



# Technical Assistance Consultant's Report

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Project Number: 37536  
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## Uzbekistan: Implementation and Monitoring of Policy Reforms in the Agriculture Sector

Prepared by ScanAgri Sweden AB

For the Asian Development Bank

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Asian Development Bank



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December, 2008

Republic of Uzbekistan:  
Implementation and Monitoring of Policy Reforms  
in Agriculture Sector

Final Report

Asian Development Bank

## ABBREVIATIONS

ADB	–	Asian Development Bank
BISA	–	Basin Irrigation System Association
Dehkan Fund	–	Fund for the Support of Peasantry and Farmers
DRC	–	Domestic Resource Cost
EBRD	–	European Bank for Reconstruction and Development
EU	–	European Union
FLM	–	Fertilizers and Lubricant Materials
GDP	–	Gross Domestic Product
Hakimiyat	–	Local administration
ISD	–	Irrigation Systems Department
LIP	–	Land Improvement Project
M&E	–	Monitoring and Evaluation
MAWR	–	Ministry of Agriculture and Water Resources
MFI	–	Microfinance Institution
MOE	–	Ministry of Economy
MOF	–	Ministry of Finance
MTP	–	Machine and Tractor Park
O&M	–	Operations and Maintenance
OECD	–	Organization for Economic Co-operation and Development
Raion	–	District
RCGF	–	Romanian Rural Credit Guarantee fund
ROSCAS	–	Rotating Savings and Credit Associations
TA	–	Technical Assistance
UN	–	United Nations
USD	–	United States Dollars
USZ	–	Uzbekistan Suoms
VAT	–	Value Added Tax
WB	–	World Bank
WIS	–	Welfare Improvement Strategy
WTO	–	World Trade Organization
WUA	–	Water User Association

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\$1.00 = 1300 UZS

In this report, "USD" refers to US dollars.

## DISCLAIMER

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## I. INTRODUCTION

1. The Asian Development Bank and the Government of Uzbekistan agreed to implement the Technical Assistance (TA-4820, UZ), entitled “Implementation and Monitoring of Agriculture Sector Reforms” as part of a loan and technical assistance (TA) package designed to support the progressive development of the agriculture sector. The TA commenced in July 2007.

The TA is part of a package that includes the Land Improvement Project (LIP). Under this project loan the agriculture reform process will be further expanded through a relaxation of state cotton and wheat quotas in an additional nine raions as well as investing in land improvement.

2. The general purpose of the TA is to promote and facilitate the implementation of agriculture sector reforms, through an analysis and review of the policy framework and monitoring capacity. Specifically, the objectives of the TA include:

- i) An impact assessment of reforms to date and the identification of priorities for further reform;
- ii) The design and implementation of a consultative/participatory process to agree a strategic framework (roadmap) for further reforms including all stakeholders;
- iii) Formulating a phased program of policy and institutional change;
- iv) The establishment of a monitoring and evaluation system to track the change process;
- v) Designing and implementing measures to raise the awareness of reforms.

3. The TA has been implemented in three phases. Phase 1 covered the period July-December 2007 and addressed the assessment of reforms to the end of 2007. The key activities during this phase included several specific field surveys based upon a sample of 17 raions. The specific surveys include i) a survey of farm income and expenditure, ii) a survey of input supply services and raion administrations, iii) focus group discussions on gender issues, iv) a survey of selected Water User Associations (WUAs), v) an analysis of the agricultural credit situation, and vi) a review of commodity processing and marketing arrangements, especially for cotton. Each of these surveys/reviews is the subject of a separate report whose findings have been drawn upon to prepare this final document.

Phase 2 from January –June 2008 covered objectives (ii), (iii) and (v). During this period the TA undertook a detailed consultation process involving raion level workshops held in each of the sample of 17 raions. This consultation process involved over 900 participants across the country. Individual reports on each of the raion workshops have been prepared. This consultation process was supplemented by a women’s forum designed to allow women farmers to express their views on the need for further reform. This forum was held in

Tashkent and included some 70 women farmers and women's business leaders led by the Deputy Prime Minister for women's affairs.

4. These workshop and forum reports were consolidated and form part of the proceedings of a national level seminar dedicated to a discussion of agricultural reforms held in Tashkent in June 2008. In addition to an impact assessment, the workshops also provided the basis for the formulation of a set of proposals for a phased program of further reforms over a period of five to six years. These proposals also formed part of the proceedings of the national seminar.

