the period suitable for wool processing and felting is very short – from May to October. This period fully coincides with the period of agricultural work which is vitally important for the families. The only felting technique that can be used during winter is the production of shyrdaks and other stitched felt products such as stitched slippers, bags, hats and souvenirs. Because of severe cold and insufficient heating and electricity in the villages, the artisans have limited options to produce handicrafts in winter when they happen to have the most free time.

The project has tried to provide a workspace for the groups in the CACSA-kg office in Bishkek during winter months. Young women from the Naryn groups who study in Bishkek can come to the CACSA office to work on product orders the groups received. Other artisans from the pilot groups are also periodically invited to Bishkek for several days to work on filling orders or to train with a designer.

Shirin Amanova, Acha-Kaindy, is implementing the order from Holland, October 2012

In 2013 the project team plans to rent a separate workshop at the CACSA Office for the project artisans. This will strengthen collaboration between the groups and CACSA-kg. The CACSA-kg team plans to continue helping the groups produce and market products after the project ends.

2.4 Project Activities in Kerman, Iran

2.4.1 <u>Component 1:</u> Characterize production systems and improve fiber production of cashmere goats.

2.4.1.1 Effect of year on cashmere fiber characteristics

In order to determine the year effect on cashmere characteristics, the baseline cashmere sampling in 2010 had been repeated in 2011. It was expected that cashmere characteristics are affected by the differences in climatic and environmental conditions between years, in particular the fiber fineness which affects the market price and thereby the income of the nomad producers. A total of 356 cashmere samples were collected in eight Raeini nomad herds from four randomly selected goats of each sex (females, males) by age (1, 2, 3 and 4 years) combinations in 2010 and 2011. Sampling was conducted in early spring (mid-April), prior to the seasonal shedding and regular annual shearing period. The raw cashmere samples consisting of undercoat and guard

hair were sent to the Alrun Fiber Laboratory in Almaty, Kazakhstan for analyses. An optical fiber diameter analyzer (OFDA 4000 in the mode of an OFDA 100) was used to measure mean cashmere fiber diameter, fiber diameter standard deviation and fiber curvature.

The data were analyzed in 2012 and results are presented in Table 23. Overall mean for fiber diameter, fiber diameter standard deviation, staple length, yield and curvature is 20.1±0.08, 52.9±0.5, 4.5±0.03, 56.8±0.6 and 60.1±0.4, respectively. Significant differences in cashmere diameter and staple length were found between the first and second year. Cashmere samples in 2010 had significantly higher staple length and lower fiber diameter than the samples collected in 2011 which indicates higher quality of cashmere in 2010. Environmental conditions such as rainfall and the related availability of feed in the pastures appear to have affected cashmere characteristics.

Table 23. Overall means, standard deviations (s.d.) and ranges of fiber characteristics for Raeini goats in two subsequent years

Effect		No	Staple length (mm)	Diameter (µm)	Diameter SD (µm)	Cashmere (%)	Curve (°/mm)
Sex	**Sign**		NS	NS	NS	*	NS
	Male	176	54.6±0.7^{a}	20.3±0.1	4.6±0.05	58.9±0.9^{a}	60.2±0.6
	Female	180	49.6±0.7^{b}	19.9±0.1	4.4±0.05	54.1±0.8^{b}	59.7±0.6
Age Group	**Sign**		*	*	*	NS	*
	1	63	54.3±0.8^{a}	19.3±0.2^{c}	4.4±0.06^{b}	55.7±2.0	60.7±1.1^{a}
	2	115	53.6±0.8^{a}	20.1±0.1^{b}	4.6±0.5^{ab}	57.1±0.9	58.9±0.6^{b}
	3	119	51.6±0.9^{ab}	20.3±0.1^{ab}	4.5±0.6^{ab}	57.7±1.0	60.2±0.7^{b}
	4	59	48.2±1.6^{b}	20.8±0.2^{a}	4.7±0.09^{a}	53.7±1.3	57.6±0.8^{b}
Year	**Sign**		NS	**	NS	NS	NS
	2010	191	54.8±0.5^{a}	19.8±0.1^{b}	4.5±0.04	56.2±0.9	60.9±0.6
	2011	165	49.1±0.9^{b}	20.5±0.1^{a}	4.6±0.05	56.8±0.8	58.8±0.5
Mean		356	52.9±0.5	20.1±0.08	4.5±0.03	56.8±0.6	60.1±0.4

Strong negative relationship was found between mean fiber diameter and fiber curvature (Figure 1). As lower fibre curvature (crimp) can be easily observed, the association between fibre diameter and curvature can be used subjectively for classing of cashmere in the field. This criterion is of large commercial importance as cashmere buyers make purchase decisions on fibre curvature to assess not only FD and acceptability but also efficiency of mechanical dehairing and increasing cashmere production.

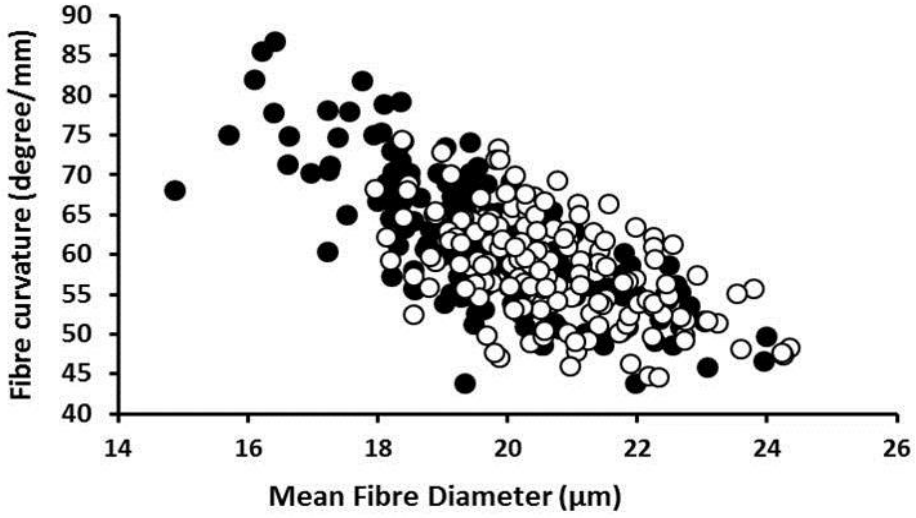

Figure 1. The relationship between mean fibre diameter and fibre curvature from individual goats during 2010 and 2011. Symbols: does (●); bucks (○).

The actual distribution of staple length and FD of samples in Figure 2 shows that there is no strong relationship between these two characteristics. These results indicate the need for adopting proper management and selection methods. This may be achieved through selection of goats with finer cashmere taking care of maintaining the excellent cashmere staple length.

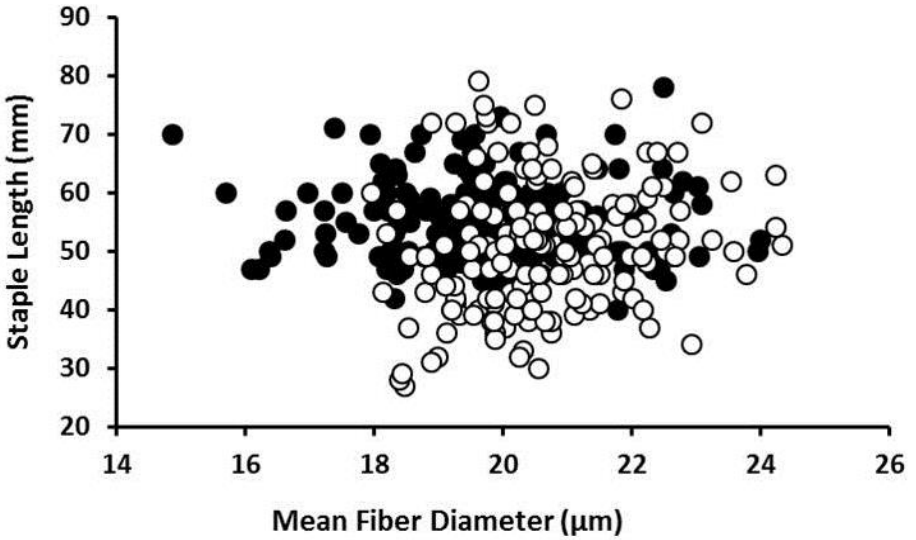

Figure 2. The relationship between mean fibre diameter and staple length from individual goats during 2010 and 2011. Symbols: does (●); bucks (○).

