

Table 6. Accounts for Erkin Torobekov's Farm* (in som)

Income	
Sales 3,800 kg x 14	53,200
Expenses	
Lease of land 0.7 ha x 13000	9,100
Rent of tractor - ploughing	1,500
- sowing	1,000
Seeds	4,000
Irrigation	300
Fertilizers 150 kg x 6.50	975
Transportation	1,200
Taxes and payments	600
Hired workers	2,000
Overhead expenses	5,000
Total expenses	25,675
Profit	27,525

*Data presented by E. Torobekov

the farm. Cotton growing at [redacted]'s farm makes up to 40–50 per cent of the total income. However, the farmer's apparent prosperity and optimism cannot hide the absence of any development prospect. For example, with such profits it is impossible to buy a tractor costing US\$10,000–15,000.

The other two interviewed farmers share similar characteristics with [redacted]. [redacted]'s farm in the Kara-Suu region consists of five adults and two minors. He owns 0.42 ha and rents 1.0 ha (see Table 7). The second is Azamat uulu Temirbek from Suzak region. The farms has five adults and five minors. The farmer owns 0.75 ha and rents 1.0 ha (see Table 8).

These farmers also do not include wages in their expenses. The calculation of the farms' profits is as follows:

[redacted]

$$5 \text{ adults} \times 1500 \text{ som/month} \times 8 \text{ months} = 60,000 \text{ som}$$

$$2 \text{ minors} \times 500 \text{ som/month} \times 3 \text{ months} = 3,000 \text{ som}$$

$$39,148 \text{ som} - (60,000 + 3,000) \text{ som} = -23,852 \text{ som (losses)}$$

A. [redacted]

$$5 \text{ adults} \times 1,500 \text{ som/month} \times 8 \text{ months} = 60,000 \text{ som}$$

$$5 \text{ minors} \times 500 \text{ som/month} \times 3 \text{ months} = 7,500 \text{ som}$$

Table 7. Accounts for ██████████ Farm* (in som)

Income	
Sales 5,500 kg x 14	77,000
Expenses	
Lease of land 1.0 hectare x 12000	12,000
Rent of tractor - ploughing (1.42 x 1,500)	2,130
- sowing	1,420
Seeds	5,500
Irrigation	500
Fertilizers 300 kg x 6.50	1,950
Transportation	1,500
Taxes and payments	852
Hired workers	3,000
Overhead expenses	9,000
Total expenses	37,852
Profit	39,148

*Data presented by K. Kalmurzayev

Table 8. Accounts for ██████████ Temirbek's Farm* (in som)

Income	
Sales 6,100 kg x 14	85,400
Expenses	
Lease of land 1.0 hectare x 11,000	11,000
Rent of tractor - ploughing (1.75 x 1,400)	2,450
- sowing	1,750
Seeds	6,000
Irrigation	900
Fertilizers 300 kg x 6.50	1,950
Transportation	1,500
Taxes and payments	1,100
Hired workers	4,000
Overhead expenses	12,000
Total expenses	42,650
Profit	42,750

*Data presented by Azamat uulu Temirbek

42,750 som – (60,000 + 7,500) som = – 24,750 som (losses)

The overheads presented here are not very high but the losses prevent the farmers from buying machinery, seeds, fertilizers, herbicides, etc.

The analysis of expenses and income shows that the farmer's expenses are minimized. To make farming effective it is necessary to raise purchase prices. Because of the great number of gins, the raw cotton market is not a monopoly but it is highly probable that ginners have agreed on setting an extremely low price for raw cotton. The increasing number of gins shows that this part of the cotton sector in Kyrgyzstan is profitable enough. So even with low world cotton prices the government can and must interfere in the distribution of income from cotton growing and processing to make it fairer. If we base our calculations on a 15 per cent profit for a farm, the necessary purchase price should be 18–20 som for one kg of raw cotton.

From my research I conclude that cotton growing in Kyrgyzstan is not profitable today. The income of an average farm in the cotton sector does not allow it to develop. The mechanization and, as a result, labour productivity of cotton-growing farms, are still at their 1960s and 1970s level. There is no new machinery, no new technologies, no new specialists. Local authorities are indifferent to the problems experienced by farmers and blame the lack of resources. The cotton sector needs the support of the government in terms of the regulation of purchase prices for raw cotton or subsidies for cotton growing. Because the state suffers a budget deficit and cannot afford to subsidize farmers, the gins should be taxed more heavily so that the generated revenues may be given back to the farmers. The quantity of the cotton which is to be subsidized should be registered in the gins' collection centres. Then, farmers could receive subsidies based on the amount of raw cotton delivered. Subsidies would have to be computed on the basis of the difference between the government-approved price and the actual raw cotton purchase price.

These subsidies should be directed only to the development of the farm. Farmers should also receive some help to acquire machinery, especially tractors, and be granted low-interest loans to develop their farms and invest in skilled labour.

Note

- 1 National Committee on Statistics of the Kyrgyz Republic, *Agricultural Census of the Kyrgyz Republic*, Book II, Bishkek, 2003, p. 324.

Kazakhstan's Cotton Market

Olga Dosybieva

In Kazakhstan, cotton is now cultivated on over 200,000 ha in the Southern Kazakh oblast (region). In 2004, the average crop capacity per hectare was 2,150 kilograms (see Table 1). In the first few years after independence, the cotton industry in Kazakhstan experienced a short-term crisis. In 1984 the area devoted to the cultivation of cotton in the Southern Kazakh oblast (SKO) covered 140.2 ha, and some 295,500 tons of cotton were gathered. The peak of the crisis occurred in 1996–98, when the sown area had contracted to 103,000 ha. The lowest volume of crops – 161,600 tons – was reported in 1998. The share of cotton in the total volume of the SKO agricultural production is now 37 per cent.

Table 1. Sown Areas, Crop Capacity and Gross Raw Cotton Collection in the Southern Kazakh Oblast from 1990 to 2004

	Sown area (thousand ha)	Crop capacity (100 kg/ha)	Gross collection of raw cotton
1990	119.7	27.0	323.6
1995	109.7	20.3	223.0
2000	153.4	18.7	287.2
2004	211.2	21.5	466.1

Source: Oblast Administration of Statistics

The main producers of raw cotton in Kazakhstan are farmers. Thousands of small and medium farms of the Mahtaaralsky, Ordabasinsky, Shardarinsky and Saryagashsky regions, as well as Turkestan, supply their raw material to 19 cotton-processing enterprises. The biggest enterprises are the Jetysaisky Branch TOO "Korporatsiya Nimeks" (Nimeks Corporation), the OAO (United Enterprise, Ltd.) "Ak Altyn," the OAO "Maktaaral," and the OAO "Myrzakent." Each of these enterprises has the capacity to process 60,000 tons of cotton into cotton fibre per year. Cotton is also cleaned and packed for sale. The textile factories "Adal," "Voshod i Youg" (Sunrise and South), and "Senim" are also implanted in the area. The TOO "Alians Kazahsko-russkii texti" (Kazakh Russian Textile Alliance) opened in 2005. These enterprises receive cotton fibre for processing

and manufacture yarn and textile products.

As recently as 2004, large companies, in agreement with farmers, used to finance works in the field before sowing, purchase petrol, diesel, and fertilisers, and controlled the purchase price of cotton in the autumn. Therefore, manufacturers and dealers had the most to gain from the difference between the cost of raw cotton and cotton fibre. Authorities did not play a major role in the cotton market. They did not provide investments into this sector and preferred to receive their share for "sympathy and amiability."

Essentially, the chain stops there. The major share of cotton is exported. However, over the past few years, efforts have been made to make this business less attractive with the issue of the creation of a cotton cluster in the region. The concept of a cotton cluster involves the provision of a full production cycle from the collection of cotton to the production of textile goods. In the middle of the 1990s, dealers from China used to come with suitcases full of US dollars, and bought up almost all the harvest at very low prices. The large scale of these cotton deals was evidenced by the shortage of cash in Shymkent in the autumn in the early 2000s. As it turned out, cotton businessmen withdrew literally all the cash from banks in order to settle accounts with farmers.

The government promises to introduce the most favourable regime in the cotton sector by creating a free economic zone for establishment of a cotton cluster. Its main point is to make the chain "peasant—cotton processor—textile goods," a single, unified process. It also implies a reduction in the quantity of mediators and the redistribution of the profit among participants in the cluster in proportion to their contribution. A Special Economic Zone (SEZ) will be created in the Sairamsky region of SKO to make the innovation more efficient. The Director of the SEZ, Arman Jetpisbaev, explained in an interview that if the "head" of the production chain is based in the SEZ, the chain will get significant tax benefits.

Local businessmen suggested a similar scheme several years ago. They argued that a full cycle in the cotton industry would resolve the problem of poverty in the cotton production sector. However, initiators of the project were claimed to be "voluntarists" and the project was discredited.

In the summer of 2004, the Minister of Economy and Budget Planning, ██████████ ██████████ held a conference on "the creation of a free economic zone for light industry enterprises in SKO." Representatives from ministries, departments and development institutes of Kazakhstan, directors of cotton-processing enterprises and *akims* (heads) of cotton-growing areas in the oblast took part in the discussion. Cotton has become the dominant produce of the agricultural sector in the South in the last few years. Almost all areas of the oblast, excluding Suzakskaya, Tolebiiskaya and Tulkubasskaya, try to exploit this profitable agricultural branch, so the cotton business has become very competitive. Nearly all the cotton fibre, processed at 12 cotton-cleaning plants in the region is exported.

Table 2. Data on the Export of Cotton Fibre in The Southern Kazakh Oblast, 1993–2003

	Quantity (tons)	Cost (thousands of US\$)
1993	8,035.00	8,540.00
2000	77,074.60	71,628.90
2003	129,606.30	101,608.90
Total	725,381.70	738,762.30

Source: Oblast Administration of Statistics

The export of cotton fibre has increased significantly (see Table 2). Specialists from the oblast's Department of Industry and Trade explain that such an increase is due to the underdevelopment of the Kazakh textile industry.

Cotton fibre is not in demand in the domestic market of Kazakhstan. According to the data of the oblast's Department of External Economic Activity, only four per cent of the cotton grown locally is processed in local textile enterprises. One of these is Melange, Ltd., which produces 2,500 tons of cotton fibre per year. Almost all the production is sold to textile enterprises in Russia and Turkey since the local textile industry only represents one per cent of the total volume of industrial production. Light industry is still one of the most promising and strategically important industries in the country, but it requires extensive capital investments.

In order to stimulate the development of textile and sewing industries, the *akimat* (administration) of the Southern Kazakh oblast suggested the creation of a special economic zone.

The first deputy *akim* of the SKO, Islam Abishev, said that according to some estimates, the processing of 70 percent of cotton fibre locally would create 18,000 jobs and would provide the country with billions in tax revenues. Government support is essential for the rapid creation of cotton clusters. When a free economic zone is created, investors will receive some benefits and preferential treatment. Thus, the free economic zone will help in promoting a network of textile and sewing plants.

Legislative Initiatives

Abishev, the head of Nimeks, one of the biggest cotton companies in the region, called the "Law on Hindrances to Cotton Processing Plants" (the initial version suggested by the Ministry of Agriculture in the spring of 2004 was "The Law on Cotton,"), the "law on hindrances to cotton processing plants." He added:

Suddenly, the government decides to make a law today, which was necessary

in 1991. At that time all of us experienced difficulties. And the present-day project will allow corrupt officials to satisfy their ambitions through legal means. Seventy per cent of the law's essence is about ways to restrict cotton processing plants. Neither producers nor processors of cotton need this law. The appearance of the "Provision Corporation" [the department responsible for governmental purchase] interested in cotton has coincided with the development of this project.

The members of the Kazakh Cotton Association, established in 2005 and representing 12 cotton-processing companies and one cotton farm are not likely to accept this new project. This association was created to resolve the problems of cotton growing. Its members have noted that six out of nine components of the project were dedicated to the licensing of cotton-processing plants.

Thus, cotton producers think that when the cotton industry started being profitable, the government decided to use the new law to exert stricter control over them. Thirty-three administrative structures of control already exist in the region.

The Minister of Economy and Budget Planning, ██████████, held a meeting with members of the Kazakh Cotton Association on 29 August 2005 at the *akimiat* (regional administration) of the SKO. ██████████ said that the Kazakh government had decided to create a working group in order to consider the law project on the "Development of the Cotton Industry" at the end of August 2005. The members of the Kazakh Cotton Association expressed their concerns about the project during the meeting with the minister. They argued that if the project was adopted in its current form, it would hinder the development of the cotton sector.

The President of Kazakhstan, Nursultan Nazarbaev, visited SKO on 1 September 2005. As soon as he arrived at Shymkent airport, Nazarbaev was taken by helicopter to the Mahtaaralskii region, the largest cotton sowing area of the oblast. "We will not give any benefits or preferential treatment to farmers that cultivate five hectares of land," Nazarbaev said during his meeting with cotton farmers.

Officials from the oblast already started discussing the necessity of a regrouping of small farm during their meetings at the beginning of 2005. They explained that small farms (5–10 ha) do not observe the rotation of crops and the land becomes overused and infertile. They also argued that large farms can take bank loans to facilitate their development and upgrade their equipment. However, many farmers think that the unification of smaller farms will take them back to forced collectivization.

"Why would I unite with somebody?" said a farmer, ██████████. "I have five heactres of land and I have been growing cotton for five years. We gather

3,000 kilograms of cotton per hectare. I buy quality seeds. I've never made any losses. I can afford to utilize machinery. I am the owner of my land now. But I do not have any confidence that I will own my land in the future."

Work on expanding cotton-growing farms in the Mahtaaralsky region continues at full speed. The oblast has 42,716 farms with an area less than five ha. Some 35 per cent of these farms, or 15,028, are located in the Mahtaaralsky region. The *akim* (head) of the region, ██████████, said that the unification of farms is taking place only on a voluntary basis. However, farm managers are very hesitant to enter such unions because they are afraid that they could lose their rights to own land. Nurjanov thinks that expanded farms allows for an increase in capital, a significant circulation of investments, and stand a better chance to be granted loans.

According to specialists from the ██████████ cotton-processing plants in the South played a crucial part in cotton growing. The managers of these plants regularly financed work in the fields before sowing, when more investment was required.

"I do not want to enter any unions," said ██████████ a farmer. "I am quite happy with going to my investor. I know he can always help me. If farmers need money for weddings or funerals, investors never refuse. Of course, we pay back all debt in the form of harvest, but we are fine with this. They say that investors will be prohibited from giving us money. Is this the government's way to reward those who helped the cotton industry?" The farmer refers to the new law project on "Development of the Cotton Industry," which prevents cotton manufacturers from financing farms. Analysts think that the creators of the project have included this clause in the new law only in order to disavow local players in the cotton market and clear the playground for participants from the future special economic zone. This patron-client relationships between farmers and investors finds its roots in tradition since it was common wealthier members of the village community to help the poor.

The ██████████ arrived on the cotton market scene by the Spring of 2005. The government has claimed that the ██████████ will help farmers become independent from cotton-processing plants, which supported cotton sowing and collection campaigns. Nobody knows yet how and at what price the farmers will settle accounts with the ██████████. Farmers have suffered an acute deficit of investments, which stems from the reluctance of processing plants to provide loans in view of the unfavourable economic situation. These circumstances have forced farmers to sell their cars and cattle.

The Problem of Seeds Supply

The Kazakh Cotton Association held a series of seminars in January 2005 in the cotton-growing areas of the SKO. At these conferences, cotton manufacturers

tried to convince producers that it was necessary to improve the quality of their produce. One of the main problems cotton growers have to face is seed quality. Indeed, farmers often buy damaged or smuggled seeds to save money, but low-quality seeds reduce crop capacity and lead to low-quality products. Cotton manufacturers set low prices for these products, which provokes conflicts with the producers.

There are five elite seed-producing farms in the oblast, but their produce is not in demand. According to specialists, every region must grow its own, special kind of cotton. Cotton crop capacity is declining steadily and farms are breaking up into smaller entities. As land becomes smaller, farmers cannot observe crop rotation, and this is why farmers are advised to join into co-operatives.

In 2004, the quantity of harvested cotton in the SKO reached a record in absolute terms. Some 466,000 tons of cotton were collected (the previous record was in 2001 at 417,000 tons). Even at the current low cotton prices, farmers should earn some 16.3 billion tenge. However, this record was reached only because sowing areas were expanded and cotton was made a monoculture in a number of areas.

According to data from the oblast's Ministry of Agriculture Administration, the traditional types of cotton have lost their characteristics. The best quality seeds from specialized stations are mixed with other types of seeds and are stored in the same containers at processing plants. As a result, farmers are not sure what kind of seeds they grow, which significantly affects the price of their production. Specialists deem it necessary for cotton-processing plants to be consolidated for the very reason that the cotton sector is negatively affected and SKO cotton loses its quality "because mini-processing plants, which are interested in a thorough cleaning of raw cotton and in keeping the different types of seeds and reproductions separate, are absent," said ██████████, a PhD candidate in agricultural science.

Out of the 7,000 tons of seeds that will be used in the oblast's cotton fields this year, not less than 2,500 tons are low-quality seeds smuggled in from Uzbekistan which can be bought for a low price on the market. According to the oblast's Department of Agriculture, cotton grown from such seeds is only suitable for the production of technical oil. To prevent the situation from worsening, the Department wrote a letter to farmers. Specialists admit, however, that the letters do not have much effect because the cheap price of Uzbek seeds overrides all the arguments related to future low crop capacity and the low quality of cotton.

Specialists from the oblast's Administration of Agriculture estimate that 80 per cent of all areas dedicated to cotton growing in the SKO are sown with domestic cotton seeds. Many farmers, however, currently buy cotton seeds of uncertain quality without any certificates. These seeds are brought from Uzbekistan and are often claimed to be the domestic brand "M-4005."

"The farmers are attracted by the cheap price," said the Director of the Mahtaarskaya experimental station in the Turkestan oblast. "They do not know that our station is the only place that produces the true elite seeds of this kind," he said. After three years of experiments on seeds the SKO launched two new kinds of cotton three years ago, "M-3044" and "M-4005," which are produced by the 70-year-old local experimental station in the Maahtalsky area of the SKO. The new seeds are disease resistant and ripen fast, which is very important in "our most Northern zone in the world of risky cotton growing," said [redacted] a PhD candidate in agriculture and one of those responsible for creating the new seeds. The weight of the ripe cotton flower produced from the new seeds reaches 6 grams, and the cotton fibre is 39.3 per cent (compared to only 30 per cent for other types). The government subsidizes the purchase of locally made cotton seeds. If everyone were to use domestic cotton seeds, crop capacity would increase to 3.5–4 tons per hectare (against 2 tons per hectare now). Moreover, this would allow farmers to use water more efficiently. Apart from the Mahtaarskaya experimental station, there are four other elite cotton-growing farms. However, they still cultivate cotton from the "C47-27" seeds, which were adapted in the SKO several decades ago and lost their purity line. According to Ibadulla Umbetaev, farmers from the southern zone of the Turkestan oblast are most interested in buying the new type of seeds, while the main producers of cotton in Mahtaarsk show little interest in the new seeds. Yet these were used in this region to sow an area of about 40,000 ha (out of more than 100,000), which is twice the size of the area sown last year. The reluctance of farmers to use new types of seeds may be explained by their high price. The Turkestan zone is located much more to the North, where they require types of cotton seeds that more resistant to weather changes. This is why Turkestan farms have to acquire the "M-3044" and "M-4005" types of cotton seeds.

Conclusion

After the break-up of the USSR, Kazakhstan's cotton industry experienced a period of collapse for several years. However, the situation gradually stabilized as farms developed a rational economic policy based on trial and error which stimulated a rapid recovery process. During the first years of independence, cotton farmers sold all their unprocessed harvest at the lowest price abroad. In recent years, however, local cotton manufacturers have proved to be active players in this market. But as soon as the industry showed signs of becoming viable, new interests representing the authorities started to appear. According to analysts, the very cotton processing plants that helped the cotton sector to recover from the post-perestroika crisis period through their investment will now soon go bankrupt. This explains why farmers are awaiting these changes with distrust.

The Dark Side of White Gold in South Kazakhstan

Daur Dosybiev

Southern Kazakhstan is the only region in the country where cotton is grown. More than 200,000 ha of arable land with an average productivity of 20–25 centners (one centner equals 100 kg) per ha belong to 1,500 small, medium and large farming households. All this arable land is located along the Kazakh-Uzbek border.

It is important to note that cotton growing is an attractive business opportunity. On 13 July 2005, at a press conference in Almaty, the chair of the Monitoring Council of the cotton company ██████████ ██████████ declared that the cotton sector of Kazakhstan was worth more than US\$250 million. However, using statistical data on southern Kazakhstan, it is important to remember that most data – to put it mildly – do not reflect reality. This is because during the Soviet period, the heads of cotton kolkhozes and sovkhoses used to intentionally understate the amount of land used for crops in their reports. This would allow them “to increase” productivity and part of the undocumented cotton would be sold without the state’s involvement. I suspect that even today statistical data require corrections because “playing with data” allows farmers to avoid full taxation and profit from undocumented cotton.

During the communist era, university and high school students, state workers, officials, pilots and drivers used to be mobilized to gather cotton. Cities would literally empty out as a large part of the population were working in the cotton fields. Of course, today the situation is different. A smaller number of experienced workers is preferred to a huge army of unskilled citizens. This is all the more the case as there is no scarcity of such labour. The unemployed citizens of Uzbekistan gladly take jobs offered by Kazakh farmers with salaries three times lower than those offered to locals.

Uzbek labour migrants come to Kazakhstan for the beginning of the season in the Spring. They can be divided into three groups. The first and most well-off group are Uzbek farmers who year after year are employed by the same household (as a rule, these are farmers who have 15–20 ha of land). They work illegally, but they have confidence in receiving payment for their work and benefit from good working conditions. The second and largest group is made of those who come to Kazakhstan illegally in search of work, mostly from Uzbekistan.

They take jobs in small and medium households under conditions set by the employers and do not complain about living discomfort. Employers, aware of their illegal status, accommodate them in poor conditions. The third and smallest group of workers are those who do not have documents and agree to work for food and shelter. According to analysts and farmers, the proportions of migrants making up each group are respectively 30, 50 and 20 per cent.

It is impossible to count the number of labour migrants employed on cotton fields in the Southern Kazakhstan oblast because few of them register with immigration services. Besides, employers tend not to publicize the number of employees they hire as they would not be able to manipulate their data and minimize the tax they owe. The deputy chief of the Migration Police of Southern Kazakhstan Oblast (SKO) ██████████ stated in an interview in August 2005 that more than 4,000 illegal migrants were detained on the oblast's territory. He believes, however, that the real number of illegal migrants is much higher. According to the Department of Employment Co-ordination and Social Programmes of SKO's regional government, more than 10,000 people arrived by legal means in SKO within the first six months of 2005. About 2,000 of them claimed that the purpose of their visit to Kazakhstan is to look for a job. The oblast's Department of Employment Issues records that 12,000 people take part in cotton harvesting without having a fixed workplace. Out of them, 2,000 have an official unemployed status. Saryagash rayon was a leader in attracting the unemployed to work on the cotton harvest – a total of 5,200 people. In Turkistan it is estimated that there are 2,000; in Mahtaaraal and Shardarin rayons 1,500 and 800 people respectively were involved.

A 46-year old citizen of the Jizakh oblast of Uzbekistan, ██████████, and two of his sons came to Kazakhstan legally for four years and were hired by farmers in Mahtaaraal rayon. They are paid between four and five tenges (US\$0.03) for every kilogram of cotton gathered. An experienced worker can earn up to US\$200 for a month. For the same work, landlords pay Kazakhstani workers from between seven and ten tenges (US\$0.06). "We live fine," smiled ██████████ when I interviewed him in August 2005. "We live in peace, we do not quarrel. The landlords give us food and we cook ourselves." For one season, the father and two sons take home around US\$800. Given the fact that a normal salary in regions of Uzbekistan is around US\$20, we can assume that the Abdukari-movs are quite happy. Obviously, they have not heard about insurance for hired workers. Nobody has explained their rights to them. They did, however, register as guests with state bodies as the landlord said that it would be preferable. "There are a few more people from our *kishlak* working in the neighbouring field," says Yuldash. "They do not register at all. The landlords told them that there would be fewer expenses that way."

██████████ is 26 years old. He is from the suburbs of Tashkent and this is his first

time gathering cotton in Kazakhstan. During our meeting he told me, "One of our neighbours worked here last year, he advised me to come and work for Kazakh farmers." He responds evasively to the question of how the hiring process took place – he crossed the border, got to the cotton fields, offered his work to the farmers. Consequently, he also did not register anywhere and the landlord does not pay taxes out of his salary.

Kazakhstani farmers do not hide their interest in hiring Uzbek workers. The status of labour migrants is not mentioned in Kazakh legislation; their employment is not regulated and the whole procedure of hiring is built on an oral contract between the employer and worker. One 30-year-old farmer who called himself ██████ says that he does not care how a guest worker happened to be on Kazakhstan's soil, whether legally or not. "I take their passports," confessed ██████ "I give them back with the payment when the gathering is over. The advantage of using Uzbek labour is obvious for me. Firstly, their work is valued cheaper. Secondly, they do not drink. Thirdly, they do not demand any conditions, nor claim any rights." ██████ responds to the observation that he has no right to take away their passports with a smile.

In fact, it is common for an employer, when he knows that workers live illegally in Kazakhstan, to turn them in to the police, as this frees him from paying for the completed job. ██████ from Jizakh who is of the same age as ██████ described how he and six other workers from Uzbekistan were cheated on by a Kazakh farmer. "He took our passports, fed us poorly, and gave us an unfinished barn to live in," says ██████. "Without documents we could not leave him. He also threatened to call the police. And when it was the time for payment, we were taken to police station, kept there till the morning and then taken to the border and let go."

Two citizens of Uzbekistan turned to the Turkestan city police office with a claim that they were hired for work in Kazakhstan by a man who brought them to Turkestan, took away their documents and put them with an employer. Soon, it became clear that as "guest workers" they were literally in slavery. Moreover, the victims claim that the payment for their job was taken by their recruiter. With great difficulties they managed to escape and turn to the police. Turkestan city police officers detained a 48-year-old citizen of Uzbekistan on suspicion of recruiting people for exploitation.

Thirty-three-year-old farmer ██████ justifies the requisitioning of documents with the claim that guest workers can commit a crime against employers. "Two years ago I hired two Uzbek unemployed persons," he describes. "They had no documents. At the end of the season they stole three rams and a cow and disappeared. I do not even know their last names."

Evidently, ██████ is not the only victim. There were cases when hired workers from Uzbekistan killed their landlord under the suspicion of being

cheated. In 2002 the police of Southern Kazakhstan oblast uncovered a criminal group consisting of foreign citizens who were in Kazakhstan illegally. This group consisting of Uzbek citizens committed crimes on Kazakh territory. The police detained five Uzbek citizens who committed forty burglaries and one murder. All detainees live in Tashkent.

Today, the border between Kazakhstan and Uzbekistan is open for unhindered passage from one country to another. However, as Uzbek citizens claim, before getting to Kazakhstan, they must bribe border guards who hold them up knowing that they are leaving to earn money. "There are no jobs in Uzbekistan," says [redacted]. "If we are detained at the border, we can be left without work on Kazakh cotton fields. Therefore, it is better to pay a bit to a border guard in order not to waste time crossing the border."

Unfortunately, as is illustrated by the evidence, certain southern Kazakh farmers do not shrink from open slavery in exploiting workers. Thus, at the end of 2004, the police detained two brothers who live in Ordabas rayon because they were forcefully holding two men and a woman who were forced to do the most dirty work. Apparently, there could be no mention about payment for their job.

It seems that the "chaos" which prevails in the labour market of cotton growing regions is beneficial for everyone. The employers who hide the existence of their hired workers can save on taxes, payments and provision of good working and living conditions. Labour migrants, arriving illegally, do not pay taxes neither in Kazakhstan nor in Uzbekistan. The law enforcement officials close their eyes after having taken bribes from farmers. In a confidential conversation, an officer of the customs department told a story about when he was offered a bribe of US\$1,000 not to check bus passengers's documents.

Farmers are not stopped even by the fact that most illegal workers have criminal records. But investigating terrorist attacks that occurred in Tashkent in August 2004, the office of Public Prosecutor of Uzbekistan openly declared that the terrorists were based on the territory of Kazakhstan. It is quite possible that they were hiding among hired workers in farming households.