Phase 3 has been concerned with refining the proposals for further reform based upon the discussion and comments received during the national seminar. A clear way forward has been formulated taking into account the various policy options. In addition, Phase 3 has reviewed the monitoring and evaluation capacity of the various agencies concerned with the performance of the agriculture sector, especially the Ministry of Economy (MOE), and has supported the need to strengthen monitoring performance with the provision of 50 computers to the MOE cells at the raion level. The Monitoring and Evaluation (M&E) report has also been prepared as a separate document.

5. The framework for much of the survey work is shown below in Table 1. The baseline survey used a sample of approximately 850 farms in 17 raions. This survey framework divided farms into leasehold and dekhan categories within the selected raions. The selected raions were also divided into three groups, based upon different levels of policy concessions introduced over the previous five years. Six raions had received concessional procurement quotas for at least five years, five raions have had similar concessions for more than two years and seven raions have functioned without any policy concessions. The intention was to highlight any specific impact of these policy concessions<sup>1</sup> but it has become evident that the groupings provide relatively little insight into policy impacts for reasons discussed in the text.

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<sup>1</sup> The selected raions have been grouped accordingly:

Group 1, with five years concessions include, - Ellikala, Marhamat, Nishan, Sherabad, Ak-Altin and Ahangaran.

Group 2, with two years concessions include, Zamin, Kuychirchik, Kattakurgan, Saihunabad, Yazyavan and Bukhara.

Group 3, with no concessions include, Jandor, Kiziltepa, Mingbulak, Kamashi and Hanka.

**Table 1: Baseline Survey Sample by Type of Farm and Group**

Type	Group 1	Group 2	Group 3	Total by raions
	Number			
Plant-growing dehkan farms	84	70	84	238
Plant-growing leasehold farms	126	105	126	357
Livestock dehkan farms	36	30	36	102
Livestock leasehold farms	54	45	54	153
<b>Total</b>	<b>300</b>	<b>250</b>	<b>300</b>	<b>850</b>

Source: TA Team

6. This final report has been structured to cover all the key elements of the agricultural reform process and to provide a clear agenda for further reform. Section II provides a brief historical review of the reform process and its impact on aggregate sector performance, principally in physical terms. Section III focuses on the economic performance of the sector at the farm, raion and national levels. The following sections cover specific aspects of reform, such as land tenure, water management, especially irrigation systems, inputs supply, agricultural credit and marketing outlets and taxation on agriculture. Although discussed separately, these elements form a policy matrix which should be addressed as an integrated set of activities. These sections are followed by an institutional assessment, and sections containing detailed proposals for further agriculture sector reforms in the form of a phased program. The final section considers the monitoring and evaluation issues within the agriculture sector.

## **II. BACKGROUND TO AGRICULTURAL REFORMS**

### **A. Strategic Framework**

7. In 2006, Uzbekistan Gross Domestic Product (GDP) was estimated at 20759 bln soum which translates into a per capita GDP of about \$590. The economy remains predominantly rural with over 55% of the population largely dependent upon agriculture for their livelihood. The agriculture sector accounts for 21% of GDP and about 25% of export earnings.

Since independence in 1991, Uzbekistan has passed through three phases of economic growth. From 1991-94 the economy contracted by an average of about 7% per annum as linkages with the soviet economy were severed. From 1995-99 a degree of stability was achieved although economic growth, on average, remained a very modest 1.1% per annum. Since 2000 the economy has grown at an average rate of over 5% per annum. This improved performance is encouraging, but analysis suggests that further reforms are needed if the economy is to realize its potential and thereby provide sufficient employment opportunities for its youthful population, especially in rural areas, and if the benefits of growth are to be distributed more evenly.

8. Macro-economic policy in Uzbekistan has two basic themes. One is the creation of a more diversified economy than was evident under the soviet system, when Uzbekistan was considered a provider of agricultural commodities, notably cotton. The intention has been to create a broader industrial base. The second theme has been to ensure a high degree of self sufficiency, particularly with regard to basic food production and energy production. Both these resources are regarded as crucial to maintaining stability within the country, which is a fundamental objective of government policy.