Nomad women taking care of Raeini goats.

Selection of goats with finer, longer and higher curvature cashmere in a nucleus herd owned by Reza Mousapour.

2.4.1.2 Improving breeding practices focusing on fiber quality

A breeding program with the aim of improving the fibre quality was established in March 2010. Eight nucleus flocks were formed; in each flock the 40 best female goats were identified based on fleece weight, softness, fineness, density, staple length, cashmere color and body size. In 2010, 2011 and 2012 these females were separated from the rest of the flock and mated with the two best bucks end July/beginning August each year. Kidding started at the end of 2012. Pedigrees were recorded and the kids born were ear tagged and weighed in December 2012. This process will be continued in all nucleus herds from January to March 2013. All nucleus herds are provided with ear tags and punch to ear tag the kids. All male and female kids will be tagged and weighted and their birthdates will be recorded.

Raeini cashmere goat nucleus herd owned by Alireza Mousapour.

2.4.1.3 Support for nucleus and base (non-nucleus) herds in 2012

The baseline study revealed that disease, predators and poisoning accounted for 57, 36 and 5% of adult animal deaths, respectively. Of all adult goat losses 67% were females and 33% were males. Disease, predators such as wolves and jackals and accidents accounted for 88, 11 and 1% of young animal deaths. The reasons and numbers of losses change from year to year, especially the number of deaths due to diseases, which leads to unstable growth and decrease in herds

The national project team provided the farmers with veterinary drugs (antibiotics and syringes) for treatment of nucleus and base herds. These veterinary drugs were used for goats and sheep against most common diseases. The baseline study indicated that the most prevalent diseases causing losses of young animals were Diarrhoea (58%), Pneumonia (40%) and Foot and Mouth disease (2%); and the most prevalent diseases for deaths in adults were Enterotoxaemia (49%), Foot and Mouth disease (26%), Pneumonia (23%) and Agalactia (2%). The team plans to provide the farmers with the antibiotics against these diseases in 2013.

Furthermore it is predicted that nomadic livestock producers of Iran to be severely affected by an exceptionally cold, long and snowy winter in 2012-2013. Many nomad farmers have already run out of feed by December 2012 and will be in dire need for animal feed in January-March 2013. It is expected that large percentage of offspring will be lost to cold and starvation. Furthermore, feed prices have increased. Farmers were provided recommendations in carrying for their animals; still they should be provided with animal feed in 2013.

2.4.2 <u>Component 2:</u> Work on formation and capacity building of women's groups to develop cashmere processing at pilot site

A cooperative of women cashmere yarn and handmade crafts producers with the leadership of Mrs. Mahtab Mousapour whose family owns a goat farm in Baft was formed in 2011. Mrs. Najmeh Karegar from the national project team and Mrs. Mahtab Mousapour from the nomadic community of Baft were trained in Khojand, Tajikistan in May 2012.

Three yarn production workshops were held for about 60 nomad women in Zarab district of Baft. In these workshops the quality of hand dehaired cashmere and spindle spun yarn was compared with processed cashmere and yarn made by electronic machines. Certificates were issued by the Animal Science Research Institute for all participants. Two other yarn dyeing workshops using artificial and natural dyes were held in Zarab district for 50 nomad spinners (25 participants per workshop).

2.4.2.1 Training workshop on yarn production

In July-August 2012 three yarn production workshops were held in Baft and Zarab district. In all these workshops about 60 nomad women were trained on how to make good quality yarn.

<u>Details on training</u>

Theme: Cashmere yarn production

Date: 4th of July, 22nd of August and 29th of August 2012.

Duration of each workshop: 1 full day

Trainer: Mrs. Mahtab Mousapour and Mrs. Najmeh Karegar

Participants: 60 nomad women from Zarab, Goushk and Baft areas.

Place: one in Baft city and two workshops in Zarab district about 40 km from Baft.

The theoretical and practical sessions included

- how to use electronic machine to make yarn
- how to handle dehaired cashmere
- how to use traditional spindles to make yarn.

Mrs. Mahtab Mousapour (middle) is showing the use of an electric spinning machine to trainees.

Mrs. Shahnaz Mousapour is preparing dehaired cashmere for making yarn

Hand dehaired cashmere.

Mrs. Mahtab Mousapour (right) showing Mrs. Hajar Mousapour how to use electric spinning machine to make yarn.

Fatemeh Aubsalan is using electric spinning machine to make yarn.

Mrs. Goli Mousapour is using traditional spindle to make yarn from hand-dehaired cashmere.

2.4.2.2 Training workshop on cashmere yarn dyeing using plant (natural) dyes

A workshop on yarn dyeing was held on 17th of December, 2012 for 25 nomad women cashmere producers. Scientific information was presented on how to use different kind of herbs to dye cashmere yarn. Cashmere producers-spinners were trained as how to dye cashmere yarn based on locally available plants. The color that results from dying with plant parts used can fall into a broad spectrum, from auburn, to orange, to deep burgundy, chestnut brown or deep blue-black. The following factors determine the color that results from using plants:

- Original cashmere/wool color
- Freshness of the herbs
- Region of origin of the herbs
- Amount of time the herbs is left on the fiber to process
- Whether it remains wet on the fiber, or is allowed to dry

Details of yarn dyeing workshop

Participants: 25 women mainly from nucleus herds.

Date: 17th of December, 2012.

Instructor: Mr. Reihani from Kerman city.
Place: Zarab village about 30 Kilometers from Baft city in Kerman province, Iran.
Material used for dyeing: Henna plant, Walnut husk and Rubia (Madder) plant
Duration of workshop: One full day.
Future plan: Organize other workshops on cashmere knitting and handicrafts.

The workshop had theoretical and practical session on

- How to process plant parts
- How to make dyes
- How much plant material and yarn should be used for dyeing
- What procedure should followed after dyeing

Some of nomad women participants in the dyeing workshop. Mr. Reihani (Trainer) in the middle.

2.4.2.3 Training workshop on cashmere yarn dyeing using chemical (artificial) dyes

A workshop on cashmere yarn dyeing was held on12th of November, 2012 for 25 nomad women cashmere producers. Participation of nomad cashmere producers-spinners in the workshop gives them the opportunity to take advantage of new techniques and to assess and compare their dyeing skills. During the workshop the participants raised questions on utilization of the dye materials.

Details of yarn dyeing workshop
Participants: 25 nomad women mainly from nucleus herds.
Date: 12th of November, 2012.
Instructor: Mr. Reihani from Kerman city.

Material used for dyeing: Chemical dyes, cashmere yarn, acidic stone.
Duration of workshop: One full day.

The theoretical part included:

- What is the importance of cashmere yarn to national econonmy?
- How dyed cashmere yarn could affect the livelihood of the farmers?
- What are the dyeing procedures?
- What cashmere quality should be considered when dyeing?
- What kind of dyes should be selected?

The practical part comprised demonstrations of:

- dyeing materials
- quality cashmere yarns
- different dyeing procedures and techniques
- different dyed cashmere yarn qualities.

2.4.3 <u>Component 4.</u> Develop sustainable market chain that links fiber producers with processors.

2.4.3.1 Organizing knitting groups

The project has started organizing knitting groups in Zarab district. The knitters were asked to make samples of socks (Jourab) and hats (Kolah) and showering sack (Kiseh). Nomad women have produced samples of socks and hats from dehaired cashmere yarn spun by electric machines. Given that the quality of cashmere products made by nomad women should meet international standards, they need precise instructions regarding what to produce. The project team is in contact with professional knitters and designers from technical center of Baft city to organize several knitting workshops in 2013 in order to improve the skills and the quality of cashmere products of nomad women.

Hat and sock made by Mrs. Jeiran Mousapour.

Hat and sack made by nomad woman.

2.4.4 Component 5: Linkages (business, scientific and cultural) between the pilot communities and the global communities of producers, processors and consumers of fiber and fiber products.

2.4.4.1 Linkages with the scientific community through publications

Following papers have been submitted to international journals for publication:

- Nomadic pastoralism in southern Iran.
- Comparison of two combing methods using long and short combs on cashmere characteristics.
- Marketing of Iranian cashmere

Three papers were published in conference proceedings of Isfahan and Kerman Universities:

- Sheep and goat management by nomads in Southern Iran. Presented to "5th Iranian Congress On Animal Science" in Isfahan University. August, 2012.
- Livestock species of nomadic communities of Southern Iran. Presented to "17th national and 5th international Iranian Biology Conference" in Kerman University.
- Sheep and goat nutrition in nomadic society of Kerman province of Iran. The 1st international conference on animal nutrition and environment. 14-15 September, 2012.