The department of co-ordination of employment and social programmes of the Southern Kazakhstan oblast proposed the adoption of legislation on labour migration that would regulate the residence of hired foreign workers on the territory of the Republic of Kazakhstan. While the document is held up in bureaucratic machinations at different offices and authorities, labour migrants cannot protect themselves and their rights are violated by farmers, law enforcement officials and cheaters.

Unfortunately, the topic discussed in this article is not studied in Kazakhstan at all. Articles in the mass media are of informative nature and simply remark on when, where and how many migrants were detained and deported by the state. Meanwhile, illegal labour migration poses a number of problems that sooner or

later will press for solutions. As farmers claim, the cotton industry cannot function without additional labour, so labour migration from Uzbekistan is essential. It is impossible to estimate their impact in this industry because there are no objective statistics that give numbers for each household. Besides, the official size of farming households itself is not correct.

Speaking about the problem of illegal labour migration, it is important to consider the fact that the current situation paradoxically satisfies everyone, helping both employers and guest workers to avoid additional taxation. At the same time, all actors in this industry, including migrants, agree that it is time to legalize the status of Uzbek hired workers. Yet they admit that the market for illegal labour migrants will continue to exist regardless of any legislation.

Today the Kazakh authorities do not recognize the existence of this problem, and the rights of Uzbek citizens working on the cotton fields are not protected at all. Perhaps this situation could be alleviated by the creation of resource centres that could provide legal and information support to labour migrants that might prevent the abuse of their rights. An initiative group was established in Shymkent and it is planning to publish special brochures for illegal labour migrants that will include all Kazakh legislation on migrants, all the disadvantages inherent to their status, the difficulties they will have to face and some ways of solving conflict situations.

Note

1. Personal journalist investigation was used as a primary source.

The Emerging Actor of Decollectivization in Uzbekistan

Private Farming between Newly Defined Political Constraints and Opportunities

Tommaso Trevisani

In the late 1990s the transformation of the agrarian system in post-independence Uzbekistan presented a mixed picture. Ikhamov described it as a three-tiered system in which *shirkats* (large, state-controlled farms, successors of the kolkhozes and sovkhozes, with little change in organizational structure and management style), small household-based *dehkan* farms, and, in between, “intermediate” private or independent farms (Uzb. *fermer xo’jaligi*) coexisted in a mix of elements of both command and market economy.¹ Ikhamov called this system of agriculture, featuring a number of restrictive characteristics aimed at keeping the social and economic processes of the rural areas within the track designated by the government, the “Uzbek model” of agricultural reforms. Unlike the more successful Chinese model, in which small producers enjoyed freedoms that boosted productivity within a framework where the state remained predominant, in Uzbekistan the combination of reforms and state regulations did not allow the development of an analogous dynamism in the private farming sector.²

In Uzbekistan private farms were legally introduced in 1991. For many years they were few in number, covering a minor share of agricultural land, de facto remaining subordinate to the *shirkats*, and largely integrated into their production schemes. Although according to legislation, capable individuals can apply to lease land and establish a farm, the gradual expansion of the “private” farming sector was a top-down implementation process, as farms were introduced to fulfil centrally set quotas in every region. Table 1 illustrates this process in the Khorezm region. The Land Code of 1998 defines the restrictions and limitations of the status of private farms. Land ownership remains a state prerogative, private farms being only legally registered enterprises which lease plots of land on a long-term basis from the large state-controlled enterprises or directly

from the *hokim* of the district (*raion/tuman*).³ Most of a private farmer's land is bound by the leasing contract to the cultivation of the state-order crops of cotton and wheat. Although subsidized through state-channelled inputs, farm profits on state-order crops are relatively low, as the government controls their retail and marketing.⁴ Producers are obliged to sell all their cotton to state-controlled gins⁵ at prices fixed by the government far below world market prices, resulting in low profit margins for the farms. Private farms materially depend on the state-channelled agricultural inputs they receive in an amount related to their share of the state crop quota. All accounting and expenditure passes through state-controlled banks, notorious for their reluctant disbursement of cash, which private farms cannot circumvent. In case farmers produce something other than requested, repeatedly fail to reach their assigned production target, or accumulate debts to suppliers and go bankrupt, farm leasehold contracts can be withdrawn. In such a case farm holders will lose their land leases, warrant and source of private capital. Moreover, as cotton and wheat are state crops of strategic importance, governmental officials monitor and interfere in the production process of a farm in all its phases down to plot-level activity. Given these characteristics, private farming still appears to be largely integrated and subordinated into the state production apparatus.

Since 2003, however, the pace of reform has brought the agricultural sector to a new watershed, as large state enterprises are increasingly being dismantled and replaced by smaller private farms. Constraints on agriculture are not lifted, but the opportunity for economic action in rural areas has been reorganized and presents a picture different from before. At the time of this research, *shirkats* had been disbanded in four experimental districts of the republic, and private farms had taken over the lands and the state-order production from the *shirkats*. The substitution of the *shirkats* by a multitude of newly established private farms follows the already described pattern of reform implementation for the introduction of the private farms: gradual, top-down implementation according to centrally set quotas. In future, private farms will gradually replace *shirkats* all over the republic. Although constraints on farmers' freedoms will continue, this decollectivization is gradually creating a new constellation, with the "*fermer*"

Table 1. Farm Establishment in the Khorezm Region

	end of 1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1st half 2004
area (ha)	1416	3382	4839	6934	8467	9638	14221	30352	41545	55414	84774	113833
No. of farms	186	554	842	998	1132	1283	1559	2872	3617	4842	6533	7787
Aver. ha	7.6	6.1	5.7	6.9	7.4	7.5	9.1	10.6	11.5	11.4	12.9	14.6

Source: *Fermer* and *dehkan* Association, Regional department of Khorezm

(official Uzbek term for private farmer) at its centre. Compared to *shirkats*, *farmers* run smaller production units with more individual liberties and have more space for initiative during the production process than in the period of collective agriculture. Although at an embryonic stage, a new constellation is emerging, in which socio-economic dynamism, along with the opportunities and risks to which the newly defined actors of agriculture are exposed, will be higher than before. The break-up of the *shirkat* has made the *farmers* a distinct class of agricultural producers. But as a class, *farmers* are still in the making and very heterogeneous. In the districts, different views about their role in agriculture lead to conflict and incongruence between them and the agricultural authorities co-opted by the state, as well as between *farmers* with different backgrounds. The emerging new context has the beginnings of a more competitive and dynamic scenario, that so far the slow pace of the reforms during the 1990s has managed to contain.

In this paper, I would like to look at what it takes to be a successful player in the context of decollectivization, by focusing on private farming with all its contradictions and problems: the uneasy relationship with district authorities and the new, competitive situation farmers are confronted with at the beginning of a still restrained, but increasingly modern and dynamic agricultural scenario. After decollectivization, with the disbandment of the *shirkats*, the *farmers* are the emerging agricultural actors taking over the agricultural production. However, due to the peculiarities of the Uzbek agricultural reform context, they are neither market-oriented profit maximizers, nor subsistence-oriented producers. Following the rationale of the current reforms, *farmers* can be seen as the “heirs” of the *kolkhoz*. As such, they also are, as the *kolkhoz* before and the *shirkat* later used to be, a “building block” of the state system. Therefore, the logic of farming follows the very locally determined criteria of optimizing their integration into the still preserved command system, as well as trying to enhance the terms of usufruct⁶ relative to the command production apparatus. Because of the persistence of heavy constraints on farmers’ freedoms, both profit maximization regardless of the directives from above, as well as unquestioned conformity with these directives bear their own risks. Successful farming, then, is a balancing act between the two extremes.

Elaborating on this statement, I shall first of all discuss the setting of the reforms by examining how rural families relate to the context of state agriculture and to the changing rules of land usufruct available to them. In the following section I shall focus on the implementation of the reform in a pilot district of the Khorezm region in order to give an idea of the scope of the reform and of the emerging typology of new actors. The last two parts discuss the situation of the *farmers* from “within” a farm, and their relationship with the district authorities.

The Rural Family in the Context of State Agriculture

The organization of agriculture in Uzbekistan draws elements from both the state and the family. This twofold embedding can best be illustrated by considering the different scales of agricultural activity involved in the production of cotton. In rural settlements, the small-scale work, consisting of the heavy and burdensome manual work in the fields, is managed by resident peasant families. They materially care for the daily operations of cotton growing, irrigating, weeding, etc. over the growing period (roughly March to August, after which harvest starts), for which the large cotton fields are apportioned to smaller units that can be tended by families. Peasants involved in this work are also called “*gektarchi*,”⁷ meaning those who care for one hectare of cotton. At the same time, on these very same fields but on a higher level of the agricultural production hierarchy, the local staff and officials organize and execute all necessary operations within the boundary of their territory and competences, including the use of tractors, the application of agricultural inputs, decisions on sowing, irrigation beyond the plot level, and the management of rural labourers. Further up, at district level, the apparatus culminates in the *hokim*, who is directly responsible for the accomplishment of the state plan and who supervises cotton production. This is steered by district- and *shirkat*-level executive staff whom he has either recruited or maintained in their positions.

The state-directed and family-based frameworks have different but complementary attributes. Production is organized along the lines of family structures, while rural families have adapted to the framework of state agriculture. This pattern was already well established during the Soviet period. In the *kolkhoz*, housing and labour were organized to suit to the needs of the extended families. *Kolkhozes* provided their members with big houses, built to contain more than a conjugal family. They always included a garden plot and a shed for cattle in the backyard, and had abundant storage space. Produce from the garden as well as livestock were important components of the rural families' income and nowadays are even more crucial to family subsistence. Cattle is doubly appreciated as a provider of dairy products and as a form of saving – something to give away when the household has to face major life-cycle expenditures, such as the dowry for the bride, wedding celebrations, or the building of a new house. Although Sovietization brought many radical changes to agriculture, it preserved the traditional family structure as the main unit of agricultural production by co-opting it into its agrarian system in a fairly unchanged form. While the traditional political structure above the family level had been liquidated and substituted by a new one, households were integrated into the productive system without altering their key features. With the post-independence reforms this pattern is preserved. From the collective agriculture of *kolkhozes* and *shirkats* to the more individual agriculture of the *farmers*, the legal definitions of the relations of land usufruct

have been rephrased several times, but the rural family has remained the essential unit throughout the reforms.

In the areas where I conducted my research,⁸ the rural families are extended families including several generations. The extended family is a unit of consumption, distribution and production. Typically, it is organized around the figure of the patriarchal authority, to whom family members show reverence and obedience. The extended family is composed of the patriarch, his wife, his unmarried and married sons, the wives and children of the married sons, and of his unmarried daughters. In terms of status and authority, family members are ranked by age and gender. Through marriage, daughters change their family affiliation and therefore are no longer seen as family members in the same way sons are. This is reflected in the kin terminology, which differentiates between maternal and paternal kin. In traditional families, sons and daughters get married early and the parents decide when and with whom. The extended family lives in a joint household. The sons of the head of the household will only move out of the house with wife and children long after the wedding, when the whole family has provided them with a new house in a nearby location. The founding of a separate household entitles the new family to apply to the local authorities for a subsidiary plot of 0.13 ha of irrigated land, called "*ko'shumcha tamorka*." Together with cattle and the fruit and vegetables grown in the garden around the house, this plot represents the economic basis of the average rural family. Even after the sons have moved out of the parental household, they maintain strong links with the patriarch, who still maintains his decisional authority in all important matters until his death. While elder sons progressively move out of the household of birth, the youngest son (and his family) remains with the parents and inherits the parental house.⁹

On the division of labour of peasant families, Krader wrote that "Silk raising, dairy production, gardening are women's tasks among farmers, the men are herdsmen, canal diggers and cleaners, house-builders. Cotton and grain raising are joint tasks among the farming peoples."¹⁰ This gendered division of labour has been maintained until today. In the rural areas of Khorezm, technical jobs (tractor driver, engineer), management positions, leading positions in the administrative staff and in general decision-making in agriculture are largely a male domain, in which women are seldom represented.¹¹ Under the pressure of economic stagnation, however, the division of labour in the rural families has recently taken new forms. Rural unemployment has affected the traditional role distribution between genders, because many men leave their villages to seek work elsewhere. As a consequence, women have seen their share of the work in the fields increase. Also, they sometimes take over agricultural activities that used to be associated with males, such as looking after the rice paddies on the subsidiary household smallplots (*ko'shumcha tamorka*). Kandiyoti has drawn

attention to the feminization of poverty, which this process also entails.¹²

Rural Families and Forms of Land Usufruct

In the post-kolkhoz period, the extended rural family of the “*kolkhozchi*” has been relabelled as the “*dehkan*” family in the governmental reform jargon (Uzbek term for peasant). The main difference between the two is that since 1990 rural households registered in the territory of the former kolkhozes became entitled to a subsidiary plot. This was effectively a redistribution to rural households of land previously used for state crops in compensation for the shortfalls that families had to face after independence. At that time, wages decreased and state farms were unable to pay them regularly, and when they did pay them, it was usually in kind.¹³ With 0.25 ha of irrigated agricultural land¹⁴ the subsistence basis of the *dehkan* family is nevertheless fragile. In the context of Khorezm, the *tamorka* gives two harvests (winter wheat, harvested in June, is followed by a short season of fast rice growing) and *tamorka* plots usually have a high productivity compared to the large state crop fields. However, this is too small and insecure a basis to feed large households.¹⁵ *Dehkan* households therefore engage in other agricultural and non-agricultural activities. Among agricultural activities, cattle rearing plays an important role. Cattle owned by households used to graze on the fields and orchards of the kolkhoz before these were privatized. After privatization fodder or grazing rights have to be purchased or acquired in return for labour on the *farmers*' plots. Beyond the *dehkan* household plots, families can engage in various arrangements of land usufruct in order to access additional sources of income. These are:

1. *Pudrat* (employment to work on a parcel of collective land cropped with state crops): the term comes from the Russian “*podryad*,” which means “contract.” The *pudrat* land refers to the land administered by the *shirkat*, on which the *dehkans* work on a contractual basis. Under the kolkhoz – in which land grown with state crops was allotted to households to look after it – family-based brigades were already introduced to enhance productivity. This type of arrangement continued in the *shirkats*. The former brigade workers (now “*pudratchi*”) agree on a contract with the *shirkat* chairman over the allocation of a specified plot of land. This contract usually is usually for one year but can be extended over three to five years. Average *pudrat* is 8–10 hectares, but size ultimately depends on the capabilities of the *dehkan* family (in cases of larger or smaller workforces, land would be arranged accordingly). In a *pudrat*, the head of a *dehkan* family is employed by the *shirkat* to grow the crop. The head of the *pudrat* further apportions the plot, in case different families are involved. The *shirkat* provides the *pudratchi* with seeds, fertilizers

and all necessary inputs. Work should be paid out as a monthly wage, but due to the cash shortage, salaries are usually paid out in kind from affiliates of state retailers. Their prices, however, are higher than those at the Bazar, resulting in an additional depreciation of the salary's value. In theory, a *pudratchi*'s salary is around US\$10. This amount is, however, "virtual," as expenditures (gas, electricity, pension and communal services to the households) are deducted. The rest, made available in kind from retailers (wheat, cotton oil and sugar) has a market value of US\$5–6 of monthly income. While *pudrat* work strictly means employment by the *shirkat*, colloquially it is also used for the work at the *farmers*, if workers are employed and their workdays are recorded on their employment card.

2. Tender (agreement to grow free marketable crops on collective lands): tender agreements were officially introduced under the *shirkat* in reaction to the fall in productivity caused by unattractive remuneration. *Dehkans* acquire a plot of land (usually 1–5 ha), on which they grow crops on a sharecropping basis with the *shirkat* administration. Payment in cash is also possible. The difference with the status of the *fermer* is that the agreement lasts a maximum of four years and that *dehkans* do not need to establish a farm. Typically, vegetables, watermelons and rice are cropped. This is an intermediate land-lease system that after the disbandment of the *shirkats* is gradually coming to an end as this form of land usage is not considered in private farming. After decollectivization, tender agreements remain in yet to be privatized orchards and vineyards on the reserve land of the Motor Tractor Parks (MTP), kept for future settlement.
3. *Ijara* (land leased on a long-term basis by the *farmers*): *ijara* is the Uzbek word for lease. In the reform context it refers to the land leased by *farmers*. Unlike the *pudratchi*, the *farmers* lease land for a long-term period. When farms were first introduced, leases usually lasted ten years. Nowadays, most land leases are released for 50 years, and are inheritable. The lease is bound to the cultivation of crops as specified in the business plan of the farm, with which the head of the farm has applied for farmland at the farm establishment commission (*fermer ho'jaliklarni tashqil qilish kommissiyasi*) of the *shirkat* or of the district (after the *shirkats* were dismantled). In the business plan the planned crops for the coming ten seasons must be specified. Changes in these crops require the authorization of the agricultural branch of the district *hokimiyat* ("RaySelVodKhoz"). *Farmers* sign yearly contracts with state-sanctioned retailers (district cot-

ton gin, “*Uzdonmachsulot*” for wheat) on the basis of which farms can obtain credit for inputs. Privileged credit for inputs (a 5-per-cent interest rate for cotton and wheat contracts) is granted. However it does not go through farm accounts but directly to input suppliers, so that farms are not directly involved. The farm’s profits are calculated after harvest, with farm expenditures directly deducted from the farm’s bank account, on the basis of harvest returns delivered to retailers. All prices are set by the government and are valid across the entire republic. The trade of state crops and inputs is prohibited.

4. Unofficial land use: current regulations prohibit the sublease of rights to land usufruct, which makes any transaction of land rights illegal. It is, however, a widespread practice. The common practice is to “buy” land to grow crops which are freely marketable on the bazaars or consumable for households, in exchange for cash or with a sharecropping agreement. These are agreements that are not legally registered, thus profits are immediately available to the contractors, without the mediation of the state. This “black market” occurs at different levels. It encompasses at least two distinct types of activities, one of which is oriented towards subsistence and the other which is more entrepreneurial. The first one is generally tolerated by the district authorities: private farm enterprises as well as *shirkats* usually have no cash to pay workers, so small land plots are given as payment for labour instead of cash. These plots are easily recognizable because they are small and usually located on the edges of the large fields grown with state crops. In a similar fashion, households with *tamorka* that are located too far away sell their usufruct for cash to those interested in the neighbourhoods that have excess labour. The second type of unofficial land usage is altogether different. In this case, larger plots of many hectares are sublet by large *farmers* or by *shirkat* officials to private agricultural entrepreneurs for cash or with sharecropping agreements. This “speculative” type of unofficial land usage is more risky as control is tight and sanctions are high. Therefore, it is not contracted overtly but in a hidden way. A significant amount of every *shirkat*’s land is cultivated without official agreements.

While all rural households are entitled to a subsidiary plot and housing ground, not all *dehkan* households engage in further agricultural activities. Of those who do, some are employed in *pudrats* by *shirkats*, some are employed by *farmers*, some have temporary “tender,” some take lands with informal agreements after payments, some are *farmers* themselves. Some, although *dehkans*, have loose links with agriculture, while some others again use the land to cultivate cash

crops, although their family is mainly employed outside of the agricultural sector. A mix of different forms of land usage is common, and goes together with the differentiated structure of extended families. For instance, in an extended family of 12, composed of two households and four sons, two of which were married, there were two *tamorka* lands available and a “*pudrat*” taken from a *fermer*. The family also had a “*fermer xo’jaligi*” of one hectare of orchard and some additional land to grow rice in the summer season, unofficially obtained from another *fermer* through a cash payment. Women were largely employed in the cotton *pudrat*, while rice was an altogether male domain. Men and women both worked on the *tamorka* and on the orchard. Overall, family resources were pooled and work was done jointly. I interviewed the family patriarch, a retired employee of the kolkhoz, shortly after the *shirkat* was privatized. He had decided that his married sons should not quit agriculture (although one of them was working as a taxi driver), as he considered that agriculture offered sufficient prospects for his family. This example, drawn from an exploratory survey I did in 2004,¹⁶ refers to a recurring situation.

For *dehkans*, one of the effects of the elimination of the *shirkat* is that it poses constraints on the economic diversification strategy employed by households, so that families become more fixed on a single path of development. One year after the reform, the employees of a district branch of the FDA (*Fermer and Dehkan Association*) explained to me that in practical terms, for the working population, the main difference in farming before and after the decollectivization is the switch from the “*pudrat*” to the “*ijara*” terms of land usufruct. *Dehkan* households obtaining “*ijara*” farmland became *fermer* households. Families that did not become *farmers* have the choice of working for a *fermer* family¹⁷ or looking for alternative sources of income outside agriculture (mostly trading and labour migration). This explanation, on the one hand, reduces the expectations of radical transformation associated with decollectivization; on the other hand, it shows that state policy has a significant effect on the ways in which households will relate to agriculture in the future. Before decollectivization, the differences between *fermer* and *dehkan* families in terms of livelihood and opportunities were rather insignificant as long as the scale of farming and the cropping patterns were similar. A *dehkan* farm with a good tender or some hectares of profitable land agreements was not different, in terms of economic performance, from a *fermer* enterprise. With decollectivization, the *farmers*’ share of the land increases together with the duties attached to it. But this process also entails a reduction of the agricultural space for non-*farmers*, so that the ordinary *dehkans*’ position has worsened. I will now illustrate this process by examining the outcomes of land redistribution to the *farmers* in a pilot district of Khorezm region.

Decollectivization in Yangibozor District

Yangibozor is a truly rural district, among the smallest and least developed in the Khorezm region. The district has a total of 19,500 ha of agricultural land. Conditions in Yangibozor, with its deteriorating agricultural infrastructure and living standards, clearly reflect the situation of stagnation which [redacted] has characterized as the “demonetization and reagrarization” of the rural sector.¹⁸ According to a district officer, Yangibozor has 65,000 inhabitants spread over eight village councils (*sel'soviet* + district centre): 32,000 are of working age and 24,000 work in agriculture, directly or indirectly. Of these, only an estimated 18,000 are actually in the fields, while the other 6,000 work in trade, construction and other services, and step in only when extra labour is required. With the exception of the district cotton gin which employs 200–300 workers during the harvest season, and a few very small brick factories, there are no other industries in Yangibozor. In 2003, according to the district department for agriculture, 84 per cent of the main agricultural surface of the district¹⁹ was cultivated with state-order crops – cotton (68 per cent) and wheat (16%). In January 2003, when the 11 *shirkats* of the district were dismantled, 1,164 *farmers* took over most of the arable land and the rest of the agricultural workforce.

In Yangibozor, the [redacted] were not privatized, but were reformed into a nominally autonomous, but de facto state-controlled leasing firm that provides services to the farmers. The MTP also retained a share of the *shirkat's* land (between 5 and 10 per cent), which is in reserve for the future enlargement of the settlements, and small subsidiary plots. This is one of the bottlenecks of production as machinery is scarce. Moreover, the MTP is a pretext for maintaining the whole executive structure of the former kolkhoz, so that even after the dismissal of the *shirkats*, the “skeleton” of the kolkhoz system remains intact. Once there was a *shirkat rais* (before he was the kolkhoz manager), an agronomist, an engineer, a land measurer, a deputy *rais*, etc. Now these same people are affiliated²⁰ to the MTP and continue to supervise production, input management, harvesting and what the *farmers* really produce – making sure they do as the district *hokimiyat* has decided for them. The freedoms to which *farmers* are entitled by law are not entirely granted. Their cropping scheme is determined by the district authorities. A share of the consumable products that *farmers* produce (all their produce besides cotton), is withdrawn by the district authorities with the argument that it has to be used for various expenditures (renewal of schools, hospitals, stadium, etc.) in the district, for which the district budget appears to be insufficient.

Although land has not been privatized and constraints on the *farmers* remain, decollectivization is an important turning point for those involved in agriculture, because entitlements to land is passed on to individuals and land is redistributed to a minority of *farmers*, excluding the majority of former kolkhoz members who

remain without direct access to most of the formerly collectively-held land. In Yangiobod the *farmers* count as a privileged class, as manifested in the numerical discrepancy between those who became leaseholders (*farmers*) and the class of the subordinated farm workers. Nevertheless, the *farmers*, equal in their juridical status, are far from being a homogenous group and widely differ in terms of specialization, size of their farms and personal backgrounds. Tables 2 and 3 show how private farms vary according to their size and their crop specialization.²¹

As a first step of privatization, *shirkat* orchards were sold at auctions. Plots were apportioned in small parcels of land (one hectare), so that they could be distributed to a large number of *dehkan* households. Orchards represent the largest number of small *farmer* enterprises. They range between one and four hectares of land and are less dependent on the state-controlled input and retail structure. Their production is rather household-based and oriented. *Farmers* who got these plots often used to work on the orchards before, or were older, retired employees of the *shirkat* with a distinguished career. Orchards are attractive because they are exempted from state order and they enable their owners to lead a modest but peaceful life. Because of these peculiarities, they should be considered as a separate category.

In contrast, state crop farms had to be larger because they were required to suit the needs of the state crop agro-industry. State crop farms were established by ad hoc commissions in every *shirkat*. Suitable applicants could compete for previously delimited farm plots. The "cotton and grain" farms ("*dehkonchilik*") represent the most important farm category in terms of number of farmers involved. Of the 1,164 farms in the whole district at the time when of the data were collected, 713 dealt with "*dehkonchilik*," that is to say with the "core business" of cotton, wheat, and rice. These are the crops that matter the most to the district authorities and to the government's budget, so control and interference are stronger in this sector. Although cattle farms and vegetable farms are not incorporated in the state-order system and therefore should in theory be attractive for farmers, they share characteristics with cotton gins, as they have to sign contracts (*shartnoma*) for the delivery of meat with state-controlled retail enterprises and bazaars, and that their profitability depends on their terms of trade.

As shown in Table 3, the bulk of the *shirkat* farmland was privatized in a rush. After roughly one-third of land had already been transferred to *farmers*, the rest of the land was privatized at the last moment, and in larger plots. In the plan of the *hokim*, farm units should be much larger, but the shortage of suitable applicants forced authorities to create smaller farms. In order to preserve the capacity of the district, those who had a role in the production of cotton before were needed to become *farmers*. Immediately after the switch from the "*shirkat* system" to the "*farmer* system," these actors have to take on the double responsibility of looking after overall running of the *shirkat* and district-level production

Table 2. Farm Specialization in Yangibozor District, April 2004

	Total no.	Total size	Average farm-size
Cotton and grain farms (cotton, wheat, rice)	713	17,426.1	24.4
Orchards	331	645.6	1.95
Grape farms	31	44.9	1.4
Vegetable farms	26	87.9	3.3
Cattle farms	18	319.6	17.8
Silk farms	31	62.4	2
Fish farms	5	69.3	13.86
Farms in total	1164	18,656.8	16.02
MTP lands	(11)	1,339.5* (of which 12.5 orchards)	133.95

Source: Fieldwork data, Tommaso Trevisani, 2004, based on district land measurement office

Table 3: State Farms in Yangibozor District

Size of farm	2001		2004	
	No. of farms	% of total farms	No. of farms	% of total farms
1–5	66	18.1	423 (91)*	37 (11.3)*
+5–10	90	24.7	78	6.8 (9.6)*
+10–20	135	37.1	269	23.6 (33.2)*
+20–30	50	13.7	161	14.1 (19.6)*
+30–40	10	2.7	104	9.1 (12.8)*
+40–60	11	3	85	7.4 (10.4)*
+60	2	0.5	22	1.9 (2.7)*
	Total no. of farms 364		Total no. of farms 1,142 (811)*	

* without orchards

Source: Fieldwork data, Tommaso Trevisani, 2004

of state crops on the one hand and, on the other, of managing for their newly established farm, with a range of new liabilities.

Fermer Families: Risks and Opportunities

The founding of a “*fermer xo’jaligi*” is an important moment for families. If the state plan is not fulfilled, the family will run into debts which they must pay back out of their own pocket. This kind of liability is new for *dehkan* families because when *shirkats* accumulated debts on behalf of the shareholders (*dehkans*) during the period of collective agriculture, the households themselves were not directly liable. Therefore, in order to fulfill the district quotas in terms of reform accomplishment, the district officials had to push the economically capable and skillful families into private farming. Understandably, families are afraid of the risks involved, especially those with few assets. On the other hand, *fermer* households have the opportunity to make profits with state-order crops, provided they match production targets. This opportunity is not available to most rural families. Even in good years *dehkan* households make very modest incomes compared to well-run *fermer* households. So, in abstract terms, becoming a *fermer* is desirable.²² But in Khorezm, as the harvests in 2001, 2002 and 2003 were bad while the prices of inputs steadily increased and the procurement price for cotton remained low, many of the newly established private farms accumulated debts. To them, the economic opportunities of private farming seemed to be out of reach, while the risks and constraints associated with their new status were obvious. In 2004, however, the harvest was good, so most *farmers* reached their target and made good profits.