Implementation of this strategy is based upon an industrial program that is designed to substitute for capital intensive imports. Since foreign direct investment in the program has been strictly limited much of the capital required has had to be found from domestic resources and foreign exchange earnings. This has necessitated the transfer of resources from the agriculture sector to industry. The prime instruments have been the taxation of agriculture and the use of foreign exchange earnings generated by the export of cotton. Historically, the transfer of resources out of agriculture has been as high as 4% of GDP. Inevitably, this means that the agriculture sector has been under-resourced and its asset base (both man-made and natural) has been deteriorating.

9. The argument for changes in policy rests upon the weaknesses in the above strategy. Firstly, the drive for foreign exchange has resulted in the structure of the economy becoming too dependent upon a small number of Government controlled primary commodities. Policies are focused upon sustaining Government and foreign exchange revenues at the expense of any

marked improvement in household, especially rural household, welfare. The appropriate balance between household and Government income streams is not being maintained. Secondly, the historically high implicit taxation of the agriculture sector has had a number of adverse consequences. Investment in the agriculture sector has declined dramatically (net investment has been negative) and the asset base has deteriorated. This deterioration extends not only to sector infrastructure but also to its natural resources. Recognition of this deterioration is evident in recent Government support to farmers in poor soil quality areas. Thirdly, poverty levels have changed little in the past six years, down from 27.5% in 2001 to 25.8% in 2006. Rural poverty levels have remained static at around 30%. Fourthly, the benefits achieved by industrialization have been modest and have been captured by a relatively small proportion of the population. Without much direct foreign investment or management expertise many industries have struggled to stay competitive. The textile industry is an example of an industry that should be internationally competitive but this is clearly not the case. Its export earnings are insignificant. The employment opportunities created by the industrialization policy have been well below expectations and have had little impact in rural areas. For all of these reasons policy adjustments are needed to revitalize the agriculture sector, to reduce the dominant role of state funding of agriculture and provide incentives for private investment in agro-businesses in rural areas.

10. In recent years, external demand for cotton, energy and gold, which account for 70% of export revenues, has been strong, and largely accounts for the overall improvement in economic performance. But such a narrow growth base carries substantial limitations and risks. The main risk is that world prices could weaken. In addition, the Uzbek economy has to remain competitive in international markets. Although demand for cotton has been firm, Uzbekistan has lost market share in the global economy. A more sustainable long-term strategy would be to place less emphasis on this very small number of commodities and diversify the agriculture sector to reduce its vulnerability to both variations in cotton prices and a relative loss of competitiveness.

The limitations of such a narrow base also include the limited employment opportunities and the lack of impact or added value on the rest of the economy. Energy and gold production employ relatively small numbers. Cotton has the potential to add value within the economy, but can only do so if the downstream textile industry remains competitive in international markets. Currently, the textile industry is not a significant exporter; most cotton is exported as cotton lint. These limitations mean that recent economic growth points have contributed little to poverty reduction or a more equitable distribution of the benefits of growth. Consequently, poverty levels, even using the Governments own narrow definition, remain high.

11. To achieve higher growth rates in the rural economy and a broader distribution of the benefits of economic growth, especially into rural areas, it is argued in this report that a fundamental adjustment to current strategy is needed. The industrial sector cannot continue to rely upon the agriculture sector for a large part of its capital requirements. The strategy is

simply not sustainable; the agriculture sector will eventually collapse from lack of investment. This is particularly the case when the agriculture sector is highly dependent upon capital intensive infrastructure such as complex and expensive irrigation systems. Policy adjustments that encourage private investment in farming and promote growth in farm household incomes should be given greater prominence.

It is possible to combine a vibrant agriculture and rural sector growth with required levels of state revenue and foreign exchange earnings. It would be preferable for industrial strategy to make more use of direct foreign investment and global technologies, for example in the cotton processing industry. This would make it easier to reduce the implicit taxation burden on agriculture. Similarly, faster growth in rural incomes would raise the potential tax return from the agriculture sector and at least sustain foreign exchange earnings.

12. The key elements of a reform strategy should be, i) improved access to sector assets, land and water, so that the best farmers have the opportunity to expand their holdings, ii) a greater reliance on market incentives (pricing of inputs and outputs), rather than administratively determined prices ; this would motivate farmers to improve productivity and allow more choice of market outlets, iii) diversification of the agricultural economy to allow more intensive but technically sound crop rotations iv) a reduction in state controls over cropping systems and state funding of agricultural production; and v) much more emphasis on private investment in the sector.