Two papers were submitted to two Chinese conferences in 2013:

- Comparison of two methods of cashmere combing using long and short combs. Presented to the 4th International Conference on Sustainable Animal Agriculture for Developing Countries (SAADC), July, 2013; accepted for oral presentation.
- Marketing of cashmere in Iran. Presented to 11th World Conference on Animal Production. October, 2013.

Three extension leaflets have been prepared and will be printed in 2013:

- Cashmere shedding and combing.
- Cashmere marketing.
- Cashmere improvement of Nomadic Raeini goat.

2.4.4.2 Linkages between cashmere processing communities

- The project developed stronger linkages between women who produce and sell cashmere goats and experts on yarn dyeing and knitting from Baft Technical center. The experts have trained about 50 women cashmere producers from nomadic areas of Baft on how to use plant and chemical dyes for dyeing cashmere and wool yarns.
- The project has linked the nomad women of Baft who spin yarn with Tajik community by importing spinning machines. It is planned to order and import more machines from Tajikistan in 2013 to facilitate the production good quality cashmere yarn.
- Stronger linkages are being established between the cashmere producers and spinning groups in Baft and the knitters.
- The national project coordinator was interviewed three times by Iranian newspapers and national television. In these interviews, the cashmere project achievements and future plans were discussed and broadcasted.

2.4.5 Lessons learned

Arrangements should be made for winter feeding of animals in nucleus herds. Herds should be provided with barley to prevent substantial losses of goats in expected severe weather conditions in December 2012 and January to March 2013. Very harsh weather, high precipitation in the form of snowfall and long winter negatively affects the reproduction and health of goats and other livestock in Baft.

After more than three years on working in the Baft nomadic communities, the national project team has earned trust of nomad farmers who actively collaborate in all project activities; women and men participate in breeding program, treatment of goats, cashmere harvesting, participate in training workshops and dyeing and making cashmere handicrafts. This is because the project is focused on development activities that generate tangible benefits for the nomads in terms producing more productive animals and higher quality cashmere fiber and new technologies and skills for producing better yarn and handicrafts.

3 Progress towards grant purpose and goal

3.1 Northern Tajikistan

3.1.1 Angora goat production

3.1.1.1 Nucleus breeding flocks were established

The project worked with farmers to develop breeding nuclei of white and colored Angora goats and established a super nucleus supported by the Livestock Institute. The project team trained farmers how to evaluate Angora goats and how to use the nucleus groups to improve the quality of their goats and fiber.

3.1.1.2 Imported Angora goat semen was used in nucleus flocks

Regardless of the low fertility rate, the crossbred kids produced through the AI in 2011 are showing good results regarding fiber quality and adaptability, are highly valued by farmers and provide a strong impetus for improving Angora goat breeding in Tajikistan

3.1.1.3 Export of mohair products

The “Hub” led by Farhod Kosimov prepared the first shipment of mohair products to the USA. Newly contacted “Jahonnek” NGO based in Dushanbe is helping to arrange shipment to the US with Turkish Airlines at a reasonable rate.

3.1.2 Mohair Processing

3.1.2.1 Yarn Production

In the spring 2012 the women processors and the project team implemented a new model of fiber processing that incorporates all key processing operations. In spite of shortcomings in

infrastructure outlined in previous sections this system allows the women to produce high quality yarn for export. Most of the operations including fiber purchase, dehairing, carding and spinning were improved in 2012. Accounting system was also improved. A local woman leader is now in charge of all processing activities. She and her group receive assistance with fulfilling export orders from a Hub run by trusted, experienced assistants and long-term project collaborators such as Farhod Kosimov.

3.1.2.2 Knitting, weaving and carpet-making

The team started to add value to the new yarn by producing socks for export and made progress in organizing the production of luxury knitwear based on imported design. In 2012 the project developed blanket weaving for export and for local luxury markets such as the Hyatt hotel gift shop in Dushanbe and started organizing the production of mohair carpets in Istaravshan.

3.1.2.3 Strengthening collaborative ties among fiber processors, producers and product buyers

Producers are investing their own resources in the processing, based on their capacities. Some producers invest money, others time and effort. Fiber processing is evolving and improving because of the time all participants invested in learning how to do their jobs and how to work together. A social capital of trust has been built between the project team and the beneficiaries. This helps to resolve problems, reach agreements and develop new opportunities more quickly and effectively.

The processing groups are becoming coherent organizations and their participants – farmers, spinners, knitters and weavers—are developing stronger ties with one another. The product buyers are becoming more familiar with the products and also with the producers and are passing the information to the consumers. Gradual increase in knowledge, capacity, trust and connectivity among all participants is speeding up the development of the processing and marketing chain.

3.1.2.4 Strengthening linkages with buyers; developing a hub

The project continued to collaborate with Clothroads and created new linkages with Knit Outta the Box company, Peace Fleece and Hyatt Hotel gift shop in Dushanbe. It also developed a Hub that will be operated by Farhod Kosimov and other members of the Kosimov family. The Hub plays an active role in helping the groups fulfill export orders and assists them with communication, international shipping and other logistics.

3.1.2.5 Export of products

The project is in the final stages of completing the first shipment of products to buyers in the USA, with assistance from the Hub.

3.2 Badakhshan, Tajikistan

3.2.1 Cashgora goat breeding

3.2.1.1 Offspring from imported bucks received in 2012 in spite of harsh winter conditions

In spite of the difficult winter of 2012, the project received a number of offspring from the Alai bucks in 2011 and 2012 (73 and 122 respectively). The Altai crosses are showing signs of improved productivity - a large volume of quality fiber and good body condition. The project expects a large number of Altai offspring in spring 2013.

3.2.1.2 Active participation of the villagers in the breeding activities and positive assessment of the results

The villagers are very pleased with the breeding results and are actively collaborating with the project on setting up a sustainable breeding system that includes castration of all inferior males. 107 women farmers collaborate on the breeding and on other activities such as fiber collection and processing.

3.2.1.3 Training villagers in improved methods of animal husbandry

The project team trains households in improved methods of goat husbandry including the importance of winterfeed and vaccination to ensure health and good reproductive capacity of their goats. The villagers are learning how to organize vaccination and castration jointly, with the help of local veterinarians. The training in goat husbandry is helping the households to improve care of sheep, cows and other livestock.

3.2.2 Cashgora processing

3.2.2.1 Women are earning greater incomes from selling fiber

Women earn $21 from selling 1kg of combed cashgora fiber. They were earning $2-3 from selling 1kg of sheared fiber previously. Yarn spinning is developing fast and the spinners will start earning sustainable income and exporting yarn before the end of the project.

3.2.2.2 The project delivered fiber processing equipment to the pilot site; spinning workshop was organized

The project delivered spinning machines and a carding machine to the lead processing group in Andarob village. The project also collaborated with women and men in Andarob to organize a spinning workshop. The workshop is equipped with spinning wheels, chairs, tables, lighting and heating. Women come there to train in spinning and make yarn for sale. The Andarob group is now ready to process clean fiber collected in Roshkala into yarn for Jurabe socks and start spinning dehaired fiber into yarn for export.

3.2.2.3 The project dehaired fiber in Afghanistan

The project organized fiber dehairing in Herat with the help from AKF in 2012 and arranged dehairing in Faizabad, Afghanistan in 2013.

3.2.2.4 A new model of Jurabe socks and luxury knitwear from cashgora yarn is being designed

The project is developing new knitted products from the new yarn including an improved model of Pamiri Jurabe socks and also luxury knits for export.

3.2.2.5 Samples of yarn spun from dehaired cashgora fiber received excellent reviews from buyers

First samples of cashgora yarn and products were shown to buyers in fall 2012 and received a highly positive review. Companies that collaborate with the project on marketing mohair yarn and products are ready to market cashgora yarn and products as well.

3.3 Kyrgyzstan

3.3.1 Improving crossbred wool quality as source of raw material for felters

The gradual replacement of fat-tailed coarse wool sheep by Tian Shan offspring in Min-Bulak and Lakhol has led to considerable improvement in the quality of wool and interest of farmers in wool production. The crossbred wool produced by the target flocks in Lakhol has already reached a quality which allows the artisan groups to use it for felt products.