From the point of view of most newly established *farmers*, decollectivization is perceived as a forced scaling-up of family farming. Decollectivization impacts family farming as a formalization of the diversified economic practice. It is an attempt to impinge the terms of “state farming” to the families, so that by becoming *fermer* enterprises, families get closer to the features and rules of the *shirkats*, but on a smaller scale. As a result, the *fermer* has to bear the contradictions of being a state-steered, but privately-owned and family-managed enterprise. I shall illustrate these statements by following ██████████, de facto manager (*haqiqiy rahbar*) of ██████████ farm²³ in Yangibozor district, in his daily work.

█████████ farm, named after ██████████’s father, was established one year before the decollectivization of the *shirkat*, and then enlarged from four to 30 ha of land (including 23.3 ha of arable land) in the year of the reform. After returning to his home village from studying at the ██████████ Institute of Irrigation and Agricultural ██████████ in Tashkent (TIAME), ██████████, now 45, worked as Komsomol secretary, *shirkat* land measurer (*zemlemer*), *sel’soviet* chairman (*shora*) before joining the ██████████ station (MTP) as an area supervisor of tractor leasing to *fer-*

mers (“MTP uchastka boshligi”). As an experienced member of the agricultural production hierarchy, [redacted] application for farmland was accepted by the farm founding commission headed by the then *shirkat* manager and now MTP manager (“rais”). However, according to law, employees of the state administration cannot be heads (*rahbar*) of private farms. Because of this, the farm contract is registered in the name of his wife, [redacted]. She has a bookkeeping job at the MTP, where the working papers (“*mehnat stajlar hisob deftarlari*”) of the agricultural labourers are stored until they are transferred to the *farmers*. Besides Ozoda, ten workers are on the farm’s payroll (“*shartnomaviy ishchilar*”). They qualify for pension schemes and can receive salaries from the farm account. The cropping scheme of the farm’s 23.3 ha of arable land was decided by the district agricultural department and imposed on Machmud: 19.3 ha of cotton and 4 ha of wheat. One year earlier, he had only 4 ha of wheat, a much more attractive and “easier” crop.

[redacted] did not choose the land he got: most of the additional land he received in 2003 is saline, because a drainage water collector channel used to through it. However, land quality is considered to be high, which means that according to norms 2.9t/ha of cotton output have to be delivered a part of the production plan. Given the quality of the land, this is an unlikely figure for an average year. In order to enhance quality, expensive improvements to the soil are necessary. In the cool spring of 2003, cotton seeds had to be replanted several times, causing additional costs to the farm. The *hokim*, concerned that the district may not reach its target and following a directive from Tashkent, decreed that the fields must be cultivated with “*plyonka*” (plastic cover), which protects the sprouts from cold but constitute an additional expenditure for *farmers*.

Additional tractor work is needed, but the *farmers* have a limited stock of inputs related to their credit lines for their cotton and wheat contracts. All the tractors are old and consume more fuel than norms allow, so additional fuel and tractors have to be found at a time when everybody needs them. In 2003 the available tractors were working night and day. [redacted]’s younger brother [redacted] works as a private tractor driver with a tractor bought at the *shirkat* auction and helps out (he and his wife are farm members). Currently extra fuel and a spare part for the tractor’s gearbox must be bought in the capital bazaar in Urgench. Since [redacted] not meet the plan’s target (“if the harvest is two tons per hectare I am bankrupt”), he diverts cash from workers’ salaries to pay for these expenditures. Instead, the workers will be paid out in wheat at the end of the harvest. As it becomes more and more likely that the plan will not be matched, [redacted] manages to change the terms of contract with the cotton gin and reduce the cotton order. For this, he needs permission from the district department for agriculture. Many of the *farmers*-cum-officials of the “state apparatus of agriculture” neglect their farms in order to undertake their primary task of co-ordinating and monitor-

ing the state plan at *shirkat*- or district-level. In exchange, turn a blind eye to the farms that are not performing well. As an official ██████████'s works 16–18 hour days in the spring, mainly co-ordinating tractors and receiving orders from his “rais,” for whom he has to be available at any time. For ██████████, his employment at the MTP has no economic advantage (he spends more on fuel for his car than he receives as salary: two sacks of wheat after harvest). His motivation for working work is that it gives him small privileges and some protection from the bad terms of trade that are imposed on his *fermer* enterprise. For instance, he could get around the “*plyonka*,” thus avoid taking additional credits. His role as de facto head of the family farm consists of dealing with paperwork, “birja”²⁴ and the district administration. He is involved in strategic decisions on farming and irrigation, the procurement of inputs, employees’ wages, the marketing of crops and relations with the local agricultural production hierarchy which monitors and accompanies the farms through all the phases of cotton growing. For instance, if the irrigation pump upstream from the channel does not work, arguing with neighbouring *farmers* as well as MTP employees would be necessary and typical work for the “*rahbar*.” This job is fully compatible with his official occupation, with keeps him constantly busy. In his extended family he is the only one with a car, without which he could not effectively manage either the farm or his job at the MTP. The management of the workers on the farm plots is a job accomplished by the farm’s work supervisor (“*ish yurutuvchi*”), a role that exists in every medium- or large-sized farm. In Machmud’s farm this work is done by his elder sister’s 30 year-old “*kiirov*” (niece’s husband).

The organization plan of ██████████ farm shows how his extended family, composed of four separate households, is deeply integrated into the structure of the farm (see Figure 1). A number of non-employed family members de facto take over essential tasks. The farm is perceived as a shared asset, to which the households contribute as best they can. Among the people related to the farm, there are officially and unofficially affiliated ones. In addition, within the farm there is a stratification between “members” who are affiliated to the extended family and employed farm workers that are not affiliated and do not share earnings and risks in the same way. Although this distinction does not exist on paper, ██████████ draws a distinction between farm members (“*f.h. a’zolari*” or simply “*a’zo*”) and simple farm workers (“*hismatchi*”). On paper, they all have the same status as farm employees (“*shartnomaviy ishchilar*”), but the relation between the *fermer* and the farm workers is hierarchical. The *fermer* can hire and fire workers as he pleases. In ██████████ farm there were six such “external” farm employees, all of which were fathers in their 30–40s, living in a close-by village. This means that these employees’ families were also involved on the farm (they would step in when work was most required or if their husbands had other jobs). Additional seasonal workers (“*yollanma ishchilar*”) are hired for the harvests,

Figure 1. Structure of “Hursandbeck” *Fermer Enterprise*

Households and persons registered: 10 registered employees, including four farm members

23.3 irrigated land in 2003		19.3 ha cotton / 4 ha wheat	
In Jumaniyaz's household (pensioner, 65)	In Machmud's household (MTP sector manager)	In Baxrom's household (farm member, 45)	In Gulum's household (farm member, 40)
1. Sobir (oldest son of Jumaniyaz, MTP tractor driver, non-member)	1. Machmud (non-member but de facto farm manager)	1. Baxrom (member)	1. Gulum (member and owner of a private tractor as main activity)
2. His wife (farm member)	2. His wife Ozada (farm titular and Bookkeeper in the MTP Admin)	2. His wife (member)	2. His wife (farm member)
3. Their children, occasionally at school	(Children not involved in farm activities)	3. Their children, occasionally in school	
		(Resident in distant village)	

6 labourers with contract (*shartnomavi ishchilar*) of different families. Some of them are heads of households, some are married sons. All aged between 30 and 40. All reside in the village of the farm.

when *farmers* can access cash from their farm accounts to pay them. They are paid daily according to the number of kilograms collected. The relationship between *farmers* and their unrelated employees differs from farm to farm, but generally, in the switch from their employment with the *shirkat* to their employment with the *farmers*, their working conditions have clearly worsened, jobs having become more precarious and the workload heavier.

I have discussed this example at some length to show how complex the organization of *fermer enterprises* is. The structure and problems of Machmud's farm are typical for medium-sized “cotton and grain” farms which since de-collectivization have been responsible for largest portion of the state-order production. Tractor shortage, cash shortage, uneasy working relations, exposure to environmental threats (and inability to react to them adequately because of the plan) and to the “threats of the plan” all make private farming a burdensome business. *Farmers* manage to cope with this burden thanks to their families, and partly by devolving it to their unrelated employees. In this context, the *farmers'* to the “state agriculture apparatus” has ambiguous traits – in a sense, it is both a burden and a relief. Legally (i.e. on farm papers or in court cases) the *fermer* is an individual involved in a leasehold relationship with the state. But in everyday practice, it is a family group in a subordinated relationship to another group, the state apparatus of agricultural production. In the process of accommodating the difficult circumstances of private farming, distinctions between different roles and tasks within farms have emerged. Extended families have adapted to them. This diversification within farms is explained by the complex setting in which farms are embedded. The example of [redacted] family shows

how extended families were made to fit into state farming, and how families cope with this situation.

Farmers, District Authorities and Struggles for Crop Growing

Farmers have a special relationship with the district authorities which is characterized by both antagonism and mutual support. The size of farms, the social stratification of the *farmers*, and personal ties with district officials all contribute to shaping the relationship. In the former *shirkats*, most cotton and grain farms are between 10 and 30 hectares in size, while only a minority of *farmers* (10 per cent or less) have significantly larger land estates (50 ha or more) (see Table 3). While small *farmers* were afraid of the risks of decollectivization and were often pushed into farming, large farmers, which belong to a privileged and economically capable class of rural notables, actively searched for a leasehold and for a role in agriculture as *farmers*. All the people I interviewed agreed that these “*katta farmers*” (large *farmers*) should be considered as a separate category. They are hardly comparable, in terms of economic status, assets, but often also in terms of their social, professional and educational background, to the mass of ordinary *farmers*. In Yangibozor, however, farms as large as 100 ha and beyond are still very exceptional; one can count only one or two in every former *shirkat*. Often they belong to a *rais*, a former *rais*, or are connected to some high state official.

However, some land estates appear smaller than they really are, and in this family links play an important role. Families are strategically mobilized as a vehicle for land control and profitable land arrangements. In the process of decollectivization, the family has rapidly adapted to the new context by recomposing preexisting social and power differences already at work during the *kolkhoz*. The scale of farming here is an important indicator. In the fairly average case of Machmud Hursandbekov discussed above, one extended family composed of different households copes with one farm. In a similar way, the patriarch of an influential extended family exerts de facto control over several *farmer* enterprises through his sons, other affiliated members or even unrelated “strawmen.” As single farms, they have an unspectacular size. Put together, as they are effectively managed and owned, they represent a large land estate. Thus family linkages contribute to concealing the further concentration of land in the hands of few powerful estate holders. The actual relations of land distribution are more polarized than they appear in Table 3.

In Yangibozor, large *farmers* are agricultural notables that have high-ranking positions as public officers in the *hokimiyat* or in a MTP, or formerly leading members of the *shirkat* (i.e. agronomist, brigadir). They have a technical university degree obtained in nearby Urgench or in Tashkent. Others are doctors, militia officers, private businessmen, or more rarely university teachers or school directors. They are either related to the nomenclatura of the agricultural produc-

tion hierarchy, or to urban newcomers who have entered, because of the capital they earned in the cities, the agricultural scene. In any case, a decisive asset of the big *farmers* is that they can use their connections or “bureaucratic capital” to get good terms of usufruct from their leasing agreements. Furthermore, they can mobilize additional resources for their farms through their positions outside of agriculture.

Although current reforms have increased the liabilities of land use, this does not mean that land has altogether become a negative asset. Rather, the new risks and opportunities have been unequally distributed. The terms of usufruct negotiated with the authorities are crucial. Assuming that other limiting factors do not intervene, they will strongly predetermine the results of the farm’s activity and tell if a *farmer* family is able to make a profit or if it will run into debt. Even if the *farmers* receive long term leases, their status is vulnerable because of the importance of tariffs, terms of usufruct, and other vital regulations over which they have no control. An advantageous definition of land quality²⁵ – that is a certification that a certain plot of land can be taken out of the state crop production because of the nature of its soil – means that more profitable crops can be grown without the risk of legal retaliation. This in turn has a significant influence on future farm profits and on the value of the farm. These factors increase the dependency of farms on the district apparatus, so that *farmers* follow directives from above to stay on the safe side with their leases. Especially crucial is the definition of the cropping scheme (“*yer balans*”) of a farm, which in practice is determined outside and above the farm, despite the fact that the law states that district authorities should not interfere in the *farmers*’ activities. Cropping arrangements are negotiated individually and differ from farm to farm. Agreements that include rice and other non-state order crops, which are attractive because they can be sold for cash on the bazaars, are confidential and concluded behind closed doors. State officials dealing with this information keep it secret because a comparative look on the cropping scheme of the farms of a former *shirkat* would reveal the mechanism of the remaking of power relations: an unequal treatment of farms.

In the process of the “repeasantisation of society,”²⁶ people’s purchasing power has decreased and land has become the substitutive asset able to generate income. In Yangibozor, this does not necessarily mean that such people have lost in status contextually. Since decollectivization, access to leaseholds, and especially access to profitable terms of land usufruct, has come to substitute the adequate salaries which state employees no longer receive. When I visited Yangibozor, every MTP *rais* was also the owner of a large farm with profitable cropping schemes. But several *raises* I interviewed declared that they would prefer to resign from their positions and concentrate on their own farms and interests if this did not displease their *hokims*, who need them to monitor crop growth and

harvesting. With a monthly salary equivalent to US\$20–30, not even enough to cover the fuel expenditure necessary to do their job, this is understandable considering the many tens of thousands of dollars they can potentially earn in a year as big *farmers*, if profitable arrangements are made and cultivation is done skillfully.

An important indicator of the social and economic status of the *farmers* is their share of land cultivated with rice. For this reason, rice is a political issue, upon which many conflicting interests compete. Among the crops that can be locally marketed, bypassing the intermediation of the state retail apparatus, rice is the most important one. This is because it can be cultivated on larger areas without much technical equipment or labour, and because of its market importance – being the ingredient for the staple dish *plov*. According to calculations I did with some *farmers*, the average profits of one hectare of rice paddy in the Khorezmian context can be eight to ten times higher than those obtained with cotton after expenses are deducted, especially if the cotton harvest was as poor as in 2003. An approximate figure for 2003/2004 was US\$1,000 net earnings per hectare of rice. An important distinction to be made, however, is whether or not expenditures were low because of state subsidies or not (in cases where inputs were acquired legally, earnings will be lower). For the *farmers*, cotton is profitable when the plan is fulfilled. Many *farmers* express their desire to grow cotton because of the security it brings (lower profits are compensated by subsidized inputs, certain prices and sale-option at the “state” cotton gins). In a context in which, according to Rasanayagam, “the state is no longer conceived of as enveloping the whole society, providing jobs, housing and comprehensive social services,”²⁷ the state still retains a bit of this past all-round care for the cotton-growing *farmer*. For *farmers* the problem starts when district authorities push them into cotton growing on unsuitable lands, threatening the profitability of the farms.

The motives behind and constraints on rice growing are reminiscent of the “black market” for land which existed under *shirkats* and *kolkhozes*. One important difference is that the *farmers* that try to grow rice do it because there simply are more necessity-based and profit-oriented motivations to grow rice. I have shown that as cash shortage is a major problem for newly established *farmers*, they try to cultivate rice on part of their land with rice to make some money. On the other hand, agricultural “speculators” are attracted by the large profits which rice growing is promising. The lack of alternatives for lucrative investments encourages people with capital obtained outside of agriculture to invest in farming, with the idea of specializing in the cultivation of rice. District authorities try to contain this process with the argument that it only follows the logic of short-term profit-making and that it harms agriculture. This is the background of a struggle between profitable *farmers* and the district authorities. The year

after the decollectivization in Yangibozor a general rice prohibition fuelled the anger of many rice-growing *farmers* towards the district authorities. The ban on rice production was not directed against the subsidiary smallplots (“*ko’shumcha tamorka*”), but against the large areas of those *farmers* who grow rice for commercial purposes. Quoting from an IWPR newsletter article that appeared online in July 2004:

Uzbekistan’s beleaguered farmers are facing new difficulties this summer after the authorities moved rice off the list of “strategic crops” grown in the republic. This move should have been a turning point for many farmers, who are now free to sell their rice harvest on the open market without having to worry about meeting quotas or accepting the low prices offered by the state. But many claim that local officials are now preventing them from growing rice in favour of cotton – the republic’s biggest money-earner and the favoured crop. ... Two northern regions have been affected more than most – Khorezm and the autonomous republic of Karakalpakstan, which have specialized in rice production for centuries. Figures released by the agriculture and water ministry suggest that these two regions alone were responsible for three-quarters of the 75,500 tons of rice Uzbekistan produced in 2003 ... [redacted], who heads the grain department at the agriculture and water ministry, told IWPR that the decision to remove rice from the strategic list was a positive move which would benefit farmers. “Farmers will have more freedom,” he argued. “Now they can grow rice without the control of the state and will no longer be obliged to hand over part of their harvest at government-set prices, as was the case previously.” [redacted] who describes the farmers as “true professionals”, told IWPR that he had no information of any threats or damage to the rice crops. But local people insist that these attacks are happening. Villagers claim that more than 140 rice-growing farms in Khorezm and Karakalpakstan have been visited by officials from the local authority and the prosecutor’s office, and “persuaded” to abandon their rice crops. [redacted] 40, who has operated a rice farm in the Yangibazar district of Khorezm for years, told IWPR that she had been warned to stop growing rice, and was told that force would be used against her if she refused. Jumaniyazova’s farm was later visited by police officers, who allegedly used large tractors to crush the germinating rice shoots. Witnesses spoke of how the farmer threw herself in front of one of the tractors in protest, and was dragged to safety by policemen at the last moment. Officials from the Khorezm agricultural department argue that such a hard line is necessary in order to keep cotton production up, on soil that is deteriorating from increased salinity and lack of irrigation water.

What the news article did not mention is that the main reason for the rice ban was that *farmers* divert the subsidized inputs they obtain for growing cotton to the more profitable rice cultivation, thus endangering the plan. *Farmers* take advantage of this opportunity, which enables them to make a profit. (Water is almost free of charge, subsidized fertilizer and fuel quotas for cotton growing are also provided along with all-round services and facilities for cotton, as well as the land leases. Under these conditions farms profit in a way that is unattainable for the larger part of the rural population.) Rather than the ecological threat it is the threat that free-riding *farmers* represent to the plan that scares the authorities. This point was clearly made in an interview on the issue of ban on rice growing with another “*farmer-cum-official*” I had in Yangibozor in 2004:

K: Shall I tell you the main point? You know the fertilizers for cotton? Well, these, the fuel supply [farmers get through the input supply agencies], instead of using them for the cotton, people put them on rice.

TT: Does it really happen?

K: Yes. It is a matter of material interest. For instance, say, I have two plots; on one I grow cotton, on the other I grow rice. According to the norms, I have to use one ton of fertilizer for each hectare of cotton; instead I will use only 500 kg! My profit from cotton is low; from rice it is high. This is money that goes directly into my pockets. I will use the fertilizer of one field on the other field. Taken from the one and put on the other!

TT: Does this mean, this is the reason [for the ban on rice]. This has nothing to do with ecology!

K: Beside this, it [ban on rice] has a link with ecology. Ecology is a very big problem here! For instance, one has to say the truth, if we get granted 5 ha of land, we try to grow [cotton] as if there were 100 ha! At the planning of the crop areas, the plan, when you get 5 ha to cultivate [without state order], they try to cultivate 100 ha! For instance it is forbidden to grow rice at a distance of less than 1km from the settlements. You shouldn't grow rice close to cotton fields, because then the groundwater rises [and the salty groundwater damages the cotton growth], we don't put these things into practice. Instead, we try not to grow cotton! ... For instance, if at oblast level the plan is to grow 95,000 ha of cotton, in the end it falls down to 75–80,000 ha. The Uzbeks are like that!

The last part of the interview shows that strategic considerations in the cropping process are present on both sides (*farmers* and state authorities). Authorities overcharge *farmers* with the plan, while *farmers* cheat on cropping and subsidies if it enhances their profits. Around the quotas of production there is an ongoing bargaining process, and although the situation is clearly asymmetrical,

this may put in perspective the opinion that *farmers* are the victims of a despotic agricultural policy. Clearly, the decollectivization (or maybe rather “*fermerization*”?) of the agricultural sector is linked to the attempt to uphold the plan, and to achieve an enhancement of productivity by increasing the accountability of the producers. Parallel to this process, there is also an attempt on behalf of the district authorities to increase their control on the agricultural production process from the freer situation found in *kolkhozes* and *shirkats*. With decollectivization, the reparcelling of the agricultural land of the *shirkats* reduces the space for “hidden lands” and makes it easier for district authorities to control land use at the local level. While in *shirkats* and *kolkhozes* the units of production (brigades) were very large and accounting was done in an aggregated (*shirkat*-level) form, nowadays the *farmers* have to report their land use and production to the district statistical office and face legal harassment if they report wrong information. The district authorities’ control over land usage by *farmers* is very strict and it has been more effective since decollectivization than in the past. A newly established special department of the district procurator’s office deals with the monitoring of private farms’ activities. Forms and structures of land usufruct that were hidden before now “emerge” through the constitution of *farmer* enterprises and become visible to official statistics through the farmers’ reporting.

Conclusion

With the decollectivization of agriculture, a process of “dynamization” of the agricultural sector, which was contained under the *shirkat*, has begun. While it is too early to say whether it will boost productivity and revitalize the stagnating rural economy, a first result is that a distinct class of agricultural entrepreneurs with strengthened interests and a sense of ownership will soon almost entirely take over the burden of state crop production in Uzbekistan. Decollectivization is leading to the emergence of a new class of producers who, in the long term, will see their property rights strengthened. Even if they have no full ownership so far, *farmers* are confident that it will be the case in the future. Despite ongoing constraints and state interference, being a *farmer* is desirable because of the awareness that only *farmers* have a future in agriculture. Although they are not a homogenous group of producers, including in terms of their future chances of success, a commonality among them is rooted in their ambiguous relationship to the state framework of agricultural production, which generates specific patterns and strategies of farming.

The newly introduced reforms create a scenario different from the late 1990s in that they bring a degree of mobility into agriculture. Along with the strengthening of the *farmers*’ further social transformations in rural areas can be expected in the near future. The redefinition of political, economic and social relations

in rural areas is at the beginning and has so far been an open process. It can be expected that farm units will grow and a number of rural people will move out of the agricultural sector. As the size of the farms increases and the number of the *farmers* decreases, the generation of *farmers* who were pushed into agriculture when the *shirkats* were dismantled certainly pay an unequally high price for having a place in the decollectivized system. They are the ones that carry the burden of enhancing agriculture and are most exposed to economic risks. Their future prospects remain uncertain.

A final consideration on the transformations of the rural sector has to be made concerning the future role of the government. Loosening the regulatory framework of agriculture, or even introducing full ownership of land, would represent a major threat to its capacity to extract wealth from agriculture. It could also undermine the government's capacity to contain threatening social developments, such as the emergence of an autonomous, economically capable and politically competitive class of new rural elites.

Notes

- 1 Alisher Ilkhamov, "Shirkats, Dekhqon farmers and others: farm restructuring in Uzbekistan," *Central Asian Survey*, 17 (4), 1998, pp. 539–60
- 2 Richard Pomfret, "Agrarian Reform in Uzbekistan: Why Has the Chinese Model Failed to Deliver?," *Economic Development and Cultural Change*, Jan. 2000, pp. 269–84.
- 3 Lease duration has, however, significantly increased. Land lease duration, determined in the leasing contracts, was set at up to 10 years at the beginning of the 1990s. Farms established later had longer leasing terms, usually of 30 years, and recently 50-year long contracts have been released. Moreover, according to officials interviewed at the Khorezm regional department for agriculture, expired leasing contracts can be further extended, which seems to be the usual practice. A newly published decree sanctions the inheritability of the leasing contract, thus strengthening the rights of farms with respect to their lease.
- 4 As for cotton, the government still controls 100% of the retail. According to law, farms can decide where to sell 70% of their harvest, but de facto in every district there is one only licensed cotton gin, and the result is a monopoly. Wheat producers have to sell 50% of their harvest to the government at fixed procurement prices, while they can sell the rest on the bazaars.
- 5 Although cotton gins have been turned into open shareholdings, in practice they remain under the control of the *hokim*.
- 6 Usufruct is a legal term referring to the right of temporary possession or usage of the property of another, in this case the state.
- 7 The term is used as a synonym to "*pu dratchi*," the more official term referring to the employed work of the *shirkats*. I explain this later.
- 8 Fieldwork in the region was carried out in 2003 and 2004. My acknowledgements for support and funding go to the Centre for Development Research (ZEF) and to the German Ministry of Education and Research (BMFM, project No. 0339970A)
- 9 For a detailed ethnographic description of the Central Asian rural family see Lawrence Krader,

Peoples of Central Asia, Bloomington, Indiana University Publications, 1962.

- 10 *Ibid.*, p. 145.
- 11 This appears to be an old pattern. Although it generally improved the condition of the women, the Soviet period did not manage to change this situation, as much as it did not manage to break the extended family. Snesev writes about Khorezm in the 1950s:
 "Women, at least in those localities where field studies were conducted, are poorly involved in social life, in spite of the fact that their laboring success are well known, and that in the cotton fields they are the main labor force. Women here have failed almost totally to be advanced to supervisory work in kolkhozy ... However, they themselves refuse this, and also encounter obstacles in this regard placed by representatives of the male sector of the population: both relatives – fathers, husbands, brothers – and unrelated persons." (See G.P. Snesev, "On Some Causes of the Persistence of Religio-Customary Survivals among the Khorezm Uzbeks," in Stephen P. Dunn and Ethel Dunn (eds.), *Introduction to Soviet Ethnography*, Vol.1, Berkeley, Ca, Highgate Road Social Science Research Station, 1974, pp. 226–27.)
- 12 Deniz Kandiyoti, "The Cry for Land: Agrarian Reform, Gender, and Land Rights in Uzbekistan," *Journal of Agrarian Change*, Vol.3, 2003, pp. 225–56.
- 13 Deniz Kandiyoti, "Poverty in Transition: An Ethnographic Critique of Household Surveys in Post-Soviet Uzbekistan," *Development and Change*, 30 (3), pp. 499–524.
- 14 In Khorezm, due to the high population density, this 0.25 ha of land also includes the house, cowshed, roads etc. so that the real agricultural surface directly available to the households is smaller, 0.19 ha.
- 15 According to calculations done together with staff of the *shirkat*, the average income for a good performing tamorka is approximately 120,000–150,000 soum (1,000 soum=1 US\$) for the first harvest, and around 240,000–300,000 soum for the second harvest. This produce is usually for personal consumption, but sometimes it is also sold for cash.
- 16 Twenty households were randomly selected from the mahalla registry of a village. Sixteen were interviewed, two refused, and in two cases interview did not take place.
- 17 Families often became incorporated by *farmers*, who at the beginning had to take over the pre-existing *pudrat* agreements.
- 18 Deniz Kandiyoti, "The Cry for Land," op. cit., p. 251.
- 19 These percentages refer to the areas grown with the main crops. They do not consider lands allocated to the *dehkan* households.
- 20 Officially these officers are employed by newly created district-level organizations. In practice they are subordinated to the MTP manager, who can obtain their replacement as he wishes.
- 21 I am aware of the fact that the total number of farms in Table 2 and Table 3 differs. Sources explained to me that in Table 3 fish farms were excluded. Also, there were a number of farms which had the figure "0" in the "farmsize" column. The status of these farms was pending (i.e., recently established, or on the point of being closed down) and their situations were to be considered as exceptions. I therefore did not consider them in the database. In Table 3 the "size of farm" refers to the arable land and not to the total area of the farm.
- 22 All those interviewed in my small survey agreed that there will be a future in agriculture only for those who will go into private farming.
- 23 Names and figures are slightly changed to preserve anonymity.
- 24 *Birja* means "agricultural trade union." However, the name is misleading since it is the place where fertilizers can be bought legally, if the farm has used up the quantity received through the cotton and wheat contracts.
- 25 "*Ballbonitet*" is used both tax and state crop quota (in tons per ha). Taxes have played a mi-

nor role so far. *Farmers* have a tax holiday of two years, then depending on the bonitet the tax amount ranges from 20,000 to 60,000 sum per year and ha.