13. In 2006 the Government finalized its Welfare Improvement Strategy (WIS) for the economy as a whole. This strategy contains stated policy objectives for the agriculture sector as follows:

- 1) Strengthen the role of private farmers, including the long-term lease rights to encourage farmers to effectively use and make long-term capital investments to improve land quality;
- 2) Facilitate the ability of dekhkan farms to increase the size of their land plots;
- 3) Increase capital investment in the rehabilitation of irrigation and drainage systems;
- 4) Improve the efficiency of water resources management. Implementation instruments of water resource management will include: i) measuring irrigation water supplies, ii) a payment system for water, iii) an investment program and iv) support for Water User Associations (and other water management institutions);
- 5) Gradually reduce the area of cotton cultivation and state procurement especially in low-yielding lands;
- 6) Introduce improved methods of settlement of accounts between the state and farmers for procurement of cotton and wheat;

- 7) Promote new forms of cooperation between farmers for the storage and processing of fruits and vegetables, meat and dairy products;
  - 8) Promote and sustain improved terms of trade for agricultural products through appropriate prices and better access to essential material and technical resources;
  - 9) Improve private farmers' access to credit resources and financial services;
  - 10) Provide state support for breeding improved crop varieties and livestock;
  - 11) Lower taxation levels generally and enhance the role of land tax;
  - 12) Provide Government support to various forms of farmer training;
14. In terms of the direction of policy reforms there is very little difference between the Government designed strategy outlined above and that proposed in this report. The crucial need is to translate the proposed direction into agreement on a phased reform agenda; in other words a workable plan of action. This document provides such a plan in its final section.

## B. Historical Review

15. Table 2 summarizes recent performance of the agriculture sector.

**Table 2: Macroeconomic Indices of Agriculture Development, in 2004-2006**

Indices	2004	2005	2006
Agricultural GDP, billions sums	4615.8	5978.3	7314.0
Including:			
-Crop Cultivation	2432.1	3323.1	4165.0
-Livestock Products	2183.7	2655.2	3149.0
Share of agriculture in GDP of the country, %	26.4	25.0	24.1
Production structure by types of ownership			
Governmental, %	0.6	0.5	0.1
Non-governmental, %	99.4	99.5	99.9
Investments volume in agriculture, billions sums	113.6	137.9	165.7
Investment share in agriculture in total volume of investments, %	4.3	4.4	4.1
Population, employed in agriculture, 000	3035.2	2967.4	2935.9

Source: State Statistical Committee

16. Since Uzbekistan gained its independence in 1991, there have been significant policy and management changes in the agriculture sector. There have been several organisational changes, that are discussed later, but the major reform has been the restructuring of former soviet era state and collective farms; from 1990 until 1998, 1,424 collective and state farms were reformed into different types of non-state farms.

During the first stage of reforms these farms were converted into various forms of cooperative, mostly “shirkats” in which all employees had a shareholding or were divided into various types of individual farm with the state retaining ownership of the land.

Shirkats, essentially, became a collection of production units (pudrats) operated by a group of families, under the overall management of the head of the shirkat. The hope was that these units would have the incentive to improve productivity but the cooperative structure did not provide the individual working units with any added incentives other than to use the assets of the shirkat for their own benefit. Consequently, shirkats had a variable performance record. A small minority performed well but the vast majority either were only marginally profitable or have incurred substantial financial losses, which have been written off, periodically. From 2001 onwards, government began the process of transforming the shirkats into private farms.

17. In 2003 the legal framework for the second stage of farm restructuring was put in place. The intention was to transform shirkats into leasehold private farms whose new incumbents are expected to improve upon their previous performance. The new leasehold farmers have been selected on a points system administered by a commission chaired by the respective raion akim. Most of these new farms are 35-50 hectares in size. There are now some 220,000 private leasehold farms cultivating about 3.2mill. ha of irrigated land which have been created out of the shirkats. Thus, by the end of 2007, all shirkats had been restructured.