3.3.2 Development of quality marketable new products

In 2012 the project developed several new products including quality felt slippers that are in demand on local, regional and international markets. The artisans do not have competition in this type of production at the moment and will be able to earn good incomes producing and marketing the slippers. The project also works on developing a new model of stitched slippers. Such products can be made in winter when the artisans cannot use felting techniques that require water. Other products such as chair mats and scarves were also improved. The new version of chair mats received an award of excellence from UNESCO.

3.3.3 Test-marketing products in Europe

Svetlana Balalaeva and other members of the project team succeeded in introducing the products at a variety of crafts markets in Hungary, the Netherlands, Germany and Belgium. The test-marketing was overall very successful and provided the project team and the artisans with valuable information that can be used in new product design, improvement of existing products and development of marketing strategies. New contacts and distribution channels with European buyers were established and will be fully developed in 2013.

3.3.4 Strengthening the capacity of the groups and individual artisans to succeed in producing high quality products demanded by buyers

The emphasis on producing quality products, ongoing feedback and monitoring by professional designers who maintain high quality standards in their work is raising quality awareness and standards of the Naryn artisans. Striving for high quality in production is the best guarantee of long-term success and competitiveness of the groups and their products.

3.3.5 Finding new ways of collaboration between CACSA and the pilot groups

The CACSA-kg team is finding new, creative ways of collaborating with the groups. It promotes the artisans and their products through its contacts with international donors and agencies that support Kyrgyz art and culture. With the help of CACSA, chair mats made by the groups were submitted to compete for the UNESCO Award of Excellence for Handicraft Products and CACSA is now helping the groups to apply for participation in the Santa Fe Folk Arts Market in the USA. The Naryn artisans can also come and work on products in the CACSA office during winter. CACSA plans to collaborate with the groups after the project ends.

3.3.6 The groups' motivation to develop the felting business has increased and so did their product sales

The Naryn artisans are becoming highly motivated to succeed in developing sustainable businesses. They invest their own resources to buy raw materials and to participate in fairs, trainings and internships with product designers. They are also increasing the volume and assortment of products and their sales in 2012 have doubled compared to 2011.

3.4 Iran

3.4.1 Progress in improving the Raeini goat breeding program

In spring 2012 the project team conducted a breeding workshop on simplifying selection scheme and how to select superior bucks and does based on visual assessment of cashmere characteristics such as fineness, crimpiness, bulkiness and length of fiber. Now farmers in all eight nucleus herds at the pilot site are well aware of this knowledge and apply their learned skills. As a result, the breeding program is well on track and the labor intensive and expensive taking of cashmere samples for laboratory tests can be reduced.

3.4.2 Scaling up yarn making and cashmere dyeing techniques

Three yarn making workshops were held for participants in nomadic areas of Baft in Kerman province. In these workshops, the importance of dehairing and how quality can influence cashmere yarn prices in international markets were discussed. These workshops enabled nomad women cashmere producers and processors to use small electronic machine to make cashmere

yarn and to compare the superior quality of machine made yarn with that of inferior quality of yarn made using traditional spindles.
Two other separate workshops were held in using artificial and natural dyes for nomad women in November and December 2012 respectively. These workshops gave the participants the opportunity to take the advantage of new techniques and be able to use a combination of different plant species in dyeing cashmere yarn.

3.4.3 Formation of three cooperatives for nomad women cashmere producers and processors

Three separate cooperatives were established in the vicinity of nomad farms 20 to 30 kilometers from each other which not only gave the chance to nomad women to participate and to benefit from the advantages of different workshops but also enabled them to make cashmere products in a group while maintaining their active role in the management of livestock.

4 Shortcomings and problems encountered in grant implementation and actions taken

4.1 Northern Tajikistan

4.1.1 Angora goat breeding

4.1.1.1 Farmers fail to separate white and colored Angora goats during breeding

Many Angora goat farmers know little about goat breeding and some are unwilling to invest time and effort in proper breeding practices. The uninformed or uninterested farmers raise flocks of white and colored goats together and some also keep indigenous bucks with coarse fiber in their flocks. This results in a gradual decline in goat and mohair quality on many farms. The team has been training and educating farmers and demonstrated the benefits of effective breeding practices in terms of greater volume and quality of fiber, and higher earnings from fiber sales. The team also works to strengthen collaborative ties among like-minded farmers who are willing to invest in long-term, sustainable Angora goat production.

4.1.1.2 Problems with privatization and legal usage of rangelands

Angora goat producers (as well as producers of other livestock) do not yet have legal rights to rangelands. Farmers find it virtually impossible to obtain a certificate that would give them the right of ownership or long-term use of rangelands. This generates uncertainty among farmers and makes it impossible to safely invest in Angora goat production. The team helps farmers by keeping them updated on the most recent legislation regarding rangelands. It is also prepared to assist farmers with submitting applications to privatize their rangelands once the laws governing these processes are clarified.

4.1.1.3 Consequences of severe weather for livestock producers

Farmers in marginalized areas are often unprepared to deal with unusually severe weather conditions such as the cold winter of 2012. In additions, governments in developing countries might be unprepared to help farmers affected by severe weather or natural disasters. This is what happened in Tajikistan in 2012 when producers lost 30% of livestock due to the lack of winter feed. The project was able to provide useful help to Angora goat farmers including weather forecast information, advice on feed purchase, and also feed and mineral supplements. This assistance reduced the vulnerability of farmers' flocks to the extreme winter conditions. The death rate recorded in the flocks of farmers involved with the project was minimal (2-4.5%), while the kidding rate was relatively high (62-78%). In comparison farmers who did not receive assistance lost 25-35% of their goats and had a kidding rate of 26-55%. It is necessary to help farmers prepare for extreme weather conditions by, for example, the establishment of insurance forage funds, improved feed storage and the use of affordable insulation materials in sheep and goat pens.

4.1.1.4 Low conception rate of goats using imported frozen semen

The conception rate of does inseminated in 2011 was low (11.8% or 26 kids out of 220 does). The project team examined the motility of the goat semen under a microscope during resorting of straws in the nitrogen tank (n=6) and prior to inseminating the goats during the 2012 AI campaign (n=136). Observed motility rate of the semen was low: 10-55%. Motility rate of semen in the majority of straws was between 25-40%. This is considered to be the main cause of the low conception rate in 2011.

4.1.1.5 Quality of Tajik mohair has to be improved

The majority of kid mohair sold in Tajikistan cannot be used for processing without dehairing. It is important to continue to focus on the problem of kemp during breeding and assist farmers with the production of quality breeding bucks with kemp-free fiber. Targeted breeding against kemp is expected to result in kemp-free Angora goats and mohair in the future.

4.1.2 Mohair processing

4.1.2.1 Lack of funds for infrastructure for processing groups

The project did not have enough funds to invest in infrastructure - solar panels, spinning machines, scouring and dyeing facilities, a spinning workshop. Such infrastructure is necessary to scale up the production process and make it more efficient. Access to better infrastructure would dramatically improve efficiency, productivity and the women's earnings. The demand for infrastructure at the processing level is exacerbated by the lack of infrastructure at the national level. The groups need solar panels because in Northern Tajikistan the villages have only a limited access to electricity during winter when the women have the most time to spin, knit and weave.

4.1.2.2 Making luxury products in remote, isolated communities with no concept of western luxury is challenging

Teaching women in remote areas to produce yarn and knitted products based on the highest quality standards requires long-term training and consistent monitoring given that the producers have never seen luxury products and do not understand the tastes, demands and quality expectations of affluent customers in foreign countries. It is important that the processors and especially the group leaders learn to understand the standards for goods sold on luxury western markets to monitor quality and meet the expectations of foreign buyers.

The project is developing a quality control chart for all products and teaching the women how to assess quality. The project team shows the producers photographs, product samples and websites to help them understand the tastes of the consumers they are producing for and familiarize them with other similar products on the market. The better the producers understand their market the easier it is for them to maintain product quality and be attentive to details.

4.1.2.3 Strong, direct linkages to buyers and designers

Developing linkages to buyers takes time and cannot happen unless the buyers have access to a volume of products to market, not just samples. The first import of yarn and products will provide a good foundation for a fast development of relationships between the Tajik producers and western buyers.

4.1.2.4 Export of products from Tajikistan

Tajikistan is not well linked to international markets and it is difficult to ship merchandise to and from Tajikistan. The project has received assistance from the "Jahonnek" NGO in organizing the first shipment of yarn and products to the USA. The NGO representatives are undergoing an intensive search to find a reliable shipping agent for a reasonable price.