- 26 Russell Zanca, *The Repeasantisation of an Uzbek Kolkhoz: An Ethnographic Account of Postsocialism*, Diss., Urbana, Illinois, 1999.
- 27 Johan Rasanayagam, "Market, State and Community in Uzbekistan: Reworking the Concept of the Informal Economy," Halle/Saale (Germany), Max Planck Institute for Social Anthropology Working Papers, No. 59, 2003, p. 21.

The “Uzbek Agrarian Model” in Transition: Inertia, Dynamics and Unsustainability

*Raphaël Jozan, Romain Florent, Samuel Martin, Olivier Munos
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Sixteen years after the collapse of the USSR and the independence of Uzbekistan, the Soviet legacy on the agrarian system remains significant. The agricultural sector is still heavily controlled by the state and compulsory state deliveries still exist in two strategic crops, cotton and wheat. Moreover, the dismantling of the collective farms (former kolkhozes and sovkhoses) has been slow or tokenistic and land is still formally owned by the state, even if it has been partially distributed to so-called “private farms.” Cotton remains Uzbekistan’s main crop, both in terms of production and exports, contributing around 25 per cent of foreign exchange revenues and a significant share of the state budget.

The administered feature of the Uzbek agrarian system is compensated by a non-administered system, as was the case during the Soviet period. This system is dual, in the sense that the administered and non-administered systems are interdependent and intertwined, and exchange resources. Despite the remarkable stability of the Uzbek agrarian system’s equilibrium, the balance between the administered and non-administered systems has been altered during the transition period. This dynamics has not received sufficient attention in the literature and will be considered in this paper. During the last two decades, the balance between the two systems has gone through different crises induced by external and/or internal changes, and has been stabilized by various policy initiatives by the government of Uzbekistan.

questioned the stability of this duality in 2000.¹ We are revisiting this issue seven years later and three years after two crucial government decrees were adopted with the aim of solving some financial and technical failures of the dual system. First, a new agrarian policy was initiated by the government to accelerate the dismantling process of the collective farms. Second, local authorities have restricted the access to the means of cultivating a second crop, which had been informally produced after the harvest of wheat and had partly alleviated underemployment in rural areas for a decade. Those two policies have had major impacts on Uzbekistan’s rural economy and society. Consequently, policy makers and development practitioners are raising the following questions:

is the new agrarian policy able to stabilize the “Uzbek model” of agriculture? Is this system still socially, financially and technically sustainable almost 20 years after the collapse of the Soviet Union? To answer these questions, we put forward the hypothesis that the formal triptych *hirkat/fermer/dekhan* used by most scholars is not reliable and that we should consider the informal economy.

Most studies focused on Central Asian economies reveal a significant discrepancy between actual economic characteristics, on the one hand, and the formal functioning suggested by formal norms, legislations and bureaucratic procedures, on the other hand. This has been especially well expressed by a recent ADB report written on the Tajik agricultural sector. “A cursory study of Tajikistan’s legislation would lead the observer to the conclusion that farmers in the country have been liberalized and the land distributed with tenure based on long term lease right. (...) However, the study of the situation uncovers a picture far different from that painted above.”²

A similar statement could be made concerning the Uzbek agricultural sector, where formal blueprints are not a reliable guide for describing and explaining the actual economy. This assertion is particularly valid and obvious in the case of the formal categories of farms proposed by the Uzbek legal framework. Therefore, to explore these questions, we need an approach which enables us to grasp the role of the informal economy, the diversity of farming systems, the duality of the agrarian system and its evolutionary processes.

In this paper, we shall rely on the “farming system approach” (FSA), which has been recently incorporated into the World Bank’s rural development strategy.³ This approach has never been implemented in post-Soviet Central Asia. We applied it in the Ferghana Valley in 2005 during a six-month survey led by five agronomists specialized in agricultural economics. The paper reports some of the results and analyses raised by this study. In the first part of this article, the path of Uzbek agrarian transition will be examined in order to incorporate the issue of stability/dynamics into an historical perspectives. Then, we shall explain why it is crucial to go beyond the legal and formal farm categories and why the FSA is an appropriate tool for doing so. A new farming system typology that is able to characterize and quantify the informal interdependencies between the administered and the non-administered systems will be proposed. Finally, we shall focus on the factors of instability which have developed despite the new Uzbek agrarian policy.

The Dynamics of the Dual Agrarian System During The Transition Period

The Uzbek agrarian transition path is described through the lens of the administered vs. non-administered dichotomy, on which the farming systems typology is built. Since independence, the equilibrium of the dual agrarian system has suffered many phases of destabilization due to internal and external crises.

The Soviet dual agrarian system in the SSR of Uzbekistan

Uzbekistan's dual agrarian system was set up in the 1930s after the collectivization process and in the context of the command economy. In the Soviet division of labour, Uzbekistan was mostly devoted to cotton production, which was exported to other Soviet Republics for processing, like Russia and Belarussia. Until the demise of the USSR, the cotton sector remained Uzbekistan's main economic sector and accounted for two-thirds of all the cotton produced in the Soviet Union.⁴

From the 1930s until the collapse of the Soviet Union, cotton was produced by state farms (sovkhozes) and collective farms (kolkhozes) which had to meet delivery quotas and were supplied with inputs⁵ distributed by the state. Alfalfa was the chief rotation crop for cotton, produced to feed cattle and to prevent a decline in soil fertility.⁷ Private property was abolished, but shareholders of collective farms were allowed to keep a personal plot on which they could produce crops for their own.

As stated by ██████████, there was "a 'symbiotic' relationship between the large farm sector and smallholders [that] worked to the advantage of the former through the deployment of an underpaid (...) workforce in cotton operations."⁷ In exchange, shareholders of the large farms could get a salary and inputs for their personal production. The surplus was sold on kolkhoz markets (*dekhan bazaar*). A significant part of the food needed was produced locally by the non-administered farming systems. Food sufficiency was insured by subsidized imports of grain from other Soviet republics like Kazakhstan.

The dual agrarian system faces an external crisis: the demise of the USSR

In 1991 Uzbekistan faced an external crisis with the unexpected breakdown of the Soviet Union. The Republic was totally unprepared for the rapid dissolution of the USSR and suffered heavily from the disruption of trading links between the Republics and from the cessation of financial transfers which used to cover state expenses.

During the first decade of transition, the government, led by president ██████████ had to deal with four main issues with implications for Uzbekistan's agrarian system.

1. Uzbekistan had to find new financial resources to cover state expenses.
2. Food self-sufficiency had to be guaranteed for the country to seek political and economic independence in the international arena. Uzbekistan is a landlocked country, and growing tensions with neighbouring countries had a negative impact on its trade.
3. The government had to face a critical demographic pressure, artificially maintained in rural areas during the Soviet era to supply manual labour for the

cotton harvest. The high rural demographic pressure⁸ made the government weary of a possible rural exodus which would have led to social disorder. In 1991, the Uzbek economy was overspecialized in raw cotton exports and the other economic sectors were not able to absorb the labour surplus of the rural areas. The Uzbek economy had to be diversified. Until then, Uzbekistan's rural population had to be retained in the countryside.

4. The last issue was the increasing demand for economic liberalization and land privatization. The government of Uzbekistan was faced with a popular pressure to get access to land resources and with an international pressure to privatize and liberalize the agrarian economy. The Uzbek dual agrarian system was heavily criticized: according to the international community and even to I. Karimov, the former first secretary of the Communist Party of Uzbekistan, the agricultural sector was overspecialized in cotton production which almost led to slavery and had contributed to the Aral Sea disaster.

Post- independence agrarian policy maintains a recombined dual agrarian system (1994–2000)

During the first decade of transition, the government chose to initiate a gradual economic reform under the control of the government. As a result, the Uzbek agrarian system remained dual despite recombination processes.

Two strategic crops (cotton and wheat) continued to be controlled and administered by the state to cover state revenue and ensure food self-sufficiency. Implicitly and explicitly taxed by the state, cotton remained the main crop produced, contributing to 25 per cent of foreign exchange revenues.⁹ By the end of the 1990s, food self-sufficiency was achieved thanks to the wheat production policy adopted in 1994. From 1991 to 2004, wheat cultivation expanded from 553,000 ha¹⁰ to 1 471,000 ha¹¹ as a result of a decrease in the acreage of cotton and alfalfa (forage).¹²

Gradualism was also the prevalent philosophy in the agricultural policy. The government adopted a new agrarian legal framework: state farms were transformed into collective farms, and a new legal framework was adopted in 1998. Uzbek legislation recognized three different farm categories: the collective farm (*shirkat*), the private farm (*fermer khohajaligi*) or "peasant farm," and the smallholding (*dekhan*).¹³ But the new legal framework had a relatively negligible impact on farm structure. The collective farm remained the main productive actor of the dual system until the early 2000s. Regarded by the government as the most efficient structure, it was protected through the financial stabilization programme.¹⁴

Nevertheless, Uzbekistan is far from being a non-reforming country. In order to respond to popular concerns, a significant part of irrigated areas was allocated to private use. First, subsidiary plots were distributed to households. Second,

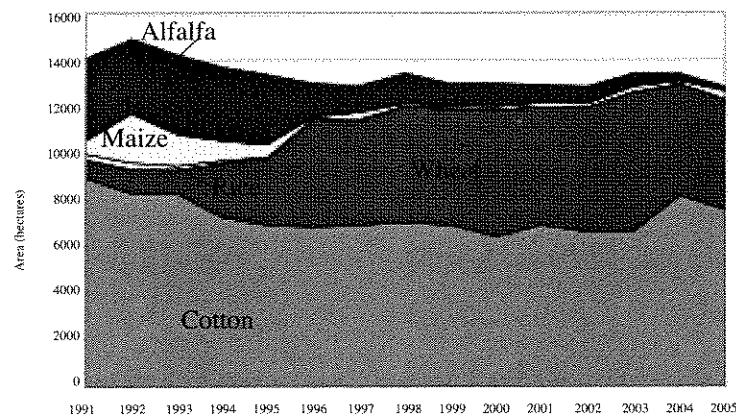
livestock farms, vineyards and orchards of the former collective farms were auctioned off by the end of 1995 and others in the late 1990s to early 2000s. Moreover, thanks to the increase of wheat acreage (see Figure 1) and to the extended growing season, a second crop could be cultivated after the wheat harvest. As will be explained below, this second crop is distributed to workers as a wage in kind. The second crop has also prevented a rural exodus. Regarding the liberalization of the agricultural market, crops other than cotton and wheat are no longer administered and most cattle-breeding farms are run by non-administered farming systems.

This dual agrarian system was maintained until the late 1990s.¹⁵ Inexpensive labour was sufficient for cotton singling and cotton harvest¹⁶ thanks to the second crop. Nevertheless, the Uzbek dual agrarian system was different from the Soviet period. Two main discrepancies should be underlined: the second crop and the cropping pattern. The Soviet alfalfa/cotton rotation was replaced by a wheat and maize/cotton rotation (if the second crop is considered).

The internal crisis of Uzbek agrarian system (2000–2003)

Unlike the 1991 crisis, the second crisis was progressive and was related to the decrease in the state budget caused by the decline in cotton revenue. This decline was due to three main factors: (1) the reduction in cotton acreage; (2) the drop in cotton prices on world market in the middle 1990s and in the early 2000s; (3) the decrease in cotton yields caused by soil fertility problems.

Figure 1. Evolution of the Official Cropping Pattern of the Administered Farming Systems in Namangan District (1991–2005)



Source: Computed data from the Official Statistical Bulletin of the District Agricultural Office

As a result, public earnings became insufficient to sustain the state budget, the operation and maintenance of public irrigation networks and the financial stabilization of unprofitable *shirkats*. The number of unprofitable collective farms increased during that period, mainly because of a lack of investment in drainage and irrigation rehabilitation, increasing misappropriation of collective resources by officials and *dekhans*, and soaring electricity costs to operate irrigation water pumps.¹⁷ Consequently, many collective farms went bankrupt and could not be viable without the financial stabilization programme.¹⁸

Furthermore, the future of soil fertility was no longer secured. Unlike alfalfa, one of the few crops that stock up available nitrogen in the soil, the crops produced only consume organic and mineral materials contained in the soil. As stated above, cattle-breeding was privatized and transferred to the non-administered farming system, so the manure is only spread on the household plot, where most of the cattle is concentrated all year round, producing a sharp decrease in organic material.¹⁹

Consequently, in 2003, the Uzbek agrarian system was no longer in equilibrium. Cotton yields were decreasing and a growing number of collective farms (*shirkats*) became bankrupt.

The turning point of Uzbek agrarian policy

The state developed two main policies to stabilize the dual model. On the one hand, the dual agrarian system and state control over cotton and wheat were maintained; on the other hand, the shift towards more profitable structures was initiated and unprofitable collective farms were abandoned by the state.

In 2003, the agricultural policy changed radically, as stated in the Presidential Decree No. YII -3342, dated 27 October 2003 on “the conception of farms’ development for 2004–2006”. The decree scheduled the reorganization of 1,022 unprofitable and unpromising *shirkats* into private farms. These profitable private farms were hailed to “become the main actor of agricultural production.”²⁰

From then on, the dismantling of *shirkats* accelerated and the number of “private farms” grew substantially (see Figure 2). For instance, in Namangan Province, 80 per cent of land and assets were distributed to “private farmers” between 2003 and 2006. Officials deem that the process should continue in the future.

Moreover, soil fertility and water resources were protected by state restrictions on the access to the second crop plot. The first restrictions took place in 2004 and 2005 in the Ferghana Valley. Local authorities informally permitted second crops only on 25–30 per cent of the irrigated area freed by the harvest of wheat. In 2007, no second cropping is formally or informally allowed.²¹

Going Beyond the Legal and Formal Farm Typologies

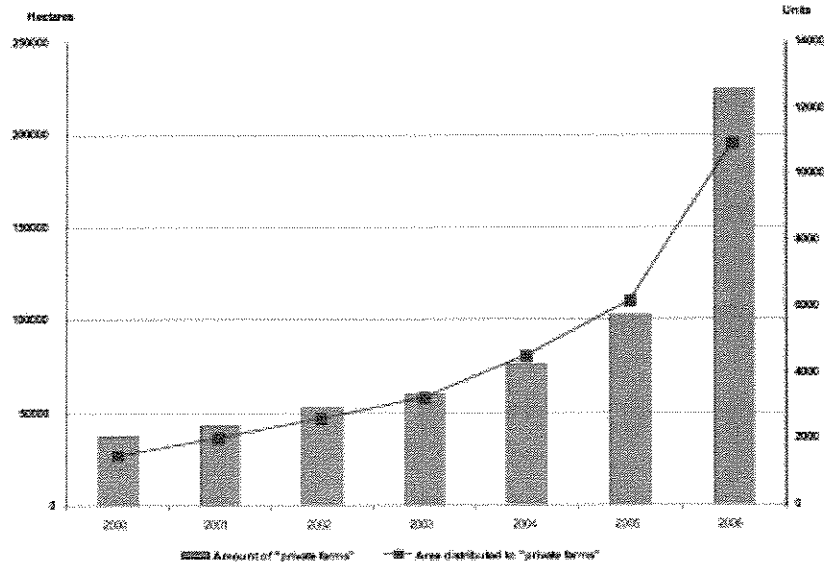
What are the consequences of this new Uzbek agricultural policy? How has the

agrarian system reacted to the measures implemented since 2003? Can the Uzbek dual agrarian system be sustainably stabilized? To answer these questions, we have followed a methodology based on the *farming system approach* (FSA). In this section, we shall explain how this approach is able to grasp the dynamics of the Uzbek agrarian system. The main advantage is its ability to integrate the informal economy and the dynamic processes.

Discrepancies between formal and actual economies

Uzbek legislation recognizes three different farm categories: the collective farm (*shirkat*), the private farm (*fermer khohajaligi*) and the smallholding farm (*dekhan*). These were chosen by the government out of ten existing farming statuses and types of ownerships to establish a clear and simple framework for the agrarian sector.²² The facts on the ground prove that the framework is not clear at all. Indeed, formally, *fermer khohajaligi* are considered by the government as new market-oriented production units. Moreover, according to the farm law of 1992, private farmers are fully independent from local authorities and *shirkats* in organizing agricultural production. But, as stated by the Rural Enterprises Support Projects (RESP)²³ reports and by most authors,²⁴ “the term private farm is in

Figure 2. The Privatization Process in Namangan Province



Source: Farmers Association of Namangan Province

a sense inappropriate.”²⁵ Private farms have to produce state-ordered crops; they “are given production targets (‘contracts’) by the state and beyond the amount stipulated by law.”²⁶

Three main inadequacies of the shirkat/fermer/dekhan triptych

At least three main inadequacies of Uzbek legal categories have been identified. Firstly, they do not account for the coexistence of an administered and a non-administered agriculture, associated with the paradoxical regularities that have been described by authors as a quantity- and price-driven economy,²⁷ a hard and a soft budget constraint; a high and a weak responsiveness to prices. The duality of the system has been underlined by *Alisher Hkmatov*, *Shahmurod R. R. Shakhmurov* and others. *Alisher Hkmatov* talks of a divided economy: “the first economy is centered on the production of exports or import-substitutes, such as cotton, grain and some other products, while the second one is oriented primarily towards domestic markets, and primarily the production of food.”²⁸ Both systems are related to different economic characteristics with respect to the mode of co-ordination (market-based vs. bureaucracy-based modes of co-ordination). Therefore this duality should be apparent in the farm typology used in our analysis.

Secondly, Uzbek legislation is not able to incorporate the heterogeneity of actual farms into its “*shirkat/fermer/dekhan*” framework. The level of diversity is high and depends on many variables. Among others, we can mention the range in size, the localization and the combination of tenures of the land used. “There is a substantial variation in the size distribution of private farms, which can range in size from 5 to over 200 ha.”²⁹ As stated by *Shahmurod R. R. Shakhmurov*³⁰ and by the RESP report, existing farms are in between formal farm categories, based on the combination of types of land tenure. Almost all private farms (99,6 per cent) and all *dekhan* produce crops on a household garden plot, while 29 per cent of *dekhan* farmers and 17 per cent of private farmers hold an additional garden plot. Moreover, some private farms are oriented towards administered production and others are not constrained by compulsory state deliveries.

Thirdly, formal categories are not able to tackle the informal dimension of the agrarian system. As underlined by most scholars, the informal dimension of Uzbek agriculture is critical. Informality is involved in accessing state resources and negotiating state production quotas. For instance, as *Shahmurod R. R. Shakhmurov* notes, the quality and size of [land] often depends upon the strength of the farmer’s informal connections. Also, a significant amount of production and land use is not registered in official statistics despite their crucial role in the Uzbek economy. For instance, the second crop plot is a widespread informal type of land tenure that has a major impact on the social acceptability of the agrarian system and on the competitiveness of the Uzbek cotton production on the international market.

Up to 30 per cent of Uzbekistan's irrigated land is freed from state constraints from June to November, after the wheat harvest. During this period, a second crop³¹ (rice or maize) is sown. The production and the land tenure are informal: not a single official statistical bulletin refers to this production; moreover, officially these fields belong to the collective farms and to the farms contracted for wheat production by the state, but in reality most of them are distributed to peasants, either rented or assigned as a wage in kind. The existence of such production has been noted by authors³² but has never been quantitatively appraised until this study. Practically, it is not possible to detect and integrate informal transfers of land tenure using formal categories of accounting.³³

Even if most authors have acknowledged the duality of the Uzbek agrarian system and the informal transactions on which it depends, they have been constrained by formal categories and have considered them as adequate to be used in their surveys. For instance, [redacted] proposes the "three-tiered rural economy" model. He attests that the Uzbek agrarian system had a "three-level structure" relying on the three juridical categories, the *shirkat*, the *fermer* and the *dekhan*. Even if some authors have obtained interesting results from their critical approach, they all refer to the formal triptych and cannot integrate the formal economy into the financial analysis of the farming activity.

Relying on formal categories, authors sometimes propose misleading static assessments of the agrarian transition path in Uzbekistan. While ICG stated in 2005 that "land reform has been blocked," [redacted] wrote in 2002 that "the agrarian sector looks on the surface very similar today to what it looked like in 1991."³⁴ To solve this problem, we use the Farming System Approach (FSA), detailed below with a view to quantifying the informal economy.

The Farming System Approach applied to Uzbek agriculture

According to [redacted] et al., the concept of "farming system" is the "closest representation we have of how farmers think and make decisions. And the experience over the past half a century has shown, convincingly, that without that information, agricultural development programs can go badly awry."³⁵ Farming systems are defined "as populations of farms that have broadly similar resources bases, enterprise patterns, household livelihoods and constraints, and [with] similar development strategies. (...) They consist of inter-dependent productions and gathering components concerned with crops, livestock, trees. (...) Non-farm income, which makes a significant contribution to the livelihoods of many poor rural families, is also considered."³⁶ (...) The analyses of farming systems is an interdisciplinary approach which is able to integrate analyses of production processes and their relationship to resources, technologies, markets, services, policies and institutions in their local cultural context."³⁷ Farming systems are groups of relatively homogeneous farms based on two types of criteria: (1) bio-physical

criteria, such as the available natural resource base (water, land, grazing areas), climate, landscape, farm size and tenure, in relation to access to different resources; (2) socio-economic criteria, such as land tenure, dominant farm activity, technologies, off-farm activities, the integration of crops and livestock, the farm management and organization (family, corporate, co-operative).

Nonetheless, it would be illusory to think that one can escape formal categories. In fact, formal categories grasp realities, duties and rights enforced by the state that cannot be underestimated (or negated), such as formal land tenure.³⁸ During our survey in Namangan province, we adopted the following approach: after the characterization of the national economic, political and social framework, a farm typology was built through an analysis of the farming system.³⁹ It has been developed through both inductive and deductive approaches, back and forth between the actual farms and their production processes, on the one hand, and the formal framework of Uzbek agriculture, on the other. Therefore, the farm typology was assimilated into a broader framework related to the Uzbek agrarian duality: the administered system and the non-administered system, with different political regime(s), property right regime(s), mode(s) of co-ordination and economic regularities.

The field surveys were carried out in three provinces of the Ferghana Valley (Andijan, Ferghana and Namangan), where interviews were conducted between 2003 and 2005 (See Figure 3). Around 90 farmers were interviewed two or three times. The survey also relies on official data focusing on cropping patterns, the agricultural products and the registered farms in the district.

The agro-financial analysis was made in a district of Namangan province, which has the following features:

1. Hydraulic conditions: upstream localization within the hydraulic system of the Syr Darya River basin. Water is widely available all year round. The irrigation network is partially maintained but still fully operational.
2. Soil conditions: the soil is very fertile (mostly composed of silts). This enables some of the highest yields in the country: the average yield is around 3.2 tons per hectare while the national average is around 2.3 tons per hectare.¹⁸ Very light and localized problems of soil salinity and of water logging have been observed.
3. Demographic conditions: high demographic pressure (690 inhabitants/square km). This implies (in the context of underemployment) an abundant availability of labour and important pressure on land resources (household plots given to the population do not exceed 0.06 ha per family).
4. A progressive and slow dismantling of the collective farms: in 2005, 50 per cent of the land was distributed to private farmers.

Figure 3. Location of the Ferghana Valley in Central Asia



Informal Interdependency of Farming Systems

Let us describe briefly the typology emerging from the *farming system analysis* carried out in the Ferghana Valley. The administered system and the non-administered system are intertwined. Their interdependency is based on continuous exchanges of resources (labour, property and use rights, access to land or water, inputs, etc.). These exchanges are mostly informal. Their impact can be systematically and quantitatively identified thanks to the farming system approach, which will be discussed in the last part of the paper.

The administered system (see Table 1, p. 178)

Four basic features characterize the administered system (or “command-based system”):

1. The farming systems associated with the administered system are the collective farms and the individual commercial (or business) farms. Formally, administered farming accounts for 70 per cent of Uzbekistan’s irrigated land, around half of which is transferred to the non-administered system between June and November for second cropping.
2. It is centralized and administered, which means that: (a) the production is planned and made compulsory by the state: each year, cotton and wheat production plans are distributed to each farm by the local administration; (b) inputs are managed by the state or by quasi-state organizations. The Ministry of Agriculture and Water Resources and the government co-ordinate the

quantity and the type of inputs distributed to producers according to scientific norms or political decisions. Inputs are only distributed to farms producing cotton and wheat; (c) the marketing of products is mostly ensured by the state: all the cotton and 60 per cent of the wheat production is seized by the state;⁴⁰ (d) the prices of inputs and outputs are administered and set by the Cabinet of Ministers. In general, the price of cotton is fixed at around 70 per cent of the world market price. Most inputs are subsidized; fertilizers and other chemical products cost around 70 per cent of the world market price. The use of water and land can be considered free of charge; (e) the state intervenes directly in the day-to-day production processes in different ways (prescriptions, proscriptions, agro-technical norms, production quotas, nominations and its cadre policy, etc.).

3. The administered farming systems are almost exclusively oriented towards the production of two strategic crops, cotton and wheat with the following pattern: 60 per cent of land acreage is devoted to cotton and 40 per cent to wheat. All other crops not included in the state order are prohibited.
4. Technically, the administered system has been described as mainly mechanized,⁴¹ except for cotton picking and singling that are done by hand. The Soviet-style equipment owned by the administered farms is old but sufficient. Specific activities such as sowing, ploughing or harvesting are done by the MTP, the district's agricultural service supply agency, which is controlled by the state. The hiring of labour follows state norms set by the State Norms Office.
5. Administered farming systems use wage labour and a household contract system (*pudrat*).

The non-administered system (see Table 2, p. 179)

1. Non-administered farming systems officially cultivate 30 per cent of Uzbekistan's irrigated areas. After June, this figure rises from 50 to 65 per cent, if the second cropping is included.
2. The farming systems are focused on highly intensive productions (fruit, vegetables, cattle) mostly assigned to (a) self-consumption, (b) sale on local markets (*dekhan bazaars*), (c) the local and district micro agro-industry, and (d) export.
3. "Non-administered" means that the production is free from state delivery obligations and that it can be sold freely at market prices. The only constraint placed by the state concerns the "orchard" farming systems (see below): they have to keep and renew the fruit trees on their land. Input distribution is not managed through official channels. Farmers buy the inputs on the bazaar (seeds) or on the black market (fertilizers, chemicals).
4. Technically, non-administered production processes are mostly performed

manually. Unlike the administered farming systems, non-administered farming systems rely only on family labour.

5. Non-administered farming systems are not necessarily micro-farms or household plots. Some farms, formally categorized as “private farms,” are fully oriented towards non-administered productions. This is the case of those that have inherited the orchards and the vineyards from former kolkhozes and sovkhozes.

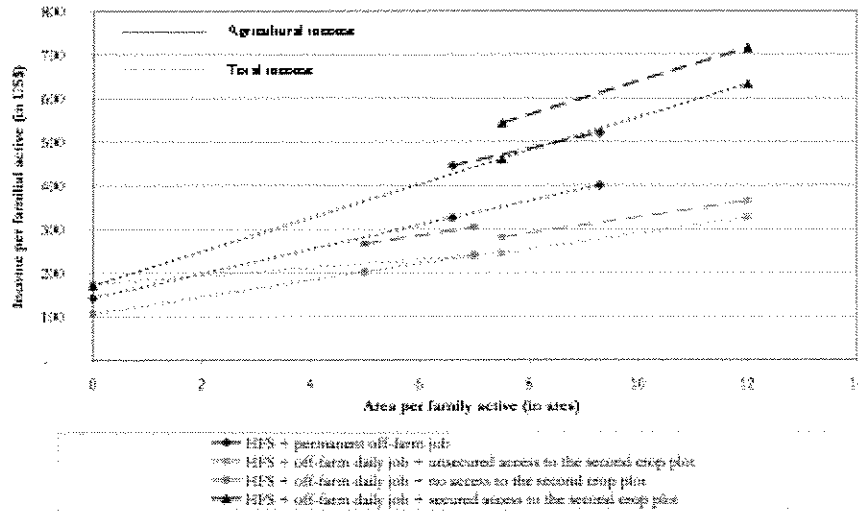
Two groups of non-administered farming systems have been identified: the orchards and the micro-farms, spread respectively on 5 and 25 per cent of the irrigated area in the Ferghana Valley. Five different types of micro-farm have been distinguished according to (1) access to an off-farm job⁴² (day-labourer – *mardikor* – or permanent employee); (2) access to the “second crop plot” and to a subsidiary plot; (3) connection to the public gas network that enables the construction and the operation of greenhouses on the plot.