The land use rights of these leasehold farms appear to give a reasonable level of security to encourage private investment, but account needs to be taken of the terms and conditions under which the leasehold can be rescinded. The leasehold right is linked to the fulfilment of state procurement quotas for cotton and wheat. This gives local administrations considerable influence over the tenancy if the farm does not perform as required. In effect, Government has used the leasehold right as a means of selecting farmers who are able to achieve a required standard of performance. The maximum lease period is 50 years, with the state retaining ownership of the land.

18. Given the former land:labour ratio on shirkats it is inevitable that some families have lost out in the process of restructuring; they have not received land in the reallocation process. Some of these families have received small land parcels to add to their original household plots, but the total irrigated land area of these dekhan farms cannot exceed 0.35ha. There are now 4.4million dekhan farms occupying about 501,000ha of agricultural land.

Thus, reforms to date have resulted in essentially two types of farm holding. One is the leasehold farm; in total they account for about 82% of irrigated land. The second is the dekhan farm which, collectively, account for about 14 % of irrigated land. A small residual amount of irrigated land remains as specialised enterprises or state holdings.

19. The two types of farm are governed by different regimes. The leasehold farms are required to meet strict Government quotas for cotton and wheat output and are provided with a supporting structure of suppliers and credit facility which is also subject to strict conditions. The dekhan farms are free to grow crops of their choice and do not have access to specific service providers. They are expected to utilize more commercially oriented services.

This farming structure has required related changes in water and irrigation management. A new approach to the delivery of irrigation water is being implemented based upon the river basin model and promotion of water user associations. Changes have also taken place in the way that farms are provided with inputs, especially seasonal credit. More recently, Government reforms have focused upon relaxing controls over the various marketing enterprises serving the agriculture sector. These changes are discussed in later sections of this report.

## **C. Sector Trends**

### **1. Agriculture/Irrigated Area**

20. Historically, the agriculture sector has utilised about 28.0 million ha or 63% of the total area of the country. Due to the low precipitation regime 23.6 million ha are classified as low productive pastures and 4.4 million ha are, potentially, irrigated land. More recently, the amount of land actually utilised has declined significantly as the livestock sub-sector contracted. It is estimated that a little more than 17 million ha of land is now actually used by the sector.

Not all potentially irrigable land is actually serviced and cultivated due to high soil salinity levels and other environmental problems in some areas. Since the early 1990s the area actually cultivated/irrigated has fallen from 4.2 million ha in 1991 to 3.69 million ha in 2007, a loss of more than 0.5million ha or about 12% of the cultivable area. This is a general indicator of the technically unsustainable nature of much of the agriculture sector.

**Table 3: Trends in Agriculture Land Use, 1990-2007 ('000 ha).**

	1990	1995	1998	2000	2002	2003	2004	2005	2006	2007
Agricultural land total	33,167.8	24,788.3	20,119.2	20,505.0	20,259.2	17,418.2	17,391.0	17,346.2	17,288.0	17,294.4
Including arable land ths. ha	4126.5	4074.7	4059.1	4037.9	4033.4	4031.3	4021.2	4026.2	4034.1	4041.9
Area of the irrigated land used in agriculture sector	4464.3	4165	4029.7	3778.3	3540.8	3695.7	3689.4	3687.5	3691.2	3698.7

Source; State Statistical Committee

21. Uzbekistan is characterized by the fact that 95 % of agricultural output is produced on irrigated land. The irrigated lands are primarily associated with the Aral Sea basin, especially the floodplains of the Syr Darya and Amu Darya. Since 1991, the effectiveness and the efficiency of irrigation systems have deteriorated resulting in the loss of irrigation command area. Major losses of irrigated land have taken place in Samarkand, Tashkent, Kashkardarya and Dizzakh oblasts as shown in Table 4 below.