4.1.2.5 Cultural challenges: improving women's capacities to move, communicate, borrow money and lead a business

In order to become business leaders, women have to have confidence and capacity to manage a business. If women do not have equal rights and are perceived as less capable it is difficult for them to assume leadership roles and succeed in business management. The project continues to work with men and women and their families and communities to mobilize full support for the women processors and their businesses and give family and community members a stake in developing these businesses.

4.1.2.6 Access to financing

In order to develop their business, the women need access to financing. Financing options will be explored through a new AKF project that will continue to work with the processing groups. Developing access to micro-finance is one of the key objectives of the new project.

4.2 Badakhshan, Tajikistan

4.2.1 Cashgora goat breeding

4.2.1.1 Insufficient feeding of animals during the winter period, shortages of winterfeed

The pastures in Badakhshan are limited and difficult to access and the households have difficulties preparing a sufficient supply of winterfeed for their animals. This can lead to catastrophic results during long, cold winters such as winter 2012 when the households lost 35% of their goats and other livestock and more that 50% of offspring. The project has been supporting the nucleus flocks with winterfeed and working with households to increase winterfeed supply for their animals.

4.2.1.2 Spread of infectious diseases

Spread of several infectious diseases (foot and mouth, pleuropneumonia of goats, smallpox) is a frequent problem in village flocks in Badakhshan. The project team has worked with the households and local veterinarians to conduct timely vaccination of the goats and helped to contain the spread of smallpox and pleuropneumonia at the pilot site.

4.2.1.3 Low productivity of local goats

Due to the lack of targeted breeding at the pilot sites the majority of goats are not good meat or fiber producers. The project has been showing the villagers how to increase the productivity of their animals through breeding and improved husbandry. The villagers are slowly becoming convinced that a small investment in the health and selective breeding of their animals is well compensated by improved health and productivity.

4.2.1.4 Establishing sustainable breeding nuclei at pilot sites

Village households in the pilot region have not been accustomed to selecting and maintaining high quality breeding bucks. The project continues to work with the households on developing a sustainable community breeding system based on selecting the best bucks for breeding and culling all other bucks. It is important that all households participate in such system to ensure continuous improvement in the productivity of their goats.

4.2.2 Fiber processing

4.2.2.1 Lack of infrastructure – internal and external

Similar to northern Tajikistan, fiber processors in Badakhshan are missing some infrastructure such as mini scouring and dyeing shop and equipment. However, they can work with fiber dehaired in Afghanistan while they establish scouring for undehaired cashgora. Given that the undehaired yarn will be used locally to make Jurabe socks as opposed to exported, it is not as important to wash and dye large amounts of fiber at once. Consequently the lack of scouring and dyeing infrastructure is not as problematic as in northern Tajikistan.

4.2.2.2 Production of yarn depends on dehairing in Afghanistan

The Tajik fiber processors depend on being able to dehair fiber in Afghanistan. Although the project does not foresee problems with organizing the dehairing in Faizabad, having to ship the fiber to and from Afghanistan adds to the complexity of the operation and makes the volatile security in Afghanistan a concern. However, the cost of a dehairing plant is about $250,000 and such investment is currently unfeasible in Tajikistan.

4.2.2.3 The women in Badakhshan have much less experience in spinning than women in Northern Tajikistan

Yarn production for sale is completely new for the Badakhshan women and they will have to practice to be able to spin yarn according to standard. Not all women will succeed in this.

4.2.2.4 Making luxury products in remote, isolated, communities with no concept of western luxury is challenging

Similar to northern Tajikistan, it is challenging to train women in remote communities to make high quality, detail-oriented products for western markets. However, the knitters at the two sites can collaborate on producing competitive designs and sharing knowhow.

4.2.2.5 Need to develop financing of fiber purchase and processing and strong linkages with buyers

The groups in Badakhshan will need sources of financing to purchase and process fiber, strong linkages with buyers and designers and institutional support to successfully export their products. The project plans to work with the groups and local organizations such as AKF to introduce sustainable methods of financing and institutional support to fulfill export orders. It also plans to continue working with product buyers and retailers to strength business and communication ties with the groups.

4.3 Kyrgyzstan

4.3.1 Improving smallholder sheep flocks requires a long-term program

The farmers in the target villages keep small flocks without clear production goals. To sustain the progress made towards more homogenous flocks with improved structure for producing more meat and semi-fine wool of an acceptable quality requires a continuous support from researchers and extension.

4.3.2 Short felting season in the Naryn pilot area

Long and severe winters in the Naryn region make the felting season very short. Especially the wet felting technique cannot be used in winter. The project and the artisans plan production accordingly and concentrate on wet felting and dyeing in the summer and other work such as

stitching in winter. The project is working on designing products that can be made during winter such as stitched slippers and inviting the artisans to work on orders in the CACSA office in winter.

4.3.3 Challenge to buy or produce quality felt to scale up production

In some cases the project has problems with finding quality raw material for felting. For example, it was unable to find quality felt for slipper production on the local market. The team is now working on developing a reliable technology to produce slipper felt "in house" using local wool and felting machines the groups acquired earlier. It solicited the assistance of professional felters skilled in producing large volumes of thick felt for yurts. Production of this type of felt will allow the groups to scale up production of slippers and other products. CACSA also plans to develop a raw material bank that will be able to supply the groups with quality inputs such as felt, wool, silk and dyes throughout the year.

4.3.4 Problems with producing designer felt products without background in design

The team learned that the Naryn groups cannot produce some high-end felt products such as silk and felt scarves without ongoing help from professional designers who are trained and experienced in making felts for high-end export markets. It is important to select products the artisans can make given the skills they have or can easily acquire. The team has been able to assess the skills and capacities of the Naryn groups and is selecting products to match them. Assistance of designers will be used to design the products, but the groups will then be able to make the products independently. The project also plans to support the most talented artisans in the groups with additional training and encourage them to help other artisans with design and quality control.

4.3.5 Increase the independence of artisan groups to promote sustainability

The project team has to promote independent decision-making by the groups regarding production, marketing, pricing, investment and all other aspects of their business to ensure sustainability. At the same time the project has to continue to support the groups in areas such as product design, marketing contacts and developing new processing technologies. In 2013 the project plans to strengthen the capacities of the groups in all key areas of their business to make sure they can operate successfully, with minimal support from the CACSA staff. Best business practices used by the groups will be documented and shared among all groups.

4.3.6 Difficulties in communication and transport between Bishkek and Naryn; lack of internet in Naryn

The lack of internet connection in the project villages, their remoteness from Bishkek and bad roads make it difficult to communicate with the artisans and to deliver products, raw materials and supplies to and from the groups. The increase in the volume of production in 2012 exacerbated the ongoing problems in communication and transport. The project team continues

to search for opportunities to pass information and materials to the groups and arrange deliveries of their products to Bishkek.

4.4 Iran

4.4.1 Lack of dehairing facility in the nomad areas

As discussed in the last progress report the project still encounters a major challenge in providing a small and easy to operate dehairing facility in the nomadic areas. Dehairing the cashmere is a must for making good quality yarn. To be able to produce an internationally acceptable yarn for export, unwanted coarse hair fiber must be separated from desired fine cashmere. Hand dehairing is very difficult, time consuming and labour intensive and not fully efficient.

4.4.2 Lack of spinning machines

Nomad women use spindles to make yarn. Electronic spinning machines will allow them to make good quality yarn and to save time and labor. One imported electronic machine has been stationed in nomadic areas but more machines are needed.

4.4.3 Difficulties for nomad women to participate in workshops

The baseline studies conducted in 2010 highlighted the importance of the role of nomad women in management of cashmere goat herds specially in caring, milking and processing of animal products. The opportunity to participate in yarn making and dyeing workshops enabled the nomad women to learn new techniques and increase their knowledge; however there were complaints from the nomad men about the absence of their spouses from the herd during workshops and in group gatherings to make cashmere products

5 Other events and relevant issues during the reporting period

All relevant events were described in the report on pilot sites.

6 Summary and recommendations

Overall, the project is on target regarding proposed activities in breeding and fiber processing. There were no changes in the number of participants in Tajikistan and Kyrgyzstan since the last report.

6.1 Major Accomplishments and constraints

6.1.1 Northern Tajikistan

6.1.1.1 Accomplishments

Progress on nucleus breeding: The project team and the farmers made progress on establishing breeding flocks of white and colored Angora goats and a super nucleus supported by the Livestock Institute. The project team trained farmers how to evaluate Angora goats and how to use quality bucks to improve their flocks.