- *Household farming system No. 1: micro-farm + external permanent worker.* Since the labour force is limited, (one or two labourers working outside the farming system) there is no acquisition of an additional plot and the second crop plot in June. The system is characterized by small-scale breeding (poultry, rabbits, one cow and its calves) and the plot is oriented towards fodder production (maize) to feed the cow during the winter.⁴³
- *Household farming systems No. 2 and 3: micro-farm + external day labourer.* The systems are characterized by two active labourers who do not sell their labour force outside the system of production, except during cotton harvests. Labour is widely available in the system, which induces a strong incentive to get access to the second crop plot. On the plot (*agarot*), two (or three) kinds of crops are cultivated: a vegetable crop all year round; a maize crop all year round and a nursery of rice transplanted in the “second crop plot” in June. Those farming systems have no guaranteed access to the second crop plot. Then, two options have been described: 1) No access to the second crop plot (because of legal prohibition, high rents, lack of cash). In order to maximize labour, vegetables are sometimes pulled up to plant rice on the plot (because it is more profitable). This change of production may be harmful to income. 2) Access to the second crop plot. The rice is transplanted from the nursery into the second crop plot (around 1,000 square metres), the rent of which is around US\$2 per 100 square metres. Even if rice growing is prohibited, many farmers take the risk of growing rice in order to maximize their income. If they do not manage to plant rice, they grow maize or vegetables on the second crop plot.
- *Household farming system No. 4: micro-farm + external permanent worker + secure access to the second crop plot + cattle and sheep breeding (plot +*

house yard garden, + second crop plot). This farming system employs three active labourers, one of whom has a complementary external job (in a collective farm or in an individual farm). This external job guarantees a wage in kind as well as access to the second crop plot. Unlike household farming system No. 2 and 3, the access to the second crop is secured. This allows the development of a small cattle and sheep breeding system (nursery breeding/fattening breeding).⁴⁴ Most of the land is cultivated with maize to ensure enough fodder for the winter.

- *Household farming system No. 5: the micro-farm with a greenhouse.* This farming system is found in villages connected to the public gas network, usually around the main cities of the Ferghana valley such as Andijan, Naman-gan and Ferghana City (400 ha in the whole Ferghana valley according to the Private Farmers Association). The greenhouse is built in the garden in order to grow non-seasonal vegetables (tomatoes and cucumbers) that are then sold on the local market or exported to Russia. In this farming system, no second crop plot is sought: the labour force is fully needed for the greenhouse. The financial results of this farming system are set out in Figure 4. This system leads to very high profits (up to US\$2,000/labourer), despite the small scale of the cultivated area. For 500 square metres, the profit is equivalent to that of a 25-ha commercial farm. Nevertheless, this farming system is very special-

Figure 4. Impact of the Access to the Second Crop Plot on the Agricultural Income and the Total of Smallholding Farming Systems



ized and thus independent from the Russian market and not reactive to price volatility.

Two types of orchard farming can be distinguished: sharecropping orchard farming and individual orchard farming system:

- The sharecropping orchard farming system is directed towards animal breeding. The formal landowner allows sharecroppers to use the land in return for a share of the crop produced on the land. The landowner has good social connections to get access to the inputs paid and used by the sharecroppers. This farming system is oriented towards fodder for intensive husbandry. The fruit tree plantation is not maintained even if trees are physically kept in the field for legal reasons;
- The orchard run by the owner has a diversified cropping system. The fruit plantation has been renewed and the farming system is oriented towards fruit production. It is associated with a complex and varied crop rotation. Fodder is used to breed a few cows and maize to breed a few sheep. This farming system is more labour intensive than the previous one. It is more reactive and adaptable to commercial and climatic changes thanks to its crop diversity. Moreover, an important part of its production is consumed internally (part of the production is distributed to the workers as wage).

There are further discrepancies between the two systems. The most important one relates to the farming systems' financial objectives: non-administered farming systems are oriented towards the maximization of productivity per unit of area (gross value added [GVA] = US\$6,526 per ha for household farming system [HFS] + permanent off-farm job; US\$3,823 per ha for orchards run by the owner. Administered farming systems maximize the profit per active worker as well as per unit of capital invested (annual income [AI]: US\$100 per ha for the individual farming system and US\$90 per ha for the collective farming system). Indeed, most non-administered farming systems run their activity on small-scale plots (0.06 to 0.18 ha) and generate small profits (US\$400–800). The limiting resource is access to land. Conversely, administered farming systems have large-scale production areas and generate higher profits (US\$1,500–2,000 on average), with the exception of micro-farms with greenhouses. The GVA per ha indicator gives another point of view. Obviously, the non-administered farming systems are on average more productive per unit area than the administered farming systems (US\$350 per ha for the private farming system).

Moreover, each system is characterized by specific economic characteristics related to those described in ~~James Kennan's~~ work on the capitalist and the socialist economic systems.⁴⁵ The administered system is linked to: soft budget

Table 1. The Administered Farming Systems (simplified)

Farming system	Legal form	Land Tenure(s)	Average Size (ha)	Form of labour	Manpower /ha	Add. Value / ha Agricultural income/ha US\$
Collective farm	Co-operative (<i>Shirkat</i>)	Collective, permanent possession	500-1000	Allotment of land and inputs to farmers according to contracts (<i>pudrat</i>). The benefits are shared.	1	AV/ ha : 320
Private farm	Private farm (<i>fermer khoha-jaligi</i>)	Long term lease (10 to 50 years) + Household plot	15 - 20	Family workers + hired labour	0,95	AV / ha : 350 -- AI : 100

* The private farming system has approximately the same added value per hectare as the collective farm (320 US\$ for the latter and 350 US\$ for the former) and the same agricultural profit (90 vs. 100 US\$). The main difference lies in organizational issues. According to farmers and to authorities, smaller farming units like the private farm prevent the misappropriation of resources distributed to farmers for cotton and wheat production. The added values have been calculated as follow: US\$450/ha for cotton, US\$300/ha for winter wheat and US\$350/ha for maize. If we include the maintenance of the equipment and the relative acreage of each crop in the crop rotation, the general added value is estimated at around US\$350/ha. For *Shirkats*, the added value of US\$320/ha.

Table 2. Non-Administered Farming Systems

Farming Systems groups	Legal form	Farming system	Land Tenure(s)	Size (ha)	Form of labor	Surface per active (ha)	Man-power	Agricultural income / active (US\$)
Household farming systems (HFS)	<i>Dekhan</i> farm	HFS + permanent off-farm job	Household plot (Lifetime possession)	0,06	Familial	0,065 – 0,093	1-2	325 – 400
		HFS + daily off-farm job	Household plot	0,06	Familial	0,05 – 0,07	2	200 – 240
		HFS + daily off-farm job + unsecured access to second crop plot	Household plot + second crop plot (informal land tenure)	0,12	Familial	0,075 – 0,12	2	240 – 325
		HFS + permanent off-farm job + secured access to the second crop plot	Household plot + subsidiary plot + second crop plot (informal land tenure)	0,18	Familial	0,075 – 0,12	3	460 – 630
Orchard farming systems	Private farm (<i>fermer khohajaligi</i>)	Sharecropping	Long term lease (10 to 50 years) + Household plot	1,50	Family workers	0,2 – 0,44	1.7 / ha	700 – 1500
		Run by the owner	Household plot	2,00	Sharecropping Familial + hired labor	0,24 – 0,82	3 / ha	1000 – 2900

constraint (especially true for collective farms); weak responsiveness to prices; plan bargaining; quantity-driven economy and chronic shortage economy. These characteristics are typical of the socialist economic system and of the bureaucratic co-ordination of the economy. On the contrary, the non-administered system is associated with the characteristics of the capitalist economic system (such as hard budget constraints, high responsiveness to prices, etc).

Despite the divergences of the systems presented above, neither one dominates the other: they are intertwined and interdependent. Streams of exchanged resources between both systems have been identified and quantified.

Streams of inputs and of *second crop plots* circulate from the administered system to the non-administered system. The first stream concerns the inputs. No input (except water) is formally distributed or attributed to the non-administered farming systems. Until 2004–05, there were no private shops where farmers could freely get access to inputs. Therefore, non-administered productions could get inputs only if they had been diverted from state-controlled productions (i.e. cotton and wheat). According to our survey, up to 20 per cent of the inputs are usually diverted, both in collective farms and in individual business farms. Thus, non-administered productions can get inputs and administered farming systems can get the sufficient cash flow needed for expenses such as daily workers' wages. The second relevant stream is the informal transfer of the right to use *shirkat* land to plant a second crop plot. Generally, second crop plots are given as a wage to permanent workers hired in administered wheat and cotton productions. These plots may also be informally rented or kept and used by the *shirkat* for their own profit (the latter case is rare, but has been observed). The last stream, which should not be overlooked, is the grazing of stubble fields. In relation to the second crop and to the grazing of stubble fields, we may also consider that soil fertility is transferred from the administered to the non-administered system. Maize forage is mainly produced on the second crop plot. It feeds the domestic animal husbandry. The forage is transferred to the household plot and the manure is kept on the household plot.

These interdependencies mean that one system cannot survive without the other. Thus, administered farming systems are financially profitable thanks to inexpensive labour. Underemployed labour is retained in rural areas as a result of the wage in kind, as the second crop plot is distributed to *dekhans* in June. Financial analyses show that agricultural income per worker in the household farming systems raises from US\$200–240 per year to US\$460–630 per year due to the second crop, depending access to second crop plot is secured or not. Underemployed, smallholders seek daily jobs for specific types of work such cotton harvest and cotton hand-singling for which they get a small salary (US\$1 per day).

The relations between the administered and the non-administered systems

are mainly mediated by informal exchanges. The turning point of the Uzbek agricultural policy will change not only the formal framework but also informal regularities. We have shown that some of those informal exchanges are vital both for the administered and the non-administered systems. Therefore, we give here a prospective assessment of what will occur after governmental measures have been implemented. It appears that the new agricultural policy, which was meant to solve some failures of the agrarian system, has created new tensions in Uzbek rural society that could be far more destabilizing: underemployment, increases in inequities of wealth distribution and a rural exodus to Russia and other destinations.

Sources of Instability in the Uzbek Agrarian System

The mardikor phenomenon

The shift from collective farms to private farms has increased the proportion of daily workers and reduced the share of permanent workers in the administered farming system. Surprisingly, we found that private farms are not more labour effective than collective farms. The main difference to be considered is the type of labour used: officially “private farmers” have no quotas to meet in terms of quantity of labour hired⁴⁶ and are not forced to take on permanent workers. Moreover, they find themselves under less social pressure to hire people than collective farms since their permanent employees are kin, friends or neighbours.

Consequently, it has been observed that some of the private farmers (*fermers*) are hiring only daily labour. The number of casual workers has increased substantially over the last five years, which is a reflection of the expansion of “private farms.” This is apparent when visiting the Ferghana Valley countryside. In many villages, in the morning labour markets are spontaneously organized along roads. There, *mardikor* (Uzbek term for “daily workers”) are waiting for employers. According to our interviews, the daily wage is around 1,200 sum (US\$1).

The dismantling of collective farms also contributes to the dismantling of the “solidarity groups” identified by Olivier Roy.⁴⁷ Kolkhoz members, whose extended family have not been able to get a share of the collective farm’s assets, feel ashamed and often leave their villages. It has been found that *mardikor* prefer to seek casual work in private farms resulting from the dismantling of the former collective farms. Feeling humiliated, they prefer to seek work in the nearby collective farms or even in a neighbouring district.

Restrictions of access to the second crop and the rise of underemployment

Access to the *second crop plot* is a key issue for the employment of available labour in the rural areas of the Ferghana Valley, as the financial results of the household farming systems show.

If we compare the agricultural income of the household farming systems No.

2 and No. 3, with respectively no access and (insecure) access to the second crop plot, it appears that each able-bodied member of the farming system No. 2 would work half as much as in No. 3 and is therefore underemployed. On the contrary, working members from the household No. 3, with the second crop, are fully employed and only seek off-farm income during the cotton harvest (see Figure 4). The income is above the survival threshold and household members do not have to leave the countryside to look for another job.

Without the second crop plot, the agricultural income of most households decreases below the survival threshold,⁴⁸ which means that household labourers have to find non-farm incomes to earn a living. This has been particularly critical in dismantled collective farms, since individual farms give access to the second crop plot only to their permanent employees – often neighbours, kin, children – and not to the *mardikor*.

Hundreds of thousands of underemployed people seek jobs in other sectors, like the construction sector, or try to find opportunities in the capital, Tashkent. As settlement in Tashkent is strictly controlled by the state to prevent a rural exodus, unemployed people have to leave the country and temporarily emigrate to Russia and Kazakhstan. Seasonal migration is a critical issue in the Ferghana Valley. In the villages of the dismantled collective farms, an incredibly high number of young people (up to 80 per cent) leave their families for many months. The second crop restriction issue is particularly sensitive compared to other regions of Uzbekistan. On average, people own 1.3 plots, which is very little compared to the national average of two to three plots.⁴⁹ This means that one-third of households have a subsidiary plot in addition to the household plot. In some villages, only women and old men are not emigrating, which partly explains the high proportion of women working in the fields.

Increasing territorial inequities

The repercussions of the new agricultural policy vary throughout the country. When travelling in the Ferghana Valley, it is obvious that there are social and technical differences between districts and even between villages.⁵⁰ Our survey found that these inequalities create tensions between private farmers and officials regarding the compulsory production targets of cotton and wheat. Under Soviet rule and until the dismantling of the collective farms, the substantial sums invested in the maintenance of the irrigation network and the soft budget constraints could balance the disparities between territories. This is no longer the case. Nevertheless, in more and more disadvantaged territories, private farms have to take part in the national effort of cotton production, even if it is known to be unprofitable. This situation might not be sustainable because private farmers are personally responsible for their farm's activities.

Linked to agricultural profitability, the speed of the dismantling process has

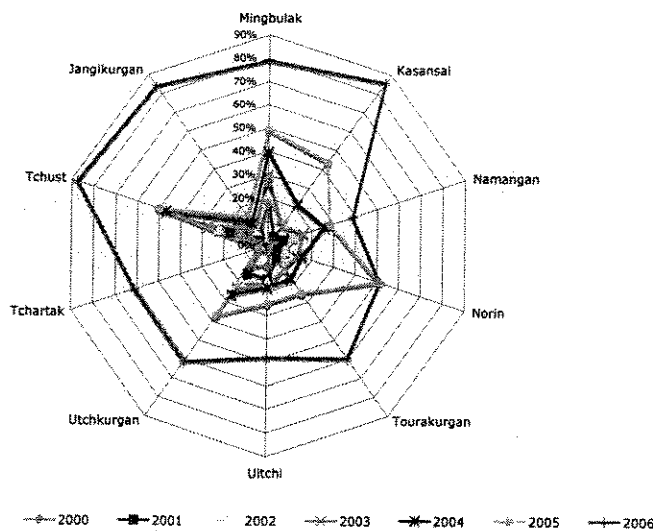
been found to be an interesting indicator to identify variables of inequalities between territories, both on the scales of the province and of the district of the Ferghana valley. As stated below, those inequalities are related to land productivity and production costs.

At the level of the three provinces of the Ferghana Valley, it is obvious that two territorial areas were particularly quick in the decollectivization process. These areas are those with less productive land where irrigation was developed by the Soviet authorities during the 1970s and 1980s. Improving soil quality was increasingly necessary⁵¹ and further water transfers were necessary, using vertical pumping to bring vast quantities of water up dozens of metres.

The first area is located in the centre of the Ferghana Valley, around the Sarsankum desert, irrigated by the end of the Great Andijan Canal and the Akhunbaeva Canal, and drained by the Sarsyksu collector and the Northern Bagdad collector.⁵² In Namangan province, this area covers the district of Mingbulak (see Figure 5). There, farmers make little or no profit, because of the salinization and water-logging issues that arose with the collapse of the drainage system during the transition period. Moreover, water requirements are higher in this area than in other parts of the valley, because of its sandy soil.⁵³

The second area is located in the hills surrounding Ferghana Valley, around

Figure 5. Impact of the Access to the Second Crop Plot on the Agricultural Income and the Total of Smallholding Farming Systems



Source: Farmers Association of Namangan Province

the towns of Kasansai, Tchartak and Tchust (see the districts around those towns in Figure 5). There, water management is particularly expensive since the major part of the water used needs to be pumped. The pumps used are either private (owned by the collective farms and then by the water users associations created after the dismantling of the *shirkat*), or owned by the state (see Table 3). If a pump is privately owned, electricity costs are charged to the farmers. If the pumps are owned by the state, water supply is not optimized in amount and in time. Indeed, even if the state invests important financial resources to maintain the pumps and the irrigation systems, some breakdowns occur.⁵⁴

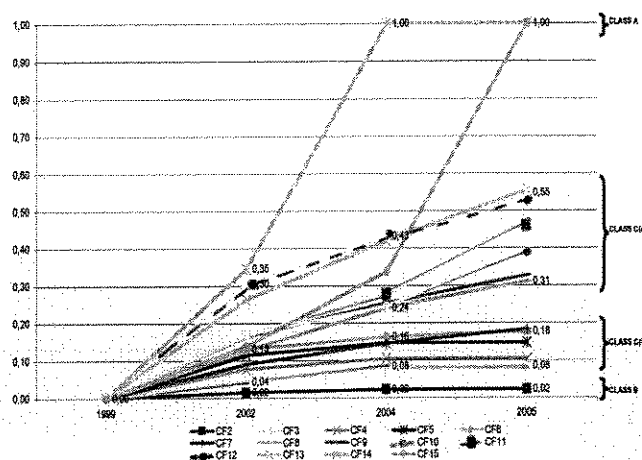
We made a similar assessment at the level of the district studied, where we identified heterogeneous decollectivizations (see Figure 6). In 2006, two collective farms had been fully dismantled (those from Class A: CF 14 and CF 15). Unlike all other collective farms, they were supplied by privately owned pumps, with very high operation and maintenance costs. They were not profitable and were dismantled in 2003–2004.

The speed of the dissolution process is not only related to the technical characteristics of collective farms. Most people interviewed stressed that the managerial dimension of the collective farm is a crucial element of the dissolution path chosen. The “strength” of the collective farm director (social networking) has been considered by most of the local actors as the first variable explaining the technical and financial health of the collective farm during our survey. Those who manage to strike a balance between the administered and the non-administered farming systems, and who use their good connections with the state apparatus to get resources, such as inputs and water, are considered “strong directors.” Collective farms from Class B and Class D had such directors. Surprisingly, we found that the collective farms that have not been dissolved at all (except for the sale of their orchards and cattle) are in good financial health and get the highest yields amongst the districts studied. Some collective farms may well continue to

Table 3. Areas irrigated by public and private pumps in Kasansay and Tchartok Districts

	Chartak District		Kasansay District	
	(ha)	(%)	(ha)	(%)
Area supplied by private pumps	4275	23%	2875	12%
Area supplied by State owned pumps	10469	56%	8775	38%
Total irrigated area of the district	18700	100%	23400	100%

Figure 6. Heterogeneous Dismantling Process of the Collective farm in Namangan District (1999–2005). Percentage of Irrigated Area Transferred to Private Farms per Collective Farm



Source: Farmers Association of Namangan Province

Note: In this figure, each curve represents the dismantling process of one single collective farm (CF). Fifteen collective farm's decollectivization processes are presented (from CF1 to CF 15). The curves have been drawn according to the percentage of the irrigated area transferred to private farms in 1999, in 2002, in 2004 and in 2005. Four classes of collective farms have been identified. Class A: the collective farm has been completely dismantled. Class B: the collective farm has not been dismantled at all. Class C: dismantling in process. Class D: dismantling process stopped.

exist during the next decade. Locals want them to remain as they are better than individual private farmers at distributing the wealth produced (employment, access to the second crop plot, etc.).

Conclusion

The farming systems approach proved to be more appropriate than approaches relying on formal and legal farm categories. It has enabled us to grasp the dynamics of the Uzbek agrarian system both within and outside the formal framework. The crucial role of informal exchanges has been emphasized and quantified. More precise data makes it possible to identify the dynamics of agrarian transformation and to challenge the path taken by agrarian transition in Uzbekistan.

The government of Uzbekistan is currently trying to solve the financial and technical failures of the agrarian sector. It seems that the measures initiated in 2003 will not resolve the ongoing decline. Technically, the deterioration in soil

fertility is not solved: manure is not spread on the wheat and the cotton fields and new crop rotation patterns are depleting the soil minerals and organic substances. Financially, the administered system has been progressively moving from a non-profitable configuration, in which collective farms dominate, to a profitable configuration, dominated by private farms. Nevertheless, economically, the new configuration might not be sustainable.

Uzbek migrants's remittances might stabilize the system. These remittances may palliate the lack of income caused by the restrictions on the second crop. People who have not emigrated may continue to accept to work on cotton fields for low pay and Uzbek cotton may remain competitive on the international market and a source of income for the state. If this situation changes, the state will have to stop taxing the agricultural sector to give farmers incentives to increase their income. In any case, Uzbekistan's economic and political stability is dependent on the continuing demand from Russia and other countries for Uzbek labour.

Acknowledgement

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Notes

- 1 A. Ilkhamov, "Divided Economy: Kolkhoz System vs. Peasant Subsistence Economy in Uzbekistan," *Central Asia Monitor*, 4, 2000, pp. 5–14.
- 2 The World Bank and the Swiss Secretariat for Economic Affairs (SECO), *The Cotton Sector in Tajikistan*, 2006.
- 3 J. Dixon, A. Gulliver and D. Gibbon, *Farming Systems and Poverty: Improving Farmer Livelihoods in a Changing World*, Washington D.C., Organisation des Nations Unies pour l'alimentation et l'agriculture/World Bank, 2001. The FSA framework is said to help policymakers and development practitioners set their priorities for investment in food security, poverty reduction and economic growth.
- 4 In the early 1990s, 8 millions tons of raw cotton were produced in Central Asia. This represented 17% of the total world production and 90% of the whole USSR's cotton needs.
- 5 Fertilizers were fully available, produced locally in Uzbekistan (Nitrogen) or imported from neighbouring countries like Russia or Kazakhstan (Potassium and Phosphate).
- 6 The manure produced by the collective farm's breeding system was generally spread on the cotton fields.
- 7 D. Kandiyoti, "The Cry for Land: Agrarian Reform, Gender and Land Rights in Uzbekistan," *Journal of Agrarian Change*, 3, 2003, pp. 225–256.
- 8 Over 60 per cent of the population lived in rural areas. Density reached 900 inhabitants per square km in some districts of the Ferghana Valley (Andijan Province).
- 9 Maurizio Guadagni, Martin Raiser, Ann Crole-Rees and Dilshod Khidirov, "Cotton Taxation in Uzbekistan: Opportunities for Reform," *Environmentally and Socially Sustainable Development*

- Working Paper No. 4, Washington, D.C., World Bank, 2005.
- 10 Max Spoor, "Transition to Market Economies in Former Soviet Central Asia: Dependency, Cotton and Water," *The European Journal of Development Research*, 5 (2), 1993, pp. 142–58.
 - 11 According to FAOSTAT, <http://faostat.fao.org/default.aspx>
 - 12 From 1990 to 1996 the cotton area has been reduced from 44% to 35% and the area sown in forage crops from 25% to 13%, while the area dedicated to cereals cultivation increased from 24% to 41%. Peter C. Bloch, "Agrarian Reform in Uzbekistan and Other Central Asian Countries," Madison: University of Wisconsin (Land Tenure Center – An institute for research and education on social structure, rural institutions, resource use, and development), 2002.
 - 13 The statuses are defined by three decrees of Cabinet of Ministers of Uzbekistan N° 600-I, 602-I, 604-I of 30 April 1998. See Peter Bloch, op. cit. The *shirkats* are collective farms, considered to be the "legal successors of former kolkhoz and sovkhoz."
 - 14 To solve the financial difficulties of the collective farms, the government launched in 1998 a process of financial stabilization of indebted collective farms. The Law on the "financial stabilization of agricultural enterprises" was adopted in 1997 and the programme of financial stabilization was run and promoted until 2003.
 - 15 "Until late in the decade, the agrarian structure remained a dual one, with on the one hand the strictly controlled collective farm enterprises, and on the other hand the very small-scale household plots." Max Spoor, "Uzbekistan's Agrarian Transition," in M. Spoor, S. C. Badu and S. Djalalov, *Policy Reforms and Agriculture Development in Central Asia*, Boston, Springer, 2006, p. 6.
 - 16 Despite the increasing need in manual labour resulting from the demechanization of agrarian production processes during the transition period. Pomfret explains the demechanization process by the low opportunity cost of labour. See Richard Pomfret, "Agrarian Reform in Uzbekistan: Why Has Chinese Model Failed to Deliver?", *Economic Development and Cultural Change*, 48 (2), 2000.
 - 17 These are owned privately by the collective farm; the others are owned by the state.
 - 18 The maximum agricultural profit of the collective farming system (excluding informal flows of inputs above 20%) is US\$90/ha and it decreases dramatically into negative figures if the informal flows of inputs are included. If informal flows of inputs are not controlled, the collective farming system becomes not viable without state subsidies. As far as the individual commercial farming system is concerned, the average income (without the farmer's wage) is US\$100/ha. Business farms have generally bigger capitalization abilities.
 - 19 This could explain the current spread of crop diseases in the Ferghana Valley.
 - 20 Presidential Decree No. YII-3226 of 24 March 2003; Decree of the Cabinet of Ministers No. 476 of 30 October 2003.
 - 21 This measure has been initiated to prevent the escape of inputs (fertilizers, water, etc.) from the administered to the non-administered system and to insure sufficient water for cotton production.
 - 22 Peter C. Bloch, "Agrarian Reform in Uzbekistan and Other Central Asian Countries," op. cit.
 - 23 Mike Thurman, "Agriculture in Uzbekistan: Private, Dehqan, and Shirkat Farms in the Pilot Districts of the Rural Enterprise Support Projects," World Bank, 2001; Mike Thurman and Mark Lundell, "Agriculture in Uzbekistan: Private, Dehqan, and Shirkat Farms in the Pilot Districts of the Rural Enterprise Support Project," Tashkent, World Bank, 2002.
 - 24 However, studies show that private farms also have to produce state ordered crops. See Deniz Kandiyoti, "Agrarian Reform, Gender and Land Rights in Uzbekistan," United Nations Research Institute for Social Development, 2002.
 - 25 M. Thurman, "Agriculture in Uzbekistan: Private, Dehqan, and Shirkat Farms in the Pilot Districts of the Rural Enterprise Support Projects," op. cit.
 - 26 *Ibid.*
 - 27 A. Ilkhamov, "Divided Economy : Kolkhoz System Vs Peasant Subsistence Economy in Uzbekistan," op. cit.

- 28 *Ibid.*
- 29 M. Thurman, "Agriculture in Uzbekistan: Private, Dehqan, and Shirkat Farms in the Pilot Districts of the Rural Enterprise Support Projects," op. cit.
- 30 D. Kandiyoti, "Agrarian Reform, Gender and Land Rights in Uzbekistan," United Nations Research Institute for Social Development, 2002.
- 31 A second crop is a crop succeeding one already harvested during a growing season; either a regrowth of the harvested crop, or a newly planted crop.
- 32 It is worth noting that there are very few references to the second crop plot in the international literature.
- 33 Alain Desrosières, "Décrire l'Etat ou explorer la société: les deux sources de la statistique publique," *Genèses*, 58, March 2005, pp. 4–27.
- 34 Peter C. Bloch, "Agrarian Reform in Uzbekistan and Other Central Asian Countries," op. cit.
- 35 Dixon, J., et al, *Farming Systems and Poverty*, op. cit.
- 36 This statement is critical for smallholders, since a great majority of them have an off-farm activity, such as cotton harvesting, which makes up a significant share of their annual earning. This income is almost never included in the financial analyses produced by scholars.
- 37 *Ibid.*
- 38 Alain Desrosières, "Entre réalisme métrologique et conventions d'équivalence: les ambiguïtés de la sociologie quantitative," *Genèses*, 43 June 2001, pp. 112–27. Moreover, it is somehow difficult to work without formal categories, since they sometimes refer to official data based on a *statistical coding* relying on juridical categories.
- 39 The agro-financial diagnosis itself follows five different stages. The boundaries of the studied area have been chosen in order to select a homogeneous geographical and hydrological unit with enough sources of variability to test variables impacting the production processes and the financial results of the systems of production. The agro-pedological, hydrological and climatic features of the selected units are appraised on the basis of landscape observations and the gathering of historic data collected by administrations or by scientists. In the second stage, a historical analysis is conducted in order to identify the main developments of the local agricultural system. This is mainly done through interviews with retired or active rural actors and the reading of available literature and documents produced by the state (laws, decrees, official data). Then, during the third stage, a first set of archetypes of farming systems is established according to the geographical characteristics of the studied area and its historic evolution. A second wave of interviews is carried out in the fourth stage to describe and clarify the agricultural production, the means of production, the characteristics of producers and the relations between them. Producers are interviewed (semi-directed interviews) a minimum of two or three times in order to get a full confident relation with them. Progressively technical and financial information is gathered. Finally, in accordance with the first set of archetypes and with the additional information, each farming system of a second typology is independently described and analyzed. Financial results are gathered and financial indicators are built using a simple linear model (added value, agricultural income, profit, added value per ha surface or per labour unit). Then, the farming systems are compared.
- Gross Product* (GP) = \sum (Quantity of products * farm gate price);
- Intermediate consumptions* (IC) = \sum (Cost of production * farm gate price);
- Gross Added Value* (GAV) = GP – IC ;
- Amortization* (Amt) = \sum (amortizations needed for the functioning of the farming system) ;
- Net Value Added* (NVA) = GAV – Amt ;
- Agricultural Income* (AI) = NVA – wages – loan interests – rents – taxes ;
- Total Income* (TI) = RA + income of the external remunerated jobs + other financial incomes
- 40 40% of the wheat produced is free of any state obligation and is usually sold on the market (US\$110/quintal) or given to workers as a wage in kind.
- 41 The production processes are mainly mechanized.
- 42 This off-farm job can be supplied by a *shirkat* or by an individual commercial farm.

- 43 The cow is fed by fodder plus some cotton oil cake and wheat bran bought on the local market. The cow is an easily usable capital since it is sold when the family needs money. After the maize, a cash crop is grown on the plot (rice, if enough water is available, or vegetables).
- 44 The cattle: two cows with calves, some bulls bought on the markets, and fed during 6 to 12 months with cotton oil cake and wheat bran and sold on the market; some ovine bought on the market and fed with maize during 6 to 12 months.
- 45 Economic regularities: "the economic agent's behaviours" and the "typical and durable economic phenomenon."
- 46 For collective farms, employment must follow the norms set by the State Norms Office.
- 47 Olivier Roy, "Groupes de solidarité au Moyen Orient et en Asie Centrale," *Les cahiers du CERI*, 16, 1996; O. Roy, *The New Central Asia: The Creation of Nations*, New York, New York University Press, 2000.
- 48 The agricultural income decreases from US\$250–325 per active to US\$200–240 US\$ per active.
- 49 Peter C. Bloch, "Agrarian Reform in Uzbekistan and Other Central Asian Countries," *op. cit.*
- 50 In some villages, only women remain working in the field, in others men are still very present. In some areas, salinity and water-logging problems occur with dismantled drainage and irrigation networks. In other areas, public irrigation and drainage network are working correctly.
- 51 Robert Lewis, "The Irrigation Potential of Soviet Central Asia," *Annals of the Association of American Geographers*, 51, 1961, pp. 99–114.
- 52 The main cities of this first area are Mingbulak and Iesevan.
- 53 The public irrigation network is hardly maintained there and farmers have to invest in private pumps to pump underground water or water from collectors.
- 54 In 2006, the operation of the state-owned pumps consumed 1,1 billion KW. The Pumping Administration of Namangan Province was charged 36,5 billion sum – 82,5% of the whole budget allocated by the central state for irrigation water management in the province. See Raphael, . "Improvement Water Management Skills of Local Farmers in Namangan Oblast - Final Report," Tashkent, UNDP, 2006.

Demonstration and Advisory Services Activities for Cotton Growing: A Case Study in Ak Altin, Uzbekistan

Ian Houseman

The importance of cotton to the economy of Uzbekistan cannot be underestimated. Cotton growing is the mainstay of the rural economy supported by the production of wheat. This importance is characterized by a high level of Government intervention in the growing, marketing and processing of both crops. Since the collapse of communism in the former Soviet Union (FSU), agriculture in many states has struggled to adapt and change to a market-led environment. Some countries have adapted better than others but in Uzbekistan there has been a reluctance to move quickly towards a free market for cotton and wheat and to the supply of inputs. Consequently the move from a system of *shirkat* farms (sovkhoz/kolkhoz) to a system of small private farmers in Uzbekistan has not led to improved physical and financial performance of the agricultural sector. The new farmers have found it difficult to take on their new role as rural entrepreneurs for a number of reasons:

- few of them have experience of running a farm business;
- the debts of the *shirkats* have been passed on to the private farmers;
- the research base and its outputs are rooted in the Soviet past and it is unable to meet the needs of the new farmers;
- the farms are undercapitalized, they own very little equipment, the land is only leased and access to credit is limited to short-term working capital requirements;
- security of tenure is not guaranteed and the state still exercises a large amount of control over agriculture through the Oblast and Rayon Hakims (governors); and
- farmers are uncertain about their legal rights and obligations.

Given this background, the state has encouraged the development of rural business advisory centres (RBAC) to assist farmers to adapt to the new situation and this paper will use the Ak Altin RBAC as a case study example. It should be noted that [REDACTED] is the beneficiary of the Ak Altin Agricultural Devel-

opment Project (AAADP), which aims to rehabilitate the whole of the Irrigation and Drainage (I&D) network of [REDACTED]. This is a US\$72 million project funded jointly by the Government of Uzbekistan (GoUz) and the Asian Development Bank (ADB). The ADB loan is around US\$36 million and aims to fund the rehabilitation in three packages of civil works covering Ak Altin Rayon. Part of the support of the GoUz and the ADB has been for the formation and operation of the RBAC and an associated demonstration programme.

The Ak Altin Rural Business Advisory Centre

The RBAC was established in 2002 with the following proposed staffing:

- Team Leader/ Farm Planning expert
- Science Co-ordinator/ Trainer
- Two irrigation and drainage engineers
- Agronomist
- Entomologist
- Economist
- Accountant
- Lawyer
- Secretary

In fact the RBAC has never achieved a full staff profile at any time during its existence and there have been several changes in RBAC personnel which have hampered staff development and limited its impact amongst farmers. A case in point is the weakness of the RBAC to provide support for the formation and development of Water Users' Associations (WUAs). Prior to the advent of the TA project none of the RBAC staff had received any training in WUAs support.

The current staffing of the RBAC is as follows:

- Head of RBAC
- Vacancy – Research Co-ordinator
- Agronomist/Entomologist
- Economist/Business Planner
- RBAC Accountant and WUA Financial Adviser
- I&D Engineer/WUA Development Specialist
- Irrigation Engineer
- Lawyer
- Secretary

The RBAC, with the help of the TA Team, has been responsible for the devel-

opment and management of a demonstration programme on three farms with a total area of about 200 ha. In addition the RBAC provided technical and business advice to farmers on an individual and group basis, it ran seminars for farmers and WUA staff, it produced publications such as leaflets and newsletters and it produced material for the mass media (press, radio and television). Most of this activity was focused on the cotton and wheat crops but a substantial effort was put into informing farmers and WUAs about the plans and progress of the AAADP.

The RBAC's annual budget was around US\$40,000 but was found to be inadequate on the side of its running costs. Frequently there was a lack of basic consumables such as paper, access to photocopying, technical and business material from research and trade, and poor transport facilities (one car, part-time). In addition, the remoteness of its office and a single, analogue telephone line meant that the RBAC had no access to the Internet.

In Ak Altin the closure of the *shirkats* led to the formation of around 920 new private farms with an average irrigated land area of about 40 ha. To meet each farmer on a face-to-face basis just once a year would mean that the staff of the RBAC would have to meet 18 farmers every week. Clearly this would be a major logistical task even if it was feasible and the RBAC had the necessary resources to work in this way. The result is that much of the time the RBAC staff are dependent on farmers coming to their office for consultations. This diminishes the impact of the advisers and limits their ability to gather information from the field and truly understand the constraints and problems affecting agriculture.

The RBAC Demonstration Programme

The total irrigated area of Ak Altin, as of 1 January 2004, was 42,057 ha. Of this only 498 ha were in good ameliorative conditions, 32,167 ha were in satisfactory conditions and 9,932 ha were in poor conditions. There is an area of some 2,931 ha with a high groundwater table. The area of irrigated soils affected by salinity (with a medium and high level of salinity) is 2,314 ha. The total area with a high groundwater table and seriously affected by salinity is 4,147 ha.

Due to boundary changes which occurred within Syrdarya Oblast in 2004, two villages: Istiklol and G.Gulyam, were added to Ak Altin, which resulted in changes of the area of irrigated land, which is now 43,767 ha.

There are two gins, gas-, electric-, and running water- supplier companies and banks in Ak Altin

The living standards of local population and level of economic development are directly linked with the agricultural production of Ak Altin.

In the 1980s of the cotton yield was 3.5–4 t/ha but nowadays it is only 1.1–1.3 t/ha. One of the reasons for such low yields is the unsatisfactory ameliorative condition of the areas under the cotton crop, and also failure of irrigation system (particularly flumes, which need to be completely replaced). Vertical drainage fa-

cilities are also out of order in Andijan, Fergana, S.Siddikov villages. No collector cleaning activities have been conducted in recent years, which resulted in the rise of the groundwater, which in turn, resulted in enlarging the area of irrigated soils affected by salinity. According to scientific research, the yield on medium salinized soils is typically 15–20 per cent lower, and on highly salinized – 55–60 per cent lower. Therefore, a high priority is to improve the condition of the soils and increase yields. Fortunately, the joint ADB and Gollz AAAD Project envisaged the rehabilitation of I&D system of Ak Altin, which should dramatically improve the situation.

Demonstration Sites

For the demonstration site plots, which were established in 2003, the AAAD Project makes provision for seeds, mineral fertilisers, chemical weed-killers and/or pesticides including biological control methods. The aim is to demonstrate the advantages of new and improved agricultural techniques.

Purpose of the demonstration programme

The main purpose is to demonstrate effective agro techniques and irrigation regimes, which will ensure the achievement of high yields in Ak Altin conditions.

The main tasks to be accomplished are as follows:

- select and test high yielding and economically effective varieties of cotton and wheat, acceptable for Ak Altin;
- rehabilitate the I&D networks on the demonstration sites;
- to test optimal economic use of mineral and organic fertilizers, taking into account estimated yield, crop development phases and maintaining the nutrient balance of the soils;
- demonstrate agro-technical activities aimed at achieving high yields;
- demonstrate efficient irrigation techniques.

The activities to be conducted on the demonstration sites are the following:

- assessing ameliorative conditions of areas under crops;
- sowing several varieties of wheat (for instance Palovchanka, Kroshka, Chillyaki, Dustlik and others) on small plots with identical natural conditions;
- identifying optimal level of using of mineral and organic fertilizers;
- applying several types of herbicides against weeds in growing wheat;
- using materials produced in biolaboratories, and herbicides and pesticides and analysing the outcomes;

- using modern tillage techniques in growing cotton;
- identifying and implementing the optimal timing and irrigation techniques with due consideration to local relief and plots soil conditions;
- monitoring the activities and crop growth on the demonstration sites; and
- assessing the outcomes of the demonstration activities.

Management of demonstration activities

In the beginning soils and ameliorative conditions of the demonstration sites were assessed. Each field was sown with different varieties of crops and soil samples were taken. A chemical analysis was made in a laboratory of the “Oblast Hydro Module Expedition.” Also, for the assessment of water-physical and agrochemical characteristics of soils, the soil survey materials of “Uzgiplomeliiovodkhoz” ((Uzgi) were used.

During October 2004, small plots with identical amelioration conditions were sown with different varieties of wheat. Treatment and processing of wheat varieties was to be the same.

Based on soil-survey materials of “Uzgiplomeliiovodkhoz,” optimal amounts mineral and organic fertilisers were applied and the nutrient level of each demonstration plot’s soils were assessed.

Potential and estimated yields were assessed. The necessary amounts of mineral fertilisers were applied taking into account soils’ provision with nutrient elements and estimated yields.

Trials to identify rational amount of herbicides to be applied were set up and different types of spraying were assessed. Based on those tests’ outcomes, the recommendations were worked out, which were to be used in workshops for farmers.

In order to conduct “between irrigations soils treatment,” during growing of cotton on the demonstration sites, a cultivator developed by ██████████ was used, which helped to conduct close soils treatment around cotton plants and to get rid of weeds.

Tensiometers were used for the purpose of identifying of optimal irrigation times. By means of software and considering local relief conditions and soil permeability of each demo plots, the elements of optimal irrigation techniques (furrow lengths, furrow charges, periods of irrigation) were calculated.

Permanent monitoring of groundwater table and its mineralization was conducted. Four inspection wells were placed on each of the demonstration sites for the purpose of monitoring the groundwater regime.

Measurement of water charges on the demonstration sites boundaries and on outlets to every demonstration field were conducted.

Monitoring of agro-technical works was arranged using forms developed in the TA Project.

Based on the monitoring results, the yields of different crop varieties, expenses versus other production inputs (seeds, fertilisers, water, herbicides, pesticides, machinery and labour) were assessed.

Dissemination of achieved results:

- the outcomes of the activities on the demo sites were to be disseminated in workshops and in the form of booklets;
- recommendations on selecting acceptable cotton and wheat varieties for this region;
- recommendations on different pest and weed management methods;
- recommendations on best economic options of mineral and organic fertilisers;
- recommendations on the most efficient irrigation regimes;
- publication of booklets on using effective methods of growing agricultural crops.

Cotton and Wheat Gross Margins 2003 to 2005

The TA Team along with the staff of the RBAC and farmers calculated gross margins for the cotton and wheat crops for 2003, 2004 and 2005. The Gross Margin summaries are set out in the tables below and the full gross margins are attached in the Appendix to this paper (see pp. 202–207).

2003

US\$/ha	Cotton	Wheat
Gross Output	240	175
Variable Costs	219	233
Gross Margin	21	-58

2004

US\$/ha	Cotton	Wheat
Gross Output	336	270
Variable Costs	395	322
Gross Margin	-59	-52

2005

US\$/ha (Estimate)	Cotton	Wheat
Gross Output	491	358
Variable Costs	435	309
Gross Margin	57	49

Overall, during the three years under review, yields, prices and costs have all increased. Most notable is the 2004 harvest year when, although yields and prices increased the cost of inputs, especially fertiliser, seed, fuel and machinery and harvesting costs all increased resulting in negative gross margins for both cotton and wheat. Between 2003 and 2005 the gross output of cotton and wheat both doubled and whilst cotton variable costs also doubled, those for wheat rose only by about 40 per cent. Fortunately the Government of Uzbekistan increased the prices of both cotton and wheat for 2005 and this should give some confidence to farmers that their cotton and wheat production will be profitable.

Cabinet of Ministers Resolution 153 – An Analysis

These comments relate to the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan No. 153, dated 30 March 2004. The resolution relates to the approval of normative-legal documents covering to the economic activities of agricultural enterprises participating in ADB and IBRD projects.

The Resolution has five Appendices as follows:

- Appendix 1 deals with the issue of cost recovery from participating farmers and sets out the role of WUAs;
- Appendix 2 gives details of the methods to be used in calculating cotton and grain quotas for farms;
- Appendix 3 describes how production over quota can be financed by means of credits;
- Appendix 4 covers the sale of over-quota cotton including export;
- Appendix 5 describes the determination of the price of over-quota cotton to be sold to the state.

The Resolution also contains a model agreement on financing and repayment of the investment including a list of the agricultural enterprises (farms), a schedule of the repayment of the investment by farms and a schedule of the repayment of the investment by WUAs. The model was used as the basis of the agreement with Package 1 farmers.

It should be noted that Appendices 4 and 5 of Resolution 153 deal with cotton only and there is no guidance on how over quota wheat can be sold, nor on how the price for over quota wheat sales to the state will be determined.

Analysis of Options

The Resolution contains, within its Appendices, descriptions of different ways in which cotton and grain production can be financed and sold. The following table analyses these options and describes potential roles for the RBAC (see table of options opposite).

Appendix	Options	Comments
Appendix 1 - Cost Recovery	Acceptance, or not, of the completed works (acceptance of machinery).	Farmers (and WLAs and the EA)* can ask the opinion of the RBAC as to whether or not the completed works correspond to the accepted design. The completion report is to be the basis for final adjustment of the costs (and repayments).
Appendix 2 – Quota calculation	There appears to be only one accepted method for this calculation.	The calculation is based on average production over the period from 1997 to 2001 and the volumes for districts (rayons) calculated according to Resolutions 201 and 461.
Appendix 3 – Financing over-quota production	Option 1 – direct preferential crediting (the current method – Res. 476) for quota production (tranche) – but see paragraph 10 of Appendix 4. Option 2 – credit from commercial banks for over-quota production. Option 3 – credit from the purchaser for over-quota production.	The RBAC should compare these options, especially options 2 and 3, to help farmers understand which is the most beneficial for them. Farmers may need to submit business plans to commercial banks and the RBAC could provide this as a fee-paid service (say a small percentage of the loan value – 1 to 2 %)
Appendix 4 – Sales of over-quota cotton	Option 1 – sale through the auctions of the stock-commodity exchange. Option 2 – sale through Uzauksiston-avdo Option 3 – sale for export through a) trading companies, or b) Uzauksiston-avdo Option 4 – sale to the state at agreed prices	The loan is repaid from the harvest at the agreed prices. The RBAC should analyse these four options for sale to see which offers the most beneficial prices (and terms and conditions) for farmers. Farmers have to repay the costs of ginning, cleaning, storage, transport etc.
Appendix 5 – method for price determination for sale of over-quota cotton to the state	Option 4 – sale to the state at agreed prices The method of price calculation appears to be standardized but there are differences according to quality standards achieved	The RBAC should prepare a table showing the impact on prices of different quality standards in order to inform farmers and assist them to achieve better prices.

* The EA is the Executive Agency for the AAADP and is the Rural Restructuring Agency (RRA) of the Ministry of Agriculture and Water Resources (MAWR).

Resolution 153 only makes one direct reference to consulting centres in Appendix 1 (Cost Recovery) at paragraph 9. This states that the EA, WUAs or farmers can seek the opinion of consulting centre specialists as to whether or not the completed works are in accordance with the agreed design. Additionally paragraph 10 of Appendix 1 describes the use of a completion report to assess the final costs of the works. It is possible that the RBAC could be heavily involved in this activity, in particular representing the best interests of farmers.

Other Comments

Paragraph 3 of the Resolution states that a proposal on the further improvement of the mechanism for organizing raw cotton production will be made by the Ministry of Economy, the Ministry of Finance and MAWR by 1 November 2004. This proposal is to set out how increased production targets are to be achieved following the rehabilitation. It is not known whether this proposal has yet been made.

WUAs are charged with collecting loan repayments, interest and commissions from the farmers every six months – this may conflict with the collection of Irrigation Service Fee (ISF). In addition, it has cash flow implications for farmers and the RBAC will need to take account of this in their business planning work with farmers.

Paragraph 3 of Appendix 2 states that quotas will be recalculated taking into account the increased area under production and any improvements in land quality and the succeeding paragraphs describe the procedure for setting quotas. It is possible that UzGi and/or the RBAC could become involved in this process. The quotas for newly organized farms are to be set by 1 July each year – for the following year's production. Paragraph 6 of Appendix 2 states that the quotas will be set for the whole period of the project but other parts of the Resolution imply annual quota setting.

Analysis of Options for Wheat for 2005

The situation for wheat in Ak Altin Rayon for 2005 was as follows:

- the sown area of wheat (planned and actual) was 14,900 ha;
- the overall forecasted production for the rayon was 57,000 tons;
- the total State Plan, i.e. total quota was 33,000 tons (58 per cent of the forecast production);
- the state quota (Quota 1) was 12,500 tons (22 per cent of the forecast) which the state buys at a low price;
- the state also has a further quota, the State Plan (Quota 2), which it calls "Above Quota," through which it buys wheat at a higher price. This is 20,500 tons (36 per cent of the forecast) and has a state price incentive of plus 20 per cent;
- farmers were able to sell on the free market an amount of 24,000 tons (57,000 minus 33,000 tons), which is 42 per cent of the forecasted production.

- Quota 1 is 38 per cent of the State Plan.

The forecasted rayon production is an estimate based on the previous year's performance and the planned area to be sown.

It should be noted that Resolution 153 makes no reference to a two tier quota system nor does it set out how the two quota prices for wheat or cotton are to be determined.

The forecasted yield for Ak Altin for wheat for the 2005 harvest is 3.83 t/ha. Last year the rayon averaged 4.1 t/ha and there is every prospect that the 2005 harvest will be just as good. A yield of 4 t/ha on 14,900 ha would give a total production of 59600 tons, which could mean that farmers will have 26,600 tons of over quota wheat to sell (45 per cent of forecasted production).

The prices proposed for the 2005 harvest are as follows:

- Quota 1 – 78,000 sum per ton (US\$72 at 1,083 sum per US\$1)
- Quota 2 – 95,000 sum per ton (US\$88)

The “free” market price is not yet known for 2005 but it is claimed that last year buyers came from the south of Uzbekistan where there were grain shortages and paid up to twice the quota price (around US\$150 per ton). The TA Team and the RBAC constructed a wheat gross margin per hectare based on the 2005 production plan using an off-quota price of 108,300 sum per ton (US\$100).

Farmers have a limited choice as to their markets, as well over half of the forecasted production will have to be sold to the state. The possibilities of selling on the free market depend on the availability of buyers and the ability to store the grain on the farm (usually in sacks). However, any storage losses and interest charges that may accrue also need to be taken into account when deciding how much and when to sell.

Clearly, in the management of the wheat crop, there is a need to match the inputs, especially fertiliser, to the expected return from the crop (yield x price). Farmers would expect to apply more nitrogen fertiliser, for example, to a wheat crop if it was going to realise a price of US\$150/ton compared to one that would only be sold for US\$72/ton. There is a dearth of information on the *economic* return to inputs, which is hampering the RBAC staff's ability to advise farmers on the best level of inputs to use. There is still a reliance on the old state “norms.” There is here also a conflict of interests between farmers and the state. The state wishes to meet its production plan and, in particular, its quota needs (for wheat, presumably on the grounds of food security), whereas farmers need to generate profits after meeting their costs, in order to provide an income for living and for reinvestment in their farm businesses. Also, in keeping a low quota price the state is, in effect, using farmers to subsidise the price of grain (and hence bread) to the consumers.

Analysis of Options for Cotton for 2005

The situation for cotton in Ak Altin rayon for 2005 is as follows:

- The sown area was planned to be 22,425 ha. Progress on sowing was good and drilling started 9 days earlier than in 2004 and so the planned sowing area was achieved;
- The overall production plan for 2005 was 44,725 tons (1.99tons/ha);
- The state quota for 2005 was 17,000 tons (38 per cent of the plan);
- If the plan is achieved, farmers will have 27,735 tons of over quota cotton to sell (62 per cent of the plan);
- However, if the yield is only 1.6 tons/ha, the total production will be 35,880 tons and the quota will represent 47 per cent and farmers will have 18,880 tons to sell over quota (53 per cent);
- In any case all the cotton a farmer produces has to go the local state gin.

The planned yield for Ak Altin for 2005 is 1.99 tons/ha whereas the actual yield achieved in 2004 was 1.54 tons/ha. The 2004 crop suffered from a late attack of bollworm, which dramatically reduced yields in some areas. The earlier drilling this year should have helped the crop to develop more strongly and this planned extra yield might be achieved. The anticipated prices for cotton for the 2005 harvest are 237,000 sum (US\$219) per ton for quota cotton and 284,000 sum per ton (US\$262) for over quota cotton. The over quota price is about 20 per cent higher than the quota price. The differential between the two prices will not have as strong an influence over the amount and timing of inputs. However, there still may be a case for investigating further the *economic response* to fertiliser, especially nitrogen.

A gross margin showing the effect of the 2005 plan and prices was constructed by the TA Team and the RBAC. Again there is a conflict of interests between farmers and the state. The cotton production always goes to the state gins and farmers have no real alternative outlet for their cotton. The internal quota (and off-quota) price is below the world market price and this allows the state to buy, process and sell cotton, especially for export, and make a handsome profit, yet another example of farmers subsidizing the state. This in turn leads to depressed incomes in rural areas with no opportunity for farmers to invest in their businesses. However, it should be noted that world prices for cotton have fallen back in recent months and this will reduce the state's margin on cotton sales. It was understood that auctions of bales of processed cotton (900 tons) were planned by the RRA and RBAC in late April or May in Tashkent. The RBAC will take a 1 per cent commission on the sale for its part in the auction process. This could become a significant source of income for the RBAC in the future.

Resolution 153 makes specific provisions on the financing of over quota cotton and wheat and also for the sale of non-quota cotton. The RBAC has produced some brochures for farmers on these new changes and what it means for farmers.

The RBAC has also commenced a service offering to develop business plans for farmers. These plans use the MAWR forms, which were reviewed by the TA Team earlier in the project.

A Farm Case Study

Further information on the impact of Resolution 153 on farmers marketing activities was collected at a meeting with Andijon farmers on 25 April 2005. The farmer in question (Farmer A) has a farm of 33 ha and he grew 20 ha of cotton and 13 ha of wheat in 2004. The wheat averaged 3.54 tons per hectare giving a total production of 46 tons. The cotton averaged 2.3 tons/ha giving a total cotton production of 46 tons.

The marketing of the wheat and cotton was accomplished as follows:

2004 Harvest	Total production (t)	Quota 1	Quota 2	Off Quota
Wheat	46	14 t sold at US\$67	13 t sold at US\$81	19 t used to pay workers in kind and valued at US\$81
Cotton	46	17	No Quota 2 for cotton	20

The Quota 1 and Quota 2 wheat was sold through the state grain collecting point. The balance of 19 tons was stored in sacks on the farm and was given in-kind to the farm workers in lieu of wages and valued at the higher state price. Thus Farmer A achieved an average price of US\$76.74 per ton. Farmer A stated that he could have sold his off-quota production on the open market to local people or through a bazaar or to other buyers in Uzbekistan e.g. from Samarkand, or even buyers from other countries and probably achieved a price of US\$150 per ton.¹

All the cotton was sold to the local gin at an average price of US\$237 per ton. There is virtually no choice of outlets as far as cotton is concerned. The farmer was not able to differentiate the price achieved for his Quota and Off-Quota production but usually the state pays plus 20 per cent for off-quota cotton. At the time of the interview the farmer had received about half of his net income from the gin paid into his bank account (about 2 million sum out of an expected payment of 4 million sum – US\$1,850 out of US\$3,700).

Note

1. The farmer quoted costs for wheat of 25,000 sum/ha for ploughing and 53,000 sum/ha for harvesting from the Agricultural Machinery and Tractor Park (AMTP) – a total of 78,000 sum/ha or US\$72. These two costs alone mean that he needs to grow one ton of wheat per hectare just to pay the AMTP.