Kids produced through artificial insemination are showing good results: Crossbred kids produced through artificial insemination in 2011 are showing good results regarding fiber quality and adaptability, are highly valued by farmers and provide a strong impetus for improving Angora goat breeding in Tajikistan.

Artificial Insemination in 2012 successfully completed: The team successfully completed second artificial insemination campaign with imported frozen semen in the fall 2012. Mr. Ramin Aliverdi of Iran helped the Khodzhand team to inseminate 250 goats from eight private farms and one super nucleus flock maintained by the Livestock Institute. The crossbred kids are expected at the end of March 2013.

Mohair yarn and products prepared for shipping: The "Hub" led by Farhod Kosimov prepared the first shipment of mohair products to the USA. The "Jahonnek" NGO based in Dushanbe is helping to ship the products to the US with Turkish Airlines.

Improved system of mohair processing: In the spring 2012 the women processors and the project team implemented a new model of fiber processing that incorporates all key processing operations. In spite of shortcomings in infrastructure, most processing operations were improved and the new system allows the women to produce high quality yarn for export.

Hub to support processing groups established: All fiber processors (spinners, knitters and weavers) receive support from a Hub led by Farhod Kosimov who is trusted by the women's groups and knows all details of the processing business. The Hub managed by the Kosimov family plays an active role in helping the groups fulfill export orders and assists them with communication, international shipping and other logistics.

Progress in knitting, weaving and carpet-making: The team started to add value to the new yarn by producing new models of socks, scarves, hats and sweaters and also blankets and carpets. The mohair blankets already found a strong demand in the Hyatt hotel gift shop in

Dushanbe and in the USA. Other products are being currently shipped to the USA for test-marketing.

Collaborative ties strengthened along the production and market chain: The ties between fiber producers, processors, the Hub and local and international buyers are strengthening. The processing groups are becoming coherent organizations and their participants – farmers, spinners, knitters and weavers—are developing strong ties with one another. The product buyers are becoming more familiar with the products and also with the producers and are passing the information to consumers. Gradual increase in knowledge, capacity, trust and connectivity among all participants is speeding up the development of the processing and marketing chain.

Strengthening linkages with buyers: The project continued to collaborate with Clothroads and created new linkages with Knit Outta the Box company, Peace Fleece and the Hyatt Hotel gift shop in Dushanbe. The project is in the final stages of completing the first shipment of products to buyers in the USA, with assistance from the Hub.

6.1.1.2 Main Constraints

Some farmers are failing to invest in Angora goat breeding: Some Angora goat farmers are unwilling to invest time and effort in proper breeding practices such as breeding white and colored Angora goats separately. The team has been training and educating farmers and demonstrating the benefits from effective breeding with regard to greater volume and quality of fiber, and higher earnings from fiber sales.

Problems with privatization and legal usage of rangelands: Angora goat producers (as well as producers of other livestock) do not yet have legal rights to rangelands. Farmers find it virtually impossible to obtain a certificate that would give them the right of ownership or long-term lease of rangelands. This generates uncertainty among farmers and makes it impossible to safely invest in Angora goat production. The team helps farmers by keeping them updated on the most recent legislation regarding rangelands. It is also prepared to assist farmers with submitting applications to privatize or lease their rangelands once the laws governing this processes are clarified.

Consequences of severe weather for livestock producers: Farmers in marginalized areas are often unprepared to deal with unusually severe weather conditions such as the cold winter of 2012. The project has been assisting farmers with weather forecast information, winter feed supplements, information on the cost and efficiency of different types of feed and knowhow on insulating goat pens.

Low conception rate of goats using imported frozen semen: The number of crossbred kids obtained through artificial insemination (AI) in 2012 was low (11.8% or 26 kids out of 220 does). The project team examined the motility of the goat semen under a microscope prior to AI campaign in 2012 and observed that motility was low: 10- 55%. This is considered to be the main cause of the low conception rate in 2011.

Quality of Tajik mohairhas to be improved: The majority of kid mohair sold in Tajikistan cannot be used for processing without dehairing. It is important to continue to focus on the

problem of kemp during breeding and assist farmers with the production of quality breeding bucks with kemp-free fiber. Targeted breeding against kemp supported by the project, including the usage of American/Tajik Angora crosses, is expected to result in kemp-free Angora goats and mohair in the future.

Lack of funds for infrastructure for processing groups: The project did not have enough funds to invest in infrastructure needed for efficient fiber processing - solar panels, spinning machines, scouring and dyeing facilities, a spinning workshop. Such infrastructure is necessary to scale up production and make it more efficient. Access to better infrastructure would dramatically improve efficiency, productivity and the women's earnings.

Making luxury products in remote, isolated communities with no concept of western luxury is challenging: Teaching women in remote areas to produce yarn and knitted products based on the highest quality standards requires long-term training and consistent monitoring given that the producers have never seen luxury products and do not understand the tastes, demands and quality expectations of affluent customers in foreign countries. The project is developing a quality control chart for all products and teaching the women how to assess quality. The project team shows the producers photographs, product samples and websites to help them understand the tastes of consumers they are producing for and familiarize them with other similar products on the market.

Strong, direct linkages to buyers and designers: The project began collaborating with companies such as Clothroads, Kit Outta the Box and Peace Fleece that are very interested in marketing the mohair yarn and products. These linkages will be fully developed once the buyers receive the first volume of products and can start marketing them. The first import of yarn and products that is currently underway will provide a good foundation for a fast development of business ties between the Tajik producers and western buyers.

Export of products from Tajikistan: Tajikistan is not well linked to international markets and it is difficult to ship merchandise to and from Tajikistan. The project has received assistance from the "Jahonnek" NGO in organizing the first shipment of yarn and products to the USA. However, additional assistance of experienced persons in Dushanbe may be needed to help the Khodzhand-based team with the shipment.

Cultural challenges: improving women's capacities to move, communicate, borrow money and lead a business: In order to become business leaders, Tajik women have to have confidence and capacity to manage a business. If women do not have equal rights and are perceived as less capable than men it is difficult for them to assume leadership roles and succeed in business management. The project continues to work with men and women and their families and communities to mobilize full support for the women processors and their businesses and give family and community members a stake in developing these businesses.

Access to financing: In order to develop their business, the women need access to financing. Financing options will be explored through a new AKF project that will continue to work with the processing groups. Developing access to micro-finance is one of the key objectives of the new project. AKF has a micro-finance program in Tajikistan the groups can participate in.

6.1.2 Badakhshan, Tajikistan

6.1.2.1 Accomplishments

Offspring from imported bucks received in 2012 in spite of harsh winter conditions: In spite of the difficult winter of 2012, the project received a number of offspring from the Altai bucks in 2011 and 2012 (73 and 122, respectively). The Altai crosses are showing signs of improved productivity - a large volume of fiber and a good body condition. The project expects a large number of Altai offspring in spring 2013.

Active participation of villagers in the breeding activities: The breeding campaign in fall 2012 was successful. The villagers are pleased with the crossbred kids and are actively collaborating with the project on setting up a sustainable breeding system that includes castration of all inferior males. 107 women farmers collaborate on the breeding.

Training villagers in improved methods of animal husbandry: The project team trains households in improved methods of goat husbandry including the importance of winterfeed and vaccination to ensure health and a good reproductive capacity of their goats. The villagers are learning how to organize vaccination and castration jointly, with the help of local veterinarians. The training in goat husbandry is helping the households to improve care of sheep, cows and other livestock.

Women are earning greater incomes from selling fiber: Women earn $21 from selling 1 kg of combed cashgora fiber. They were earning $2-3 from selling 1 kg of sheared fiber previously. Yarn spinning is developing fast and the spinners will start earning sustainable income and exporting yarn before the end of the project.

The project delivered fiber processing equipment to the pilot site; a spinning workshop was organized: The project delivered spinning machines and a carding machine from northern Tajikistan to the lead processing group in Andarob village. The project also collaborated with women and men in Andarob to organize a spinning workshop. The workshop is equipped with spinning wheels, chairs, tables, lighting and heating. Women come there to train in spinning and make yarn for sale.

The project dehaired fiber in Afghanistan: The project organized fiber dehairing in Herat with the help from AKF in 2012 and arranged dehairing in Faizabad, Afghanistan in 2013.

A new model of Jurabe socks and luxury knitwear from cashgora yarn is being designed: The project is developing new knitted products from the new yarn including an improved model of Pamiri Jurabe socks and also luxury knits for export.

Samples of yarn spun from dehaired cashgora fiber received excellent reviews from buyers: First samples of cashgora yarn and products were shown to buyers in fall 2012 and received a highly positive review. Companies that collaborate with the project on marketing mohair yarn and products are ready to market cashgora yarn and products as well.

6.1.2.2 Main Constraints

Insufficient feeding of animals during the winter period, shortages of winterfeed: The pastures in Badakhshan are limited and difficult to access and the households have difficulties preparing a sufficient supply of winterfeed. This can lead to catastrophic results during long, cold winters such as winter 2012 when the households lost 35% of their goats and other livestock and more that 50% of offspring. The project has been supporting the nucleus flocks with winterfeed.

Risk of infectious diseases: Incidence of several infectious diseases (foot and mouth, pleuropneumonia of goats, smallpox) is a frequent problem in village flocks in Badakhshan. The project team has worked with the households and local veterinarians to conduct timely vaccination of the goats and helped to contain the spread of smallpox and pleuropneumonia at the pilot site.

Low productivity of local goats: Due to the lack of targeted breeding at the pilot sites the majority of goats are not good meat and fiber producers. The project has been showing the villagers how to increase the productivity of their animals through breeding and improved husbandry. The villagers are gradually becoming convinced that a small investment in vaccination and selective breeding is well compensated by improved health and productivity of their animals.

Establishing sustainable breeding nuclei at pilot sites: Village households in the pilot region have not been accustomed to selecting and maintaining high quality breeding bucks. The project continues to work with the households on developing a sustainable community breeding system based on selecting the best bucks for breeding and culling all other bucks. It is important that all households participate in such system to ensure continuous improvement in the productivity of their flocks.

Lack of infrastructure for fiber processing: Similar to northern Tajikistan, fiber processors in Badakhshan are missing some infrastructure such as mini scouring and dyeing shop and equipment. However, they can work with fiber scoured and dehaired in Afghanistan while they establish scouring for undehaired cashgora. Consequently the lack of scouring infrastructure is not as problematic as in northern Tajikistan. Unlike women processors in northern Tajikistan, the women in Badakhshan have a stable supply of electricity in winter.

Production of yarn depends on dehairing in Afghanistan: Fiber processors in Badakhshan depend on being able to dehair fiber in Afghanistan. Although the project does not foresee problems with organizing the dehairing in Faizabad, having to ship the fiber to and from Afghanistan adds to the complexity of the operation and makes the volatile security in Afghanistan a concern. However, the cost of a dehairing plant is about $250,000 and such investment is currently unfeasible in Tajikistan.

The women in Badakhshan have much less experience in spinning than women in Northern Tajikistan: Yarn production for sale is completely new for the Badakhshan women and they will have to practice to be able to spin yarn according to standard. Not all women will succeed in this.

Making luxury products in remote, isolated, communities with no concept of western

luxury is challenging: Similar to northern Tajikistan, it is challenging to train women in Badakhshan to make high quality, detail-oriented products for western markets. However, the spinners, knitters and weavers at the two sites can collaborate on producing competitive designs and sharing skills and knowhow.

Need to develop financing of fiber purchase and processing and strong linkages with buyers: The groups in Badakhshan will need sources of financing to purchase and process fiber, strong linkages with buyers and designers and institutional support to successfully export their products. The project plans to work with the groups and local organizations such as AKF to introduce sustainable methods of financing and institutional support to fulfill export orders. It also plans to continue working with product buyers and retailers to strength business and communication ties with the groups.

6.1.3 Naryn, Kyrgyzstan

6.1.3.1 Accomplishments

Development of quality marketable new products: In 2012 the project developed several new products including quality felt slippers that are in demand on local, regional and international markets. The project also works on developing products that can be made in winter when the artisans cannot use felting techniques that require water. Other products such as chair mats and scarves were also improved. The new version of chair mats received an award of excellence from UNESCO.

Test-marketing products in Europe: Svetlana Balalaeva and other members of the project team introduced the products at a variety of craft markets in Hungary, the Netherlands, Germany and Belgium and established contacts with European buyers. The test-marketing was overall very successful and provided the project team and the artisans with valuable information that can be applied during new product design and used to develop effective marketing strategies for specific markets.

Improved quality standards: The emphasis on product quality, ongoing feedback and monitoring by professional designers is raising quality awareness and standards of the Naryn artisans. Striving for high quality in production is the best guarantee of long-term success and competitiveness of the groups and their products.

New linkages between the groups and international organizations: The CACSA-kg team is finding new, creative ways of collaborating with the groups and helps to link the artisans with international organizations and donors that support arts and crafts in Kyrgyzstan. With the help of CACSA, the groups submitted their chair mats to a competition for the UNESCO Award of Excellence for Handicraft Products and CACSA is now helping the groups to apply for participation in the Santa Fe Folk Arts Market in the USA.

The groups' motivation to develop their business has increased and so did the product sales: The Naryn artisans are becoming highly motivated to succeed in developing sustainable businesses. They invest their own resources to buy raw materials and to participate in fairs,

trainings and internships with product designers. They are also increasing the volume and assortment of products and their sales in 2012 have doubled compared to 2011.

6.1.3.2 Main Constraints

Short felting season in the Naryn pilot area: Long and severe winters in the Naryn region make the felting season very short. Especially the wet felting technique cannot be used in winter. he team helps the groups with production planning and raw material supplies so that wet felting can be done in the summer and other types of work in winter. The project is working on designing products that can be made during winter such as stitched slippers and inviting the artisans to work on orders in the CACSA office in winter.

Challenge to buy or produce quality felt to scale up production: In some cases the project has problems with finding quality raw material for felting. For example, the team could not find quality felt for slipper production on the local market. The team is now working on developing a reliable technology to produce slipper felt "in house" using local wool and felting machines the groups acquired earlier. CACSA also plans to develop a raw material bank to help supply the groups with quality inputs such as felt, wool, silk and dyes throughout the year.

Problems with producing designer felt products without background in design: The team learned that the Naryn groups cannot produce some high-end felt products such as silk and felt scarves without ongoing help from professional designers who are trained and experienced in making felts for high-end export markets. It is important to select products the artisans can make given the skills they have or can easily acquire. The team has been able to assess the skills and capacities of the Naryn groups and is designing products the groups can easily make. The project also plans to support the most talented artisans in the groups with additional training and encourage them to help other artisans with design and quality control.

Increase the independence of artisan groups to promote sustainability: Some groups, especially those that have strong, talented leaders, are becoming more independent while other groups are more reliant on the project support. In 2013 the project plans to strengthen the capacities of the groups to make independent decisions regarding production, marketing, pricing, investment and all other aspects of their business to ensure sustainability. Best business practices used by the groups will be documented and shared among all groups.

Difficulties in communication and transport between Bishkek and Naryn; lack of internet in Naryn: The remote pilot villageS in Naryn lack internet connection and are not easily accessible due to bad mountain roads and severe weather. This makes it difficult to communicate with the artisans and to deliver products, raw materials and supplies to and from the groups. The increase in the volume of production in 2012 exacerbated the ongoing problems in communication and transport. The project team continues to search for opportunities to pass information and materials to the groups and arrange deliveries of their products to Bishkek.

6.1.4 Kerman, Iran

6.1.4.1 Accomplishments

1. Laboratory results of cashmere samples taken from nucleus herd were analyzed to study the effect of year on cashmere characteristics. These results are important in terms of adopting future management decisions in improving goat management and the quality of cashmere.
2. Results from studies on cashmere quality, combing procedures and cashmere marketing were used to produce extension leaflets for cashmere producers on improved goat management, breeding and fiber quality.
3. Pedigrees were recorded on kids born in the eight nucleus herds. Kids born were ear tagged and their weights measured. Pedigrees will be used to select future superior bucks and does.
4. Five cashmere yarn making and dyeing workshops were held which enabled nomad women to upscale their skills and knowledge in making cashmere yarn.
5. Three cooperatives were established in the vicinity of nomad farms for women cashmere processors which pave the way for their easier participation in workshops and involvement of group work in producing cashmere products.
6. Tajik experts were trained in using frozen semen to artificially inseminate Angora does. Use of AI greatly increases the possibility of using superior genetics at a larger scale.

6.1.4.2 Main constraints

1. Major challenge of cashmere project is to provide a small and easy to operate dehairing facility in the nomadic areas.
2. Lack of electric spinning machines for making good quality yarn.

6.2 Recommendations

The Steering Committee Meeting in September 2012 (see Annex 1) recommended that the project should concentrate in 2013 on making the farmer and women processing groups sustainable and to develop cooperations with NGOs that could take over in supporting the groups after the project will have ended.
It was also concluded that success stories should be well documented, e.g. the project's influence on taxing policies Mohair products in Northern Tajikistan.