**APPENDIX: COTTON AND WHEAT GROSS MARGINS
FOR AK ALTIN 2003, 2004, 2005**

ADB PROJECT – ISSAD, AK ALTIN RAION

GROSS MARGIN – COTTON

Advisers' estimate – 2003 harvest	US\$ Per hectare			
	Average for Ak Altin Rayon			
Gross Output	Amount	Units	Price per Unit	Total US\$
Yield x Price	1.2	tons	200	240
Variable Costs				
Seed	50	kg	0.25	12.5
Fertiliser				0
Nitrogen	250	kg	0.07	18
Phosphate	150	kg	0.18	27
Potash	100	kg	0.07	7
Biological control	1		10	10
Herbicide				0
Fungicide				0
Pesticide				0
Water	7000	m ³	0.0021	15
Machinery Park costs	1		43	43
Fuel	500	litre	0.102	51
Labour for harvesting	1200	kg	0.03	36
Total Variable Costs				219
Gross Margin				21

GROSS MARGIN – WHEAT

Advisers' estimate – 2003 harvest	US\$ Per hectare			
	Average for Ak Altin Rayon			
Gross Output	Amount	Units	Price per Unit	Total US\$
Yield x Price	2.5	tons	70	175
Variable Costs				
Seed	250	kg	0.205	51
Fertiliser - Ammo Phos	200	kg	0.184	37
Silistra	400	kg	0.071	28
Kali	100	kg	0.067	7
Herbicide	20	g	0.408	8
Fungicide				0
Pesticide				0
Machinery Park costs incl. fuel	1		71	71
Water	4000	m ³	0.0038	15
Labour	1		15	15
Total Variable Costs				233
Gross Margin				-58

GROSS MARGIN – COTTON

Advisers' estimate – 2004 harvest	US\$ Per hectare			
	Average for Ak Altin Rayon			
Gross Output	Amount	Units	Price per Unit	Total US\$
Yield x Price	1.6	tons	210	336
Variable Costs				
Seed	50	kg	0.25	12.5
Fertiliser				0
Nitrogen	250	kg	0.2	50
Phosphate	150	kg	0.3	45
Potash	100	kg	0.3	30
Biological control	1		15	15
Herbicide				0
Fungicide				0
Pesticide				0
Water	7000	m ³	0.005	35
Machinery Park costs	1		60	60
Fuel	500	litre	0.15	75
Labour for harvesting	1600	kg	0.045	72
Total Variable Costs				395
Gross Margin				-59

GROSS MARGIN – WHEAT

Advisers' estimate – 2004 harvest		US\$ Per hectare Average for Ak Altin Rayon		
Gross Output	Amount	Units	Price per Unit	Total US\$
Yield x Price	4.1	tons	72	175
Variable Costs				
Seed	250	kg	0.22	55
Fertiliser -				0
Ammo Phos	200	kg	0.35	70
Silistra	400	kg	0.17	68
Kali	100	kg	0.067	7
Herbicide	20	g	0.8	16
Fungicide				0
Pesticide				0
Machinery Park costs incl. fuel	1		71	71
Water	4000	m ³	0.005	20
Labour	1		15	15
Total Variable Costs				322
Gross Margin				-27

GROSS MARGIN – COTTON

Advisers' estimate –
2005 harvest

US\$ Per hectare
Average for Ak Altin Rayon

Gross Output	Amount	Units	Price per Unit	Total US\$
Yield x Price	0.76	tons	219	166
Yield x Price Non-Quota	1.24	tons	262	325
Total Gross Output	2	tons	245.7	491
Variable Costs				
Seed	30	kg	0.25	24
Fertiliser				
Nitrogen	353	kg	0.2	49
Phosphate	154	kg	0.3	46
Potash	100	kg	0.3	30
Biological control	1	ha	10	10
Herbicide	1	ha	15	15
Fungicide				0
Pesticide				0
Water	7000	m ³	0.005	35
Machinery Park costs	1		60	60
Fuel	500	litre	0.15	75
Labour for harvesting	1600	kg	0.045	90
Total Variable Costs				435
Gross Margin				57

GROSS MARGIN – WHEAT

Advisers' estimate – 2005 harvest		US\$ Per hectare Average for Ak Altin Rayon		
Gross Output	Amount	Units	Price per Unit	Total US\$
Yield x Price Quota 1	0.9	tons	72	65
Yield x Price Quota 2	1.4	tons	88	123
Yield x Price Non-Quota	1.7	tons	100	170
Total Gross Output	2	tons	89.5	358
Variable Costs				
Seed	250	kg	0.235	59
Fertiliser -				0
Ammo Phos	154	kg	0.3	46
Silistra	323	kg	0.14	45
Kali	100	kg	0.13	13
Herbicide	20	g	0.6	12
Fungicide				0
Pesticide				0
Machinery Park costs incl. fuel	1	ha	90	90
Water	4000	m ³	0.005	20
Labour	1	ha	24	24
Total Variable Costs				309
Gross Margin				49

The Cotton Sector in Tajikistan: From Macro-Economic Impact to Social and Environmental Consequences

Nargis Halimova

Tajikistan is a mountainous country located in Central Asia to the west of China which shares borders with Afghanistan, Kyrgyzstan and Uzbekistan. The country is 143,100 square kilometres, with 93 per cent of its territory consisting of mountains and 7 per cent of arable lands, most of which are located in the south-west Vakhsh Valley, extending from the capital, Dushanbe, to the border with Afghanistan. Tajikistan has a continental climate. Temperatures range from between -8°C to -61°C (in the high mountains) in winter and $+22^{\circ}\text{C}$ to $+49^{\circ}\text{C}$ (in low-lying areas) in summer.

The country consists of four regions: the *nohiyas* (districts) under republican control, and the *oblasts* (provinces) of Khatlon, Sugd and Gomo-Badakhstan Autonomous Oblast (GBAO). The total population is 6.34 million. At the beginning of 2001, the majority, 4.65 million, lived in rural areas and 1.67 million resided in urban areas. The predominant religion is Islam (about 90 per cent of population) and the official language is Tajik. Russian is widely spoken in business and government affairs.

Tajikistan's transition to a market economy has been protracted, but reform efforts are continuing to be made. Tajikistan encountered significant challenges in the development of its economy. There is a need to ensure transparency in three key areas of the economy: agriculture, banking and energy.

Household incomes are on the rise, especially from remittances, and there is evidence of declining poverty. The private sector has grown and the banking system has been liberalized and strengthened. The remittances of labour migrants are growing rapidly and small-scale exports have become a major source of household supplemental income.¹

Tajikistan's Macro Economic Performance

Macroeconomic performance has improved significantly. In 1997–2001, the economic growth averaged about 7.5 per cent and accelerated between 2001 and 2005 (9.2 per cent growth on average since 2001 and 8.6 per cent year on year

in the first half of 2003), supported by increased production of key commodities (mainly aluminum and cotton) and increasing remittances from Tajik labour migrants working mainly in the Russian Federation. Improvements are revealed in fiscal management, the fiscal deficit having been reduced from 3.8 per cent of GDP in 1998 to 0.1 per cent of GDP in 2001 with a surplus of 1 per cent of GDP in 2003. The exchange rate has been relatively stable. Foreign trade regime and prices are liberalized in Tajikistan, besides public utility services. Since independence, the legislation of Tajikistan has undergone dramatic changes. New laws and policies have been developed to meet the requirements of the market economy and the modern socio-economic life of the country.

Poverty

Poverty reduction has been a central concern of government policy. In 2003, 64 per cent of the Tajik population lived below the poverty level as defined by the World Bank (See Table 1).² In June 2002, to alleviate poverty and increase the social and economic status of the population, the government adopted the Poverty Reduction Strategy Paper developed with the contribution of the international community in Tajikistan. The country strives to achieve the goals of this strategy, which is focused on improving the living standards of citizens, ensuring the rights of all people to a life free of poverty, hunger and disease, and aiming to attain gender equality.

Extremely low incomes and widespread unemployment in the country have resulted in a high rate of labour migration, as domestic employment with low remuneration does not meet basic household needs, which are measured at US\$2.15 per person per day.³ Labour migration (mainly to Russia) remains a serious issue in Tajikistan. According to unofficial data, the number of migrants in the Russian Federation with Tajikistani citizenship is around one million.

Table 1. Summary of Poverty Data (adjusted for regional prices)

Region	Population	Overall Poverty rate 2003	Share of Poor	Decline in poverty rate 1999–2003 %age points	Inequality
GBAO	197,000	84%	4%	–13	0.30
Sugd	2,123,000	64%	32%	–15	0.32
Khatlon	2,169,000	78%	40%	–13	0.35
Dushanbe	630,000	49%	7%	–12	0.37
RRS	1,553,000	45%	17%	–26	0.31
Total	6,672,000	64%	100%	–18	0.35

Source: World Bank, "Tajikistan Poverty Assessment Update," 4 November 2004.

Table 2. Seed Cotton Production and Yields in Central Asia

	Kyrgyz Rep.		Kazakhstan		Tajikistan		Turkmenistan		Uzbekistan	
	'000 tons	Yield t/ha	'000 tons	Yield t/ha	'000 tons	Yield t/ha	'000 tons	Yield t/ha	'000 tons	Yield t/ha
1992	52	2.44	246	2.21	513	1.80	1290	2.27	4129	2.48
1993	49	2.42	198	1.81	524	1.91	1341	2.31	4234	2.49
1994	54	2.02	208	1.90	531	1.88	1283	2.30	3936	2.56
1995	75	2.24	223	2.08	412	1.52	1293	2.13	3934	2.63
1996	73	2.30	183	1.77	318	1.39	436	0.84	3350	2.25
1997	62	2.50	198	1.93	353	1.62	635	1.10	3639	2.40
1998	75	2.46	162	1.41	383	1.56	707	1.21	3206	2.09
1999	87	2.51	249	1.77	316	0.98	1300	2.37	3600	2.37
2000	88	2.60	287	1.87	335	1.38	1030	1.79	3006	2.11
2001	86	2.60	420	2.27	453	1.67	1800	2.34	3300	2.30

Source: Cotton in Central Asia, a Review of Policy and Technology in Central Asia, December 2002, p. 17

The Cotton Sector

To a certain extent, the spread of synthetic fibres has caused a decline of cotton in the textile market. However, cotton remains an important fibre of which China, the United States, India, Pakistan and Uzbekistan are the main exporters. Cotton production on irrigated land remains a mainstay of Tajikistan's agricultural economy although the yields remain low by international standards. Table 2 provides data on seed cotton production and yields in Central Asia.⁴

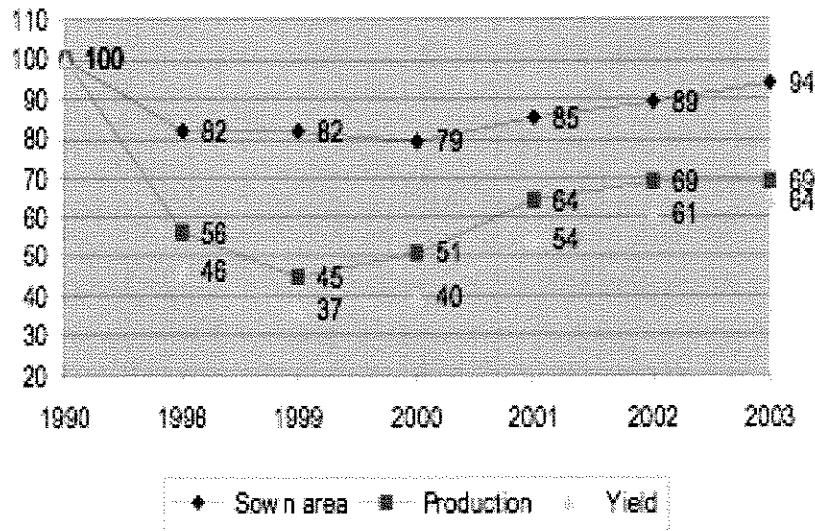
Seventy-three per cent of the population of Tajikistan relies on just 7 per cent of the country's arable lands. The predominantly rural population is heavily dependent on agriculture for subsistence. The agricultural sector, while employing 52 per cent of the total labour force, contributed 21.6 per cent of GDP in 2004. The agriculture sector of Tajikistan is a cotton monoculture and, along with other products like aluminum, electricity, mineral products and precious stones, cotton is one of the country's main export products.

From Macro-Economic Impact to Social and Environmental Consequences

Tajikistan was one of the largest cotton-producing republics in the Soviet Union with a production level of up to one million tons in 1980. In 2004, Tajikistan produced 556,991 tons of cotton (91.3 per cent of target), of which 60 per cent was grown in Khatlon oblast, 30 per cent in Sugd oblast, and the remaining 10 per cent in the districts under republican control.⁵ This yield did not reach the production target of 610,000 tons. The average yield per ha in 2004 was 1.9 ton, which is very low by world standards.⁶ Figure 1 provides data on cotton growing in Tajikistan for 1998–2003.

Cotton export earnings fell because of the drought in 2000 and a 35 per cent

Figure 1. Cotton Growing in Tajikistan, 1998–2003 (1990=100%)



Source: Database of Commodity and Raw Exchange of the Republic of Tajikistan, March 2005

fall in prices in 2001. Nevertheless, cotton and aluminum are the country's two main exports and account for 70 per cent of GDP and over 70 per cent of total export earnings.⁷

Cotton dominates as an export crop and its production is a government priority. In 2004, 284,367 ha of arable land were planted with cotton. Agricultural land, which is mostly occupied by the cotton sector, is of low productivity. A number of factors contribute to this and reduce the profitability of cotton farms. The global rise of prices for inputs, like fuel, and the decline of cotton fibre prices have had a significant impact on the profitability of Tajik cotton farms. Moreover, the internal factors mentioned below are critical in reducing farm performance in Tajikistan. Other factors, including the lack of increased capacity, management, mechanization, adequate irrigation and drainage system, etc. also result in decreased farm productivity and profitability. Consequently farms fail to pay loans on time and become indebted. Debts grow and farmers' harvests only go towards paying debts. Moreover, the debts of reorganized large farms are inherited by newly formed farms together with the land title.⁸

Other constraints on private farming include high transport costs, border taxes and delays, and the reluctance of smallholders to act in concert to improve their conditions after generations of government domination.

According to the statistics of the National Bank of Republic of Tajikistan, the debt of the cotton sector to private companies amounted to US\$186,016,155 on 1 September 2004.⁹ Accumulated farm debts threaten the sustainable growth of agriculture and rural livelihoods. The World Bank and Asian Development Bank committed substantial funds and resources to the farm-restructuring process and to the resolution of farm debts. The World Bank has developed pilot projects including the Farm Privatization Support and Farmers Ownership Model projects, while ADB is undertaking a project for the rehabilitation of irrigation systems.

Debts inherited from the *kolkhoz* became a huge problem that is being discussed at high government and donor level in Tajikistan. In May 2005, the Government of Tajikistan adopted the Strategy for Cotton Farms Debt Resolution.¹⁰ As farms need to pay their debts, they have few resources for the payment of wages. New land tenures are imposed with the debts of reorganized farms.

The rural population, who is generally composed of the poorest people in the country, provides most of the manpower to the cotton fields. However, cotton revenues do not reach the farms and farmers' households, which consequently worsens their state of poverty.

Gender issues are unavoidable in the cotton sector. The majority of the male labour force leaves the country as labour migrants in search of comparatively well-paid jobs. Although women make up about 90 per cent of manpower in the fields, especially in the cotton-growing districts, a number of factors contribute to deprive women of their civil rights. However, article 17 of the Constitution of the Republic of Tajikistan establishes the equality of all people before the law; the state guarantees the rights and freedom of everybody regardless of their nationality, race, sex, language, beliefs, political commitments, education, social and property status. A number of other laws and normative acts, such as the Civil Code of the Republic of Tajikistan and the Land Code of the Republic of Tajikistan, guarantee equal ownership rights to citizens regardless of their sex.

Tajikistan has ratified a number of international conventions and treaties on human rights, and has been a member state of CEDAW since 1993. The establishment at a constitutional level of legal and socio-economic measures for the protection of women's rights is represented by a number of normative acts and laws. At a national level the Government of Tajikistan adopted a number of laws and normative acts to promote women's role and status and ensure gender equality in Tajik society.¹¹ Despite these efforts, in practice, it is hard for Tajik women, especially in rural areas, to claim these rights, particularly with regard to accessing economic resources. In January 2004, out of 7,173 *dehkan* farms¹² in Khatlon Oblast, only 240 or 4 per cent were run by women. In Sugd Oblast, out of 4,725 *dehkan* Farms, women ran 239 such farms or 5 per cent.¹³ Rural women, in particular female-headed households, have to take their children to the field to meet household demands. In Tajikistan, in the mid-1980s, over 300,000 students

were commandeered for periods of up to two months for cotton picking.¹⁴

Cotton growing is a key industry in the country's economy. Despite the tremendous efforts of civil society, including representatives of the international community which are active in Tajikistan, the country cannot turn away from cotton in the near future. The cotton sector is the key agricultural industry which brings stable foreign currency earnings to the country and is constantly in demand on the world market. Cotton as an export product is a government priority and dominates agricultural production. Although cotton growing in Tajikistan is a large industry, the current situation of the sector is degrading the economic and social environment for the people, has an unfavourable impact on the environment and threatens security.

The Adverse Effects of Cotton

The latest poverty assessment revealed that the poverty rate declined to 64 per cent in 2003 from 80 per cent in 1999. Still, measured by the standard of US\$2.15 per capita per day for consumption, Tajikistan remains the poorest country in the former CIS.¹⁵

Studies reveal links between cotton and poverty. Most of the poor reside in rural areas, in particular in two cotton-growing provinces, Sughd and Khatlon. The poverty rate is 78 per cent and 64 per cent in Khatlon and Sughd compared to 49 per cent and 45 per cent in Dushanbe and the districts under republican control respectively (see Table 1).

In 1996 Tajikistan began land reform, including the reorganization of large collective and state farms (kolkhozes and sovkhozes). Members of reorganized farms are acknowledged as shareholders by law and are given land plots with inherited land use rights.¹⁶ Cotton ginning in Tajikistan was officially privatized in 1998 and all state-owned gins were sold to the private sector by 2000.

While the relevant laws of the country envisage farms as independent entities,¹⁷ in practice the authorities interfere in the activities and decision-making processes of farms. Central Government sets state targets for agriculture and cotton production. Farmers can receive "recommendations" to plant 70 per cent of the farm to cotton. The target for 2004 was 600,000 tons of cotton.

Although there is a market for cotton, due to inequitable business partnerships between cotton buyers and producers, and unjust rent-seeking by "futures" companies and gins, cotton revenues do not reach farmers.¹⁸ Consequently, farmers lose interest which in turn affects yields and increases poverty. This largely affects female-headed households and children, and causes high labour migration rates.

The Ecological Implications of the Cotton Sector

The cotton sector creates ecological problems as well. For the last 15 years the growing of cotton as a monoculture without practices of crop rotation has caused

widespread soil degradation. Soil degradation has captured about 97.9 per cent of the territory of the republic. Annually about 50,000 hectares of cultivated lands are exposed to varying degrees of desertification.¹⁹ Cotton requires considerable irrigation but the poor functioning of irrigation and drainage systems results in soil salinization and waterlogging where arable lands become bogs and increases the risk of ecological refugees.²⁰

Having no access to drinking water from pipelines, the rural population uses water from canals which are polluted with fertilizers. This causes a number of water-borne diseases and affects the health of the rural population.

The poor irrigation and drainage networks, as well as excessive water use, lead to rising water tables and extensive salinization of irrigated land. Growing cotton as a monoculture without following the crop rotation techniques leads to the destruction of soil structure and fertility. The intensive overuse of fertilizers and chemicals during Soviet times, salinization caused by poor irrigation systems and wind and water erosion result in widespread land degradation.

The absence of a classification system to judge cotton quality is a major impediment to the assessment of Tajik cotton on the world market and, along with other above mentioned factors, is one of the causes of reduced revenues which damage the country's economy and the people's welfare.

Notes

- 1 IMF Executive Board Concludes. Article IV Consultation with the Republic Tajikistan, Dushanbe, 2005.
- 2 World Bank, *Tajikistan Poverty Assessment Update*, Dushanbe, November 2004.
- 3 *Ibid.*
- 4 Cotton in Central Asia, a Review of Policy and Technology in Central Asia, December 2002, p. 17.
- 5 State Statistic Committee of Republic of Tajikistan, *Sel'skoe khoziaistvo* (Agriculture), Dushanbe, 2004, p. 138
- 6 State Statistic Committee of Republic of Tajikistan, *Khlopkovodstvo* (Cotton growing), Dushanbe, 2004 .
- 7 "Cotton in Central Asia, a Review of Policy and Technology in Central Asia," December 2002, p. 39.
- 8 According to the Presidential Decree No. 542 dated 25 December 2003 on "the adjustment of debts of reorganized and to be reorganized farms and agriculture enterprises." However, this is inconsistent with the Civil Code of the Republic of Tajikistan.
- 9 Statistics of National Bank of Republic of Tajikistan disseminated during the donor's meeting in January 2005, in Dushanbe.
- 10 For more details, see "Farms Debts Resolution Retreat through Teamwork and Co-operation," 22–24 June, 2005, Dushanbe. Facilitated by Cloverdale Organization Inc.
- 11 The Presidential Decree on "Enhancing the status of women in the society of Tajikistan" was adopted in 1999. The Government of Tajikistan approved the "National Action Plan on enhancing the status and role of women during 1998–2005," and the "Main directions of state policy on

guaranteeing equal rights and opportunities for men and women for 2001–2010” on promotion of gender equality. In May 2005 the Government of Tajikistan adopted the Law “on Gender Equality”.

- 12 *Dehkan* farm refers to a farming entity which can be of three types : Individual *Dehkan* Farm, Family *Dehkan* Farm and Collective *Dehkan* Farm, depending of the decision of land shareholders according to the Law “on *Dehkan* Farms”, Dushanbe, May 2002.
- 13 Amendments on Access of Rural Women to the mentioned State Programme on “Main directions of state policy on ensuring the equal rights of women and men in Tajikistan for the year 2001–2010”.
- 14 “Cotton in Central Asia, a Review of Policy and Technology in Central Asia,” December 2002.
- 15 World Bank, Tajikistan Poverty Assessment Update. Dushanbe, November 2004.
- 16 According to the Constitution of Republic of Tajikistan (RoT), land is state ownership.
- 17 Land Code of RoT, Land Reform Law of RoT, Law about *Dehkan* (Private) Farms of RoT.
- 18 “Futures” companies provide in-kind credit; when supplying inputs they inflate the prices, cause delays in the delivery of inputs, and fail to deliver inputs of an acceptable standard. Gins, which are mostly owned by “Futures” companies, apply unfair business approaches with cotton producers: cotton producers are not paid for their produce, their cotton sort is often downgraded, ginning takes about 180 days which reduces the quality of cotton. Unfortunately, farmers have little power to claim their rights through the judicial system.
- 19 National Action Programme to Combat Desertification in Tajikistan, Dushanbe, 2000.
- 20 For instance, in Kolkhozobod, Yovon, Bishkent, Vakhsh, Asht districts. Interview with Shukurov Rahmon, Land management specialist, Candidate of agriculture sciences. Dushanbe, Tajikistan, July 2005.

The Role of Children in Uzbekistan's Cotton Harvest

Elliott Cannell

Selling over 800,000 tons of cotton fibre every year, Uzbekistan is the world's second largest cotton exporter.¹ These sales generate over US\$1 billion annually² and represent around 60 per cent of the country's hard currency export earnings.³ Yet despite its position at the forefront of global cotton exports, Uzbekistan's methods of cotton production remain among the least sophisticated in the world. While other major exporters, such as Australia and the USA, have entirely mechanized the harvest of the cotton they produce,⁴ the Uzbek regime has continued with the Soviet policy of recruiting schoolchildren and students to pick the cotton by hand. Labouring in often appalling conditions, and for little financial reward, youths and students in most rural areas are mobilized by their government and forced to spend the autumn months working in the cotton fields.

Despite the seriousness of this exploitation of children, and the fact that Uzbekistan is a signatory to the UN Convention on the Rights of the Child, the realities of the Uzbek cotton harvest receive little scrutiny from the global media, outside governments, intergovernmental bodies, international financial institutions, or major clothing retailers. Indeed awareness of the issue is so low that the government of Uzbekistan has adopted the position of denying that the problem even exists. When asked about the use of children in the cotton harvest, an official spokesperson for the Uzbek embassy in London told EIJ, "We do not use children's labour."⁵ This sentiment is echoed by many of the companies involved in purchasing cotton from the Uzbek administration. One major cotton trader based in Switzerland recently claimed to be unaware of the use of child labour in the region, saying, "We buy our cotton from government agencies and don't know what happens out in the fields."⁶

Uzbekistan's denial of its use of children as manual cotton harvesters, and the severe restrictions placed upon the country's media, mean that reports of forced child labour are often partial, or circumstantial. The situation is further complicated by the fact that cotton production is not centrally organised, but placed under the control of regional officials. This paper brings together information published by various organizations, and evidence collected during interviews conducted by the Environmental Justice Foundation (EIJ) in Uzbekistan in Oc-

tober 2004, in order to provide a broader picture of the use of forced child labour under President Karimov. It includes a brief analysis of the different policy options available in seeking to end the involvement of Uzbek children in cotton harvesting.

The Orchestration of State Sponsored Child Labour

Officially the government of Uzbekistan denies using forced child labour in the autumn cotton harvest.⁷ However, this claim is contradicted by statements made by Uzbek NGOs: 18 of which signed a 2004 petition urging the world community to boycott Uzbek cotton on the basis that it is produced in conjunction with forced child labour.⁸ Their assertion is confirmed in numerous reports from highly credible sources. According to a recent document from the United States Department of State, the large-scale compulsory mobilization of youth and students to help in the cotton harvest occurs in "most rural areas."⁹ This concurs with UNICEF estimates that in 2000, almost one quarter of children between 5 and 14 worked at least part-time, primarily in the cotton harvest. Photographic evidence obtained by numerous independent photojournalists and by EJF also show fields of young children picking cotton.¹⁰ In October 2004, EJF interviewed children in the regions of Ferghana, Namangan and Tashkent, all of whom were being forced by their government to pick cotton. One child told EJF, "My teacher brought me here and told me to pick cotton."¹¹

Whilst a substantial body of evidence exists to demonstrate Uzbekistan's use of forced child labour, it is probably impossible to ascertain the precise number of children coerced into picking cotton. Certainly no official figure is available. Most existing estimates relate only to one of the country's 13 administrative regions. The only statistic known to the authors which attempts to relate a national figure is that produced by UNICEF, which estimates that in 2000, 22.6 per cent of Uzbek children ages 5 to 14 worked at least part-time, primarily in cotton harvesting. This figure equates to over 1.4 million children involved in child labour.¹² While this number does not relate exclusively to those children coerced into harvesting cotton, a figure of this magnitude would not appear out of line with historical or contemporary data. According to statistics from the Soviet era, in 1986 and 1987, 650,000 to 700,000 schoolchildren, and 140,000 college and vocational school students harvested cotton in the Uzbek republic.¹³ In the same years the proportion of cotton harvested by machine stood at 42 per cent and 45 per cent respectively. Since then the degree of mechanized cotton harvesting has fallen substantially; one Uzbek human rights activist interviewed by EJF reported that as little as 10 per cent of Uzbekistan's cotton harvest is now gathered by machine.¹⁴ Data relating to specific regions include an estimate produced by human rights defenders in Ferghana region, stating that in 2001, 198,055 school children were working in cotton fields in that region alone¹⁵; an area whose cot-

ton quota represents less than 10 per cent of the overall national figure.¹⁶ A similar estimate suggests that in 2004, 60,000 children and students were picking cotton in the province of Jizzakh.¹⁷ Reports also suggest that the use of children in picking cotton has increased in recent years. One NGO worker interviewed by EJF explained “It’s getting worse and worse. Before they sent children from 9th to 11th classes, but now they’re sending third class children as well. Children nine years old have no lessons and are also involved in cotton campaigns.”¹⁸ While none of the above statistics offers an clear insight into the extent to which children are currently used in cotton harvesting, together they point towards an annual figure running into hundreds of thousands.

The circumstances under which schoolchildren are made to work during the cotton harvest are not fully documented. This relates in part to the organization of Uzbek cotton production. For while the country’s central government is responsible for issuing regional cotton production quotas, it is Uzbekistan’s provincial governors who are charged with the actual organization of cotton production and harvest. Because of this it is likely that measures taken to motivate children vary throughout the country. Attempts to investigate the mobilization of children are further complicated by the fact that these orders tend to be given orally at the local level, so that written evidence is difficult – or impossible – to obtain.

The official government line is that students picking cotton do so out of loyalty to their parents or their community. But the notion that schoolchildren partake in the cotton harvest on a voluntary basis is severely undermined by reports that outline state orchestrated strategies which leave children little alternative but to work. According to a study by International Crisis Group (ICG), during the cotton harvest government officials order the closing of schools and universities. This practice is also documented in a report by six journalists from the Institute of War and Peace Reporting (IWPR). The study, described as a “wide ranging investigation” found that many schools, both senior and junior, are closed until December.¹⁹ The paper states that having shut down the schools, regional officials charge headmasters with the responsibility of ensuring that students pick the required daily amount of cotton. Pupils who fail to deliver their quota of cotton or who pick a low quality crop are reportedly punished with detentions and told that their grades will suffer. And those who run away from the cotton fields, or who refuse to take part, face expulsion.