It was agreed that farmers' and processors' guides should be prepared on husbandry practices for Tajik Angora and Cashgora goats, Tian Shan sheep and Raeini goats and on Mohair and cashmere processing. These guides in local languages should be available preferably by mid May 2013 or latest at the end of the project.

It was also agreed that the marketing website should be completed with all information by mid May 2013.

7 Annex 1

7.1 Agenda of the Steering Committee Meeting, Tashkent, Uzbekistan, 27 September 2012

Closed session for Steering Committee Members		
Management and budget issues		**Chairperson**: Dr. Hamidreza Ansari-Renani
08:00-08:05	Welcome	Acad. Akimaliev
08:05-08:10	Presentation of the SCM agenda for approval	Dr. Barbara Rischkowsky
08:10-08:20	Approval of minutes of last meeting	Dr. Barbara Rischkowsky
08:20-08:50	Budget overview and discussion	Dr. Barbara Rischkowsky
08:50-09:05	Gaps in project outputs	Dr. Barbara Rischkowsky
09:05-09:20	Plans for the Regional Stakeholder Meeting	Dr. Barbara Rischkowsky

Open sessions for all participants		
Opening session		**Chairperson:** Dr. Davlatjon Komilzoda
09:20-09:30	Welcome address	Dr. Nasrullo Bobokulov
09:30-09:40	Opening statement	Ms. Laura Puletti, IFAD Grant Manager
Presentation of achievements in 2012		
	Achievements in Badakhshan:	
09:40-09:50	Goat production	Mr. Khurshed Davlatov
09:50-10:00	Processing and marketing fiber products	Dr. Liba Brent
10:00-10:10	Discussion	
10:10-10:40	***Group photo and Coffee break***	
	Achievements in Khujand:	**Chairperson:** Ms. Svetlana Balalaeva
10:40-10:50	Goat production	Dr. Ma'tazim Kasimov
10:50-11:00	Processing and marketing fiber products	Dr. Liba Brent
11:00-11:10	Discussion	
Presentation of achievements in 2012 (cont.)		**Chairperson**: Dr. Matazim Kosimov
	Achievements in Kyrgyzstan:	
11:10-11:20	Sheep wool production	Dr. Asanbek Ajibekov
11:20-11:30	Socioeconomic studies	Mr. Nariman Nishanov
11:30-11:40	Felting and marketing felt products	Ms. Svetlana Balalaeva
11:40-11:50	Discussion	

	Achievements in Iran	
11:50-12:10	Goat production and Fiber processing	Dr. Hamidreza Ansari-Renani
12:10-12:20	Discussion	
12:20-13:30		***Lunch break***
Presentation of workplan and budgets for 2013		**Chairperson**: Dr. Fazzlidin Ikromov
	Kyrgyzstan:	
13:30-13:40	Wool Producers	Dr. Asanbek Ajibekov
13:40-13:50	Women Groups and Marketing	Ms. Svetlana Balalaeva
13:50-14:00	Discussion	
	Iran:	
14:00-14:20	Cashmere producers and processors	Dr. Hamidreza Ansari-Renani
14:20-14:30	Discussion	
Presentation of workplan and budgets for 2013 (cont).		**Chairperson**: Dr. Asanbek Ajibekov
	Khujand:	
14:30-14:40	Mohair producers	Dr. Ma'tazim Kosimov
14:40-14:50	Women Groups and Marketing	Dr. Liba Brent
14:50-15:00	Discussion	
	Badakhshan:	
15:00-15:10	Cashgora Producers	Dr. Fazzlidin Ikromov
15:10-15:20	Women Groups and Marketing	Dr. Liba Brent
15:20-15:30	Discussion	
15:30-15:40	Concluding remarks	Ms. Laura Puletti
15:40-16:00	***Coffee break***	
Special session:		**Chairperson:** Dr. Nasrullo Bobokulov
16:00-16:20	Fiber processing in Uzbekistan	Dr. Suratbek Yusupov
16:20-16:30	Discussion	
16:30-16:45	Closing Remarks	Dr. Nasrullo Bobokulov and Dr. Zakir Khailkulov

19:00	***Conference Dinner***

7.2 Participants of the Fourth Steering Committee Meeting, Tashkent, Uzbekistan, 27 September 2012

#	Name/Surname	Role in the project	Organization	Address
ICARDA and Principal Investigators				
1	Dr. Barbara Rischkowsky	Project Coordinator	ICARDA	Addis Ababa, Ethiopia
2	Dr. Zakir Khalikulov	Deputy Head of PFU and Deputy Regional Coordinator of ICARDA-CAC	CGIAR-PFU, ICARDA-CAC	P.O. Box 4564, Tashkent 100000 Uzbekistan
3	Mr. Nariman Nishanov	Project Field Research Coordinator	ICARDA-CAC	P.O.Box 4564, Tashkent 100000 Uzbekistan
4	Dr. Liba Brent	Principal Investigator	University of Wisconsin	1190 Observatory Drive, Madison WI – 53706 USA
Kyrgyzstan				
5	Dr. Asanbek Ajibekov	PI on Livestock Productivity, Director General	Kyrgyz Research Institute of Livestock and Rangelands	Bishkek
6	Ms. Svetlana Balalaeva	Representative	Central Asian Crafts Support Association's Resource Center (CACSARC-kg)	162-a, Manaschi Sagynbhay str., 720017, Bishkek, Kyrgyzstan
Iran				
7	Dr. Hamidreza Ansari-Renani	Head of Research Dpt.	Animal Science Research Institute	Karaj, Iran
Tajikistan -Sogd Province				
8	Dr. Ma'tazim Kosimov	Deputy NC, PI, Livestock productivity Head of the Sogd branch	Tajik Research Institute of Livestock	Khodjand, Tajikistan
Tajikistan -Dushanbe				
9	Dr. Davlatjon Komilzoda (on behalf of Dr. Akhmadov)	Vice-President	Tajik Academy of Agricultural Sciences	Dushanbe, Tajikistan
10	Dr. Fazzlidin Ikromov	PI, Livestock Productivity, Director	Tajik Research Institute of Livestock	Dushanbe, Tajikistan
11	Mr. Khurshed Davlatov	Badakhshan Site Coordinator	Tajik RI of Livestock	Dushanbe, Tajikistan
Uzbekistan				
12	Mr. Ulugbek Ismailov	Officer, Livestock Production Dpt.	Ministry of Agriculture and Water Resources	Tashkent, Uzbekistan
13	Dr. Nasrullo Bobokulov	Director	RI of Karakul Sheep Breeding and Ecology of Deserts, Samarkand, Uzbekistan	
14	Dr. Suratbek Yusupov	Researcher		

7.3 Opening Remarks by Laura Puletti, IFAD Task Manager, addressed to the Fourth Steering Committee, 27 September 2012

Dear Chairman,
Dear Colleagues,

Let me take this opportunity to welcome you to the third Steering Committee of the IFAD/ICARDA programme based in Central Asia and to thank you all, even if remotely, for your hard work and support in the implementation of activities. Unfortunately none of us from the IFAD team has been able to come to Uzbekistan but we are willing to participate in your discussions from headquarters and are ready to assist you in this last year of activities.

We really look forward to receive updated information from all sites and your personal feedback on the impact that the activities have had on the lives of our targeted rural beneficiaries.

In one year this gender sensitive and participatory programme will be completed and we want it to be sustainable. Therefore we really need to focus on exit strategies for each pilot in a flexible way and be prepared to share best practices with our colleagues in the region.

There is much expectations here in IFAD as this large regional grant has already been quite innovative and successful in so many ways.

Indeed, it seems that some activities are ready for up-scaling. In Tajikistan a fair trade value chain is almost fully functional whereas in Iran a group of 30 nomads and 15 women have introduced a new breeding programme and new technical devises for yarn making. Efforts to maintain high quality of products is supported by external designers' advice and training and guidance from the private sector to be ready for the international market. More than 500 beneficiaries have been targeted and number of interested rural farmers is increasing.

The programme has become a rural business model of collaboration between men herders and women processors and a tool to improve household food security in remote areas.

We have strong expectations, we trust that our collaboration will succeed.

In closing, I would like to once again thank all of you for your enthusiasm and motivation and invite us all to contribute to the programme's final efforts .

Let me wish you all fruitful and successful discussion.

Thank you very much