While local children are known to return home in the evening, older children, and those conscripted to work in more remote areas are reportedly housed in makeshift barracks, often with extremely poor living conditions. A teacher from the Syrdarya Province interviewed by ICG reported that schoolchildren were taken to a farm 25 kilometres from their home village, where they slept on the floor of an abandoned kindergarten and were fed low quality food. Other students are accommodated in farm storehouses, without glass in the windows or doors.

As one Uzbek human rights defender interviewed by EJF explained, "According to our monitoring, we found that in the cotton fields the living conditions are bad and the food quality is very low. We have reported this to the appropriate state bodies, but it is clear that nothing has changed." Others suggest that the quality of food provisions has deteriorated since Independence. A human rights defender interviewed by EJF explained, "You saw what they eat. They don't even have hot food. Even in Soviet times there was hot lunch for the cotton pickers. Here they have bread and tea in plastic bottles". Access to drinking water is also a problem. An investigation conducted by the Karshi city branch of the Uzbekistan Human Rights Society found an almost complete lack of clean drinking water in the Nishan region. Other documents report cases where children lack access to drinking water in the fields, and thus resort to drinking contaminated water from open irrigation ditches⁷. These claims were confirmed by a Jizzakh-based human rights worker interviewed by EJF.

As a result of arduous work and poor living conditions, many children are known to suffer illness and malnutrition. Others experience chronic diseases such as intestinal and respiratory infections, meningitis and hepatitis.²⁰ Inadequate clothing leave some susceptible to rheumatism and conditions associated with exposure to damp and cold conditions. In the most extreme cases children die during the harvest. One human rights organization confirmed the deaths of eight Samarkand children and students while picking cotton over a two-year period. According to independent journalists, local authorities are so desperate to hit regional production targets, that they are reluctant to even send sick children to hospital: while their labour is much needed, their health is given a low priority.

Perhaps the most serious reported health risk centres around children forced to handle potentially dangerous chemicals. In June 2004, IWPR journalists documented the case of children in the Rishtan district of Ferghana who were set to work spraying the cotton crop with pesticides.²¹ One student described how she and her friends were issued with plastic water bottles filled with chemicals. The containers had holes drilled into the caps so that the children could go up and down the rows spraying the plants. One child complained that "Its so hot in the fields and the chemicals burn your skin if they touch it." Other children complained of the smell and that their hands turned white.²² The chemical constituents were not revealed to the children or their families, but one government scientist insisted that dilution meant that children would suffer no ill-effects. IWPR reports of children forced to apply pesticides were confirmed by Uzbek NGO workers interviewed by EJF.

Attempts to establish the level of remuneration received by Uzbekistan's child cotton harvesters reveal a range of rates of pay. One human rights defender put the rate of payment at 35 sum per kilo (US\$0.03). But in interviews conducted by EJF in October 2004, children picking cotton described various pay-

ment regimes. Those in Ferghana claimed to work from 7am to 5pm in return for between 100 sum (US\$0.8) and 200 sum (US\$0.16).²³ Others in the same region said they were paid around 42 sum per kilo (US\$0.035). In Namangan EJF heard reports of children receiving 30 sum per kilo (US\$0.025), 50 sum per day (US\$0.04), and 180 sum for five days work (US\$0.15). Low levels of payment are further depreciated by the fact that many children are expected to underwrite the costs of food supplies they consume. Some claim to receive nothing once these deductions are made and parents note that payment often falls far below the cost of replacing clothes damaged.

Policy Solutions

Those best placed to address the problem of forced child labour in the Uzbek cotton harvest are the members of Uzbekistan's ruling elite. While politicians at the centre of the administration are not directly involved in the mobilization of school children, they do hold the power to prosecute those regional officials responsible under the UN Convention on the Rights of the Child. In response to the substantial evidence documenting the exploitation of children during the cotton harvest, Uzbekistan's central Government should declare its intention to implement the Convention and charge those officials found to be involved. The government should further underline its commitment to eradicating child labour by ratifying ILO convention C138 on the "Worst Forms of Child Labour," and by inviting international organizations such as the OSCE to monitor and report on labour conditions in the cotton harvest.

Unfortunately Karimov and those close to him are unlikely to take any measures to curb the problem, not least because they have a tremendous financial disincentive to act. Given this situation, action should be taken on the part of international cotton traders, textiles manufacturers and retailers to exert influence over the government of Uzbekistan. These businesses could take steps to address the problem by undertaking an independent review of their cotton suppliers to seek assurances that cotton is produced under international labour norms. Where such assurances cannot be provided, cotton traders, textiles manufacturers and clothing retailers should seek alternative sources. In addition members of the business community should work with civil society organizations to develop an effective product labelling system guaranteeing that neither child nor forced child labour is used at any stage of the production process, and whereby consumers are informed of the origins of all cotton products.

National governments should also take steps to exert pressure to end Uzbekistan's exploitation of children. Both individual governments, and government organizations such as the EU, should seek to implement an immediate ban on the import of goods produced under child labour. Governments should then instigate the creation of legal mechanisms by which those importing products

made by children could be identified and prosecuted, and work within the WTO to introduce conditions on trade that would punish producers and manufacturers who use child labour at any stage of the supply chain. Specific trade sanctions against Uzbekistan should also be considered until such time as the country can demonstrate that cotton production is not associated with child or forced child labour.

Effective measures are also available to ordinary consumers. By demanding that all cotton products are clearly labelled, stating the country of origin, and that they have not been produced under child labour, consumers could use their spending power to motivate retailers into investigating their cotton supply chains. Where retailers find themselves unable to guarantee that cotton products do not derive from child labour, they would then be forced to find alternative sources or risk the adverse economic consequences of being linked to child labour.

Conclusion

While there has never been an exhaustive study into the use of forced child labour in Uzbekistan's cotton harvest, a substantial body of credible evidence now exists to demonstrate the scale and severity of the problem. A large number of children, probably hundreds of thousands, are mobilized by government officials and forced to labour in the cotton fields. These students are exploited financially: many endure unacceptable living conditions, are provided with low quality food, and commonly given no access to clean drinking water. In some regions children may be placed in close contact with hazardous chemicals. Given the gravity of the situation, immediate action should be taken by a variety of constituencies including Uzbekistan's central government. Western governments, corporations and consumers should implement measures designed force Uzbekistan's government to act.

Notes

- 1 This figure represents a ten year average (1995–2004) using data taken from United States Department of Agriculture (Foreign Agricultural Service), *Cotton: Production, Supply and Distribution*, 2005.
- 2 United States Department of Agriculture, *Cotton and Wool Yearbook*, 2004.
- 3 Economist Intelligence Unit, *Uzbekistan: Country Profile*, 2004.
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Appendix

Summary of Papers Presented at the Conference

The purpose of the conference was to raise public awareness and build the capacity of civil society to participate in policy evaluation by developing its expertise and ability to make policy initiatives in the cotton sector. Papers focused on the political economy of cotton production and the nexus of economic, political, social, environmental and legal issues surrounding it. The conference aimed to build a network of local and international experts concerned with cotton as a commodity chain (from production to intended market destination). Furthermore, it is hoped to develop the network's professional capacity and reach by equipping advocacy campaigns with the necessary intellectual capital and to help mobilize civil society in the pursuit of genuine development goals.

The conference was comprised of seven panels covering issues from macro- and micro-economy, investigating the commodity chain from the domestic procurement system to international markets. How is property in land regulated? What types of issues of labour control does cotton agriculture pose? How are natural resources mobilized, and what are the implications for environmental resource management? How are the benefits of the cotton sector redistributed? What is the potential for vertical linkages with industries which have the capacity to absorb labour and generate new employment? These are some of the issues which were discussed by different panels of the conference.

The **Panel 1 "The Cotton Sector in Development: Asset or Liability?"** was opened by Deniz Kandiyoti whose presentation highlighted the conceptual link between the cotton sector and issues of development in Central Asian nations. She noted that despite an acknowledgement that Central Asian countries have emerged from the break-up of the Soviet Union mainly as primary commodity producers, there is relatively little work on the political economy of transition in the region. The type of comparative work we see coming out of East/Central Europe such as Stark and Bruszt's *Postsocialist Pathways: The Relationship between Politics and Property*¹ is still quite exceptional in the context of Central Asia and the Caucasus. Yet, it is a matter of great urgency, in both academic and policy terms, to have a more robust engagement with the implications of the different pathways adopted by the countries of the region as they fall back

on their own resource bases and reform their institutions (or fail to do so) at different paces. When it comes to primary commodities, oil and gas have received disproportionate attention. Both in the broader political economy literature (on oil economies and regime types), and in regional studies, they are often seen through the prism of global and local corporate interests in the oil sector. Yet agricultural commodities and cotton present a range of extremely complex problems with important implications for the livelihoods and well being of ordinary people. The cotton sector includes a wide variety of institutional arrangements around cotton as an export commodity – from the way labour is deployed at the farm level to the global market networks for cotton – that have a decisive bearing on whether (to paraphrase the title of the first paper) cotton represents a developmental opportunity or a curse.

Finally Kandiyoti expressed a hope that having a group of policy makers, academics, and members of Northern and local NGOs would initiate and facilitate a policy dialogue on a critical topic upon which the livelihood and welfare of many ordinary citizens in Central Asia depends.

The introductory word was followed by Max Spoor who in his paper “Cotton: Curse or Foundation for Development in Central Asia?” opposed the report on the cotton sector in Central Asia issued by the International Crisis Group in 2005. He argued that, despite all its deficiencies, the cotton sector in Central Asia, especially in Uzbekistan, played a significant role in smoothing the hardships of the transitional period after the dissolution of the Soviet Union. In his dispute with ICG the matter is the perception of reality: is the glass half empty or half full? Spoor belongs to the second camp: for him the cotton sector is in principle an engine or foundation for development and growth, and in practice it has indeed played such a role in recent years in Central Asia. He regards the option of ‘Down with cotton, long live the orchards’ as unrealistic, and argued that a drastic reduction of cotton production is not the solution and in fact creates other problems (unemployment for example). Spoor suggested that cotton will remain a fundamental part of Central Asian economies, but the challenge is to improve the social conditions, productivity, water losses and environmental impact. Cotton can even become an engine of agro-industry led growth, and the first sign of that is increased FDI in the textile industry.

Mike Thurman in his paper “The Role of International Financial Institutions in the Production and Marketing of Cotton in Central Asia” questioned the motives of IFI initiatives and investments in the cotton sector in Central Asia. He outlined these motives as: economic development – recognizing the prominence of the sector within national economies; environmental amelioration and social and human development – tackling the widespread environmental and social maladies associated with irrigated cotton cultivation; and poverty reduction – harnessing the potential for more significant improvement in rural incomes

accrued from efficient, sustainable cotton production than from the cultivation of other field crops. Thurman pointed out the following policy recommendations for improving the cotton sector by IFIs: 1) stabilization; 2) privatization, liberalization and marketization; 3) decentralization; 4) amelioration, 5) alleviation. In order to improve the investment climate in the sector the following measures are suggested: 1) remove subsidies, 2) target distortions, and excessive transfers; 3) provide reform land rights; 4) restructure production co-operatives into private farms; 5) eliminate production quotas/goszakaz; 6) introduce alternative input supply; 7) introduce integrated pest management; 8) liberalize input and farm-gate prices; 9) establish farm-gate linkage with world markets; 10) improve classing of cotton; 11) privatize and refurbish cotton gins; 12) reform and create banks and credit; 13) encourage collateralization; 14) improve water management practices; 15) rehabilitate water management infrastructure; 16) facilitate Irrigation Management Transfer (WUAs); 17) reform agricultural institutions; 18) make research and extension responsive to user needs.

Panel 2 was devoted to **Export and the International Environment**. John Baffes presented a paper entitled “Cotton-Dependent Countries in the Global Context” which provided a useful introduction to the current international institutional environment of the cotton market. Special attention was paid to the dispute within the WTO between the USA and developing countries over US subsidies to American farmers. The solving of this dispute on a global scale (including the European subsidies to farmers) for the sake of developing countries is expected to result in the depression of world cotton by 10–15 per cent that would benefit producers in the third world, including Central Asia.

Alisher Ilkhamov, in his paper “Cotton and Textile Fair Trade and Labour Standards: Implications for Central Asia” took up the issue of the redistribution of cotton trade revenue on a global scale by raising the question: who would then benefit from this redistribution within developing countries like Uzbekistan, farmers or a narrow circle of elites controlling the cotton sector? According to Ilkhamov, fair trade assumes not only the removal of barriers for free trade but also liberalization of national cotton sectors and observance of core labour standards. Uzbekistan doesn’t observe these standards and has still not signed the ILO covenants No.132 and 182 on the abolition of child labour and No.87 on freedom of association and collective bargaining. Two possible strategies can be applied internationally to convince the government of Uzbekistan to observe these core standards: fair trade labelling campaigns and using key international institutions and players – WTO, ILO, United States and European Union. Ilkhamov suggested a five point policy agenda in this respect: 1) remove trade barriers; 2) abolish subsidies to national farmer sectors; 3) comply with core labour standards; 4) avoid arbitrariness; 5) use trade sanctions selectively and

in a limited format, distinguishing between comparatively wealthy (Asian) and poor (African) developing countries.

The last speaker on this panel was Mavlyuda Kulikova in whose paper, "The Legal Framework of Uzbek Cotton Procurement and Export," three stages of the evolution of the cotton procurement and export was considered. The paper demonstrated that despite a number of measures on marketization and liberalization of the cotton sector, the government has always kept strict control over exports.

Panel 3 switched attention to **The Role of Domestic Policies**. The first speaker, Sandjar Djalalov, presented in his paper "Implicit Taxation of Uzbekistan Cotton Sector: Estimation and Policy Consequences" some statistics comparing the procurement systems for cotton and grain. Although both sectors are highly centralized, cotton output is wholly purchased by the state, while in the case of grain half of the output is left to producers for their own consumption and marketing. In 2003, the state purchased cotton from farmers at 39 per cent of the world price, and in 2004 at 75 per cent. Low purchasing prices have contrasted with input prices. As an immediate measure removal of the state-order system is suggested. This will lead to elimination of indirect taxation. It is supposed then that tax revenues will increase and the state will receive required profits thanks to an increase of the land tax or export duties, as well as of productivity.

Alexander Kim presented a paper "Abandoned by the State: Cotton Production in Southern Kyrgyzstan." According to his data, in the post-Soviet period the cotton-sector has expanded: land under cotton increased by 78.8 per cent, yields for raw cotton – by 92 per cent, and production of cotton fibres – by 151.3 per cent. But the lion's share of the gain has fallen into the hands of the cotton gins controlled by a narrow group of private business. Farmers have barely made ends meet. Due to the small land plots used by most farmers (the average size less than one hectare) and their low incomes, farmers were not able to use machinery during the harvesting period to develop a modern agronomy.

Similar issues were met by Kazakh farmers, as Olga Dosybieva reported in her paper "The Cotton Sector in Kazakhstan: The Thorny Way to the Market Economy." On the one hand, the cotton sector in southern Kazakhstan has been expanding (from 323.6 thousand tons in 1990 to 466.1 thousand tons in 2004) and proved to be profitable for all parties: farmers and cotton gins. The relations between them were even more harmonious: the owners of cotton gins served as loan providers not only for production-related purposes (as futures deals), but in a wider scale – for emergency occasions, like weddings and funeral ceremonies. After years of disregard from the state, when the cotton sector not only survived but started to grow, the state finally began paying attention and interfering in the sector. The government decided to increase the size of cotton farms and restrict

the activity of the cotton-gins. Farmers and gins fear that behind the recent initiatives of the governments stand the power interests of elites who may try to impose the redistribution of the cotton revenues of producers.

Discussions during **Panel 4** provided deeper perspectives on the **Organization of Production**, looking particularly at issues of **labour and productivity**. Tommaso Trevisani's presentation based on his field work in the Khorosm region of Uzbekistan, "The Emerging Actor of Decollectivization in Uzbekistan: Private Farming between Newly Defined Political Constraints and Opportunities." charted the emergence of a new farmer class. He qualified the emergence of private farming in Uzbekistan as decollectivization but not privatization. This is because private farmers in Uzbekistan have so far been deprived of their right of private ownership with respect to land, cotton, grain output and income (due to the quota system, imposition of state orders and restrictions on bank accounts). At the same time, intermediary institutions in the distribution of land and water resources such as shirkats (collective farms) are disappearing. Despite cotton's low profitability for farmers, its planting can be acceptable for farmers if matched with other crops. Another benefit related to cotton is access to subsidized inputs. Trevisani noted the issue of inequality in land distribution as a majority of the rural population are excluded from ownership of farmland.

Iskandar Abdullayev's paper "Cotton in Uzbekistan: Water and Welfare" was devoted to an analysis of the decline of Uzbek cotton production. Abdullayev considered two reasons for this: 1) the continuation of ineffective policy toward the cotton sector and 2) outdated irrigation and water management systems, especially drainage ones. The shift from large collective farms towards family organizations has resulted in a vacuum of responsibility and organization in the operation and maintenance of some irrigation and drainage systems.

Daur Dosybiev brought the attention of the conference to the issue of "Uzbek Labour Migrants in Kazakh Cotton Fields." He noted that Kazakh farmers gladly hire unemployed citizens of Uzbekistan since they are paid three times less than local workers. Uzbek migrants are also satisfied: at home they are paid even less. He distinguished three categories of Uzbek labour migrants: 1) relatively well-off Uzbek farmers who are hired along with their entire families every year by the same farms (around 30 per cent of all Uzbek migrants); 2) those who arrive in Kazakhstan illegally and are hired by small and medium farms (around 50 per cent); and 3) those without documents who agree to work for free board and lodging (about 20 per cent). In 2004, more than 4,000 illegal migrants were identified in southern Kazakhstan. The real number of illegal migrants, however, is much higher. In August 2005, the regional employment authority announced that 12,000 people who do not have a permanent job must take part in the cotton harvest in southern Kazakhstan. Illegal workers receive

US\$0.03 per kg of picked cotton. In a month an experienced worker earns up to US\$200. In comparison, Kazakhstani workers are paid US\$0.06 per kg as a minimum wage. Kazakhstani farmers, Dosybiev argues, sometimes use forms of exploitation that openly resemble slavery. It is not unusual for an employer to report his workers to the police at the end of the season if he knows that they have entered Kazakhstan illegally. In that way, he does not have to pay for their work. Representatives of the law-enforcement bodies do nothing to combat the situation, accepting bribes from the farmers instead. Farmers see little reason to register their workers: registration only leads to an increase in expenses and taxes. Kazakh law does not account for the status of labour migrants; their employment is not recorded anywhere; the whole process of recruitment is based on a verbal agreement between workers and employers. Accordingly, the rights of Uzbek citizens working on the cotton fields of Kazakhstan are not protected in any way.

The **Panel 5, Governance Issues: Case Studies**, brought examples from Tajikistan, Turkmenistan and Uzbekistan. Michael Hall discussed “Governance and the Cotton Sector in Tajikistan” and described the lack of experience, decision-making capacities and awareness of the current government in coping with new realities related to the emergence of new actors and processes – private and foreign investors, private farming etc. Despite a series of reforms intended to end state interference in the cotton sector in Tajikistan, little has in fact changed. State quotas for cotton production are still in place, enforced by a variety of coercive measures. Local administrators are often closely linked to so-called “futures companies,” meaning that farmers have few options when it comes to securing inputs and selling their crop. Farmers themselves, used to being members of collective farms, generally lack the skills and knowledge needed to become independent managers. A combination of bad governance, exploitative labour practices, and farmers’ inexperience has resulted in farmers running up a massive debt to local “futures companies.” The situation is particularly grave for women, who perform most of the manual labour in the cotton fields for little or no compensation. The lack of incentive on the part of farmers means that production quotas are rarely met, and Tajikistan’s cotton production, potentially an important source of revenue, is steadily declining. If Tajikistan is to make genuine progress towards alleviating rural poverty and increasing food security, it will need to accelerate and deepen the reform process in the agricultural sector.

Farid Tukhbatullin next presented a paper entitled “Turkmen Cotton: Treasure Turned into Burden.” He said that Turkmenistan’s actual cotton output constantly fails to reach the goals set by the government. In 2005, 723 thousand tons were picked, which is three times less than government targets. The reason for this is low productivity – 9.4 metric quintals per hectare against expedited

28.5 metric quintals. Management in the cotton sector is highly centralized, as in Uzbekistan, and the government imposes artificially low purchasing prices that reduce incentives for farmers. Another reasons for low productivity is the absence of crop rotation and the nature of the administrative system in the country, notably the frequent change of *khyakims* (heads of local administrations). A newly appointed khyakim knows in advance that he will not remain in office for a long time, thus he has little concern for the improvement of agriculture or the prosperity of peasants. In practice, khyakims care more about fulfilling their own needs during their post.

Raphaël Jozan's paper considered the challenge of "Recombining Socio-technical Networks of the Uzbekistani Agrarian System: The Ferghana Valley during the Transition Period." The paper was written with co-authors Roman Florent, Samuel Martin, Oliver Munos, and Marie Panarin. It proposed to tackle both the dynamics and the inertias of Uzbekistanis cotton sector (and the agrarian system in general) through a multi-scale analysis requiring a multidisciplinary approach. This would cover processes of production, commercialization and administrative spheres. Uzbekistan's path of agricultural transition is quite special when compared with other countries of the Former Soviet Union. The agricultural sector is still heavily administrated and most productions are planned by the state. The authors challenged the categorization of farming institutions into three major levels of farming production: household smallholdings, private farmers, and shirkats. In fact, they argued, taking into account second crop land tenure, forms of farming are becoming more complicated. The authors also touched the issue of corruption and bribery in the cotton sector, arguing that they are higher in shirkats, than in private farms. Corruption may exist for the sake of the fulfilment of a plan implemented often thanks to the illegal trading of cotton.

Ian Houseman, in his paper "Demonstration and Advisory Services in the Cotton Sector – A Case Study in Ak Altin, Uzbekistan," shared his experienced and observations during his work with the ADB funded Technical Assistance project, Institutional Support for Sustainable Agricultural Development.

Panel 6 focused on the **Socio-Political Context**. Tashpulat Yuldashev presented a paper entitled "Uzbek Cotton: On the Crossroads of Vested Interests." One of the obstacles in achieving higher productivity in Uzbekistan is the priority of vertical and monopoly relations over market relations. The existing procurement system makes the farmers losers, and those associated with key management institutions winners in the distribution of cotton revenues. The main share goes to a narrow elite circle, while other powerful actors are engaged in illegal redistribution using tricks such as misreporting on fibre output from the raw cotton: from every three tons of cotton wool it is possible to produce 1,100 kg of lint, not 1,000 kg as it is usually indicated in reports. Just by these means officials

embezzle around 125,000–130,000 tons of cotton per year, or up to US\$140 million. Another way is to cheat cotton growers when defining the quality grade of the cotton. In 2004 the [REDACTED] (the state owner of most cotton gins) paid US\$235 per ton of the first grade of raw cotton, but the respective prices for the 4th–5th grades is only US\$60–70. The procurers representing cotton gins often challenge fair assessment of the quality of received cotton, and after the first rains assign only the lowest grades. The estimated difference on a national scale is US\$200m. It is hidden from state records and is embezzled by cotton dealers. Further misinformation of official statistics relates to the development of the textile industry. According to official data, for the last three years the textile industry increased to 21 per cent of total output, the manufacturing industry increased to 21 per cent, and the light industry sector processed 24 per cent of cotton lint. This data contradicts the data of cotton lint export, the level of which does not drop. In fact the share of light industry in GDP in comparison with 1990 has five times decreased, and many previously well-to-do textile manufactures have declined.

In his paper “A Caste of Helot Labourers: Special Settlers and the Cultivation of Cotton in Soviet Central Asia: 1944–1956,” J. Otto Pohl presented a very important historical perspective on forced labour in the cotton fields. The history of forced labour in Uzbekistan started with the first national deportations to Central Asia during 1940s, although the labour of special settlers was used in the 1930s as well. The main ethnic groups deported to the region were Karachais (total number 68,938), Crimean Tatars (188,626), Meskhetian Turks (94,955), and Russian-Germans (203,796).

In the last set of papers, **Panel 7**, the **Social and Environmental Impact** of cotton was addressed. Nargis Halimova presented “The Cotton Sector in Tajikistan from Macro-Economic Impact to Social and Environmental Consequences.” Cotton production in irrigated areas remains the mainstay of the agricultural economy in Tajikistan, although suffering low yields according to international standards. The agricultural sector employs 52 per cent of total labour force and contributed 21.6 per cent of the GDP in 2004. Cotton is a monoculture in the agricultural sector and along with other products like aluminium, electricity, mineral products, and precious stones, it is a main export product. Despite high demand for cotton, farms fail to pay credits on time and get indebted (US\$186,016,155 owed as of 1 September 2004). Debts grow and profits from farmers’ harvests go only to the repayment of debts. The gender issue is unavoidable in the cotton sector. The majority of the male labour force are immigrants, about 620,000, according to IOM. About 90 per cent of the labour force are women. At the same time out of 7,173 private farms in Khatlon Oblast, women head only 240 or 4 per cent. In Sugd Oblast the respective figures are 239 or 5 per cent. Studies indicate

the link between cotton and poverty. The poverty rate is 78 per cent and 64 per cent in cotton cultivating Khatlon and Sugd compared to 49 per cent and 45 per cent in Dushanbe and the Districts of Republican Subordination (to the east of Dushanbe) respectively.

Since 1996, under a programme of land reform, Tajikistan reorganized its large collective and state farms (kolkhozes and sovkhozes). Members of reorganized farms are acknowledged as shareholders by law and are given land plots with inherited land use rights (According to the Constitution of Republic of Tajikistan, land is state ownership). For the last 15 years, growing cotton as a monoculture with no practices of crop rotation has resulted in soil degradation and the destruction of soil structure and fertility. Soil degradation has affected about 97.9 per cent of the territory of the republic. Annually about 50 thousand hectares of cultivated lands are exposed to various degrees of desertification. The current poor functioning of irrigation and drainage systems results in soil salinization and waterlogging. Arable lands have become bogs which may create ecological refugees. However, despite all these problems at present Tajikistan cannot convert from cotton in the near future as it brings stable foreign currency to country and has demand in the world market.

Akhmad Hoji Khoesmiy's paper "Impact of the cotton sector on soil degradation" focused on environmental issues. He discussed the excessive use of agrochemicals in Uzbekistan as a means for increasing the yield of cotton. 70–90 per cent of cotton production in Uzbekistan relies on the use of agrochemicals, specifically on pesticides. But only one per cent of pesticides employed actually fight plant pests and diseases with the rest causing soil degradation. In the 1990s, 85,000 tons of pesticides were supplied centrally and used annually. Due to financial difficulties, the use of pesticides has gone down by about 15–20 per cent to 50,000 tons per year, but official statistics do not reflect the fact that farms buy the chemicals independently. The author called for the wider use of organic fertilizers, echoing the recent innovation for cultivating organic cotton.

Elliott Cannell's paper, "The Role of Children in Uzbekistan's Cotton Harvest," complemented the discussion of the social aspects of the cotton sector by focusing on the practice of mass mobilization of children orchestrated by the Uzbek state. According to UNICEF, 22.6 per cent of 5–14 year-olds children (or 1.4 million children) are annually sent to cotton fields at the expense of their education and personal development. They are kept during the harvest season in badly equipped and cared barracks and are very often underpaid. Many return home as debtors, not contributors, to their family budgets.

At the conclusion of the conference a roundtable was held. It was noted that the lack of a unified concept of comprehensive reform in the cotton sector weakens advocacy for reform. IFI missions in the region are forced to be very cautious and humble in dealing with governments which do not demonstrate

commitment and interest in reform. Regional governments do not even desist from the closure of IFI offices, as they continue moving towards being isolated from the international community. It was agreed that although the conference is unable to present such a unified concept, its members can progress toward it. They may do so by building their own professional network, including representatives with complementary expertise, from academics and consultants to IFIs to NGO activists. Each member of this network would be encouraged to use their own access to policy makers in promoting the reform agenda.

Note

1. David Stark and Laszlo Bruszt, *Postsocialist Pathways: Transforming Politics and Property in East Central Europe*, Cambridge, Cambridge University Press, 1998.