**Table 4: Distribution of Irrigated Land by Oblast (2007), ('000 ha)**

Oblasts	1990*	2004	2005	2006	2007
Republic of Karakalpastan	456.2	460.8	460.3	459.7	459.8
Andijan	242.5	226.2	226.3	226.6	228.0
Bukhara	297.6	225.4	225.1	226.0	225.8
Djizzakh	465.9	273.1	272.7	272.7	274.2
Kashkadarya	699.2	450.8	452.1	455.2	456.0
Navoi	-	106.4	106.2	105.9	105.8
Namangan	224.6	234.1	234.4	234.2	235.8
Samarkand	533.0	307.9	306.9	306.6	307.1
Surkhandarya	316.0	272.8	272.5	272.1	272.0
Syrdarya	306.3	272.7	271.6	271.2	271.7
Tashkent	382.5	331.8	332.1	332.9	333.6
Ferghana	302.6	292.3	292.8	293.4	294.0
Khorezm	237.9	235.1	234.5	234.7	234.9
Total in Uzbekistan	4464.3	3689.4	3687.5	3691.2	3698.7

\* arable land

Navoi oblast in 1990 was then part of Bukhara oblast

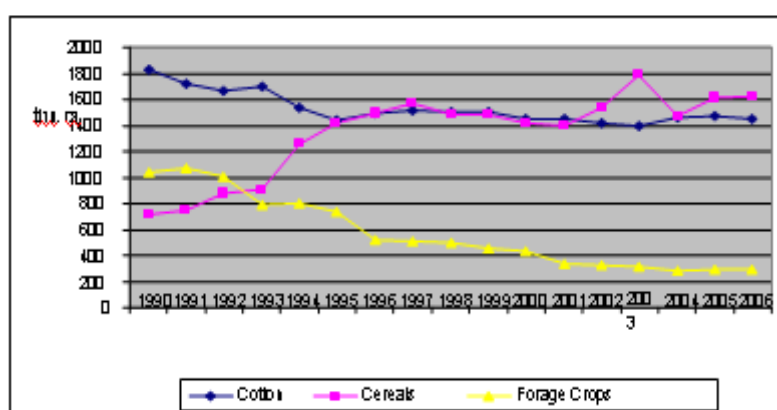
Source: State Statistical Committee

## 2. Cropping Pattern

22. Significant changes have taken place in the cropping pattern during the years since independence. The area of grain crops, especially wheat, has increased significantly, partly at the expense of a decrease in industrial crops, mainly cotton, but mostly at the expense of a reduction in the area of forage crops. The recent loss of irrigated land and deterioration of the natural resource base is often attributed to the dramatic fall in the forage area and implied unsustainable cropping pattern.

23. Cotton and wheat remain the dominant crops, grown on about 80% of irrigated land. The area of the main crop, cotton, has fallen from 1.7 mill. ha to 1.45 mill. ha, a reduction of 15%. On the other hand the quest for self sufficiency has increased the area of wheat to 1.45 mill. ha in 2006, an increase of more than 1.0 mill. ha over the 1990 level. This increase has been achieved mainly at the expense of fodder crops such as lucerne. See Figure 1.

**Figure 1: Area of Main Crops, 1990-2006**



Source: Based on national agricultural statistics

The area used for fodder crops has fallen to 0.3 mill. ha, from 1.06 mill. ha in 1990. This change has had several consequences, the most notable being the breakdown in crop rotations, which is discussed in the following paragraph. Other consequences have been a marked decline in livestock feed production associated with a reduction in consumption of livestock products and a decline in the real value of aggregate agricultural output.

## 3. Land Quality Levels

24. The general impact of the cropping pattern on land quality levels is shown in the following Table 5. Land quality is measured by a formula known as the bonitet value. Broadly this value has five classes defining the quality of land from poor to excellent. In Uzbekistan as a whole this value declined from 58 to 55 during the decade 1990 to 2000, and has continued to decline in more recent years, signifying a general deterioration in land

quality. However, some oblasts have suffered much more significant declines. Those oblasts where the irrigated area has declined most are also those with a significant loss of land quality. For example, Tashkent oblast bonitet value fell from 66 to 59 and that of Samarkand from 67 to 57.

The significance of these values lies in the fact that they are used as a basis for determining individual farm production quotas within the context of technological maps. Many farmers feel that these physical indicators have not kept abreast of the deterioration in land quality and that therefore productivity expectations, as reflected in their crop quotas, are too high.

**Table 5: Trends in Land Quality (1990-2000)**

Oblasts of the Republic	Years	Total irrigated lands, ths. ha	Including in proportions					Average bonitet point
			1-2 class (0-20 points)	3-4 class (21-40 points)	5-6 class (41-60 points)	7-8 class (61-80 points)	9-10 class (81-100 points)	
Republic of Karakalpakstan .	1990	472.3	-	54.6	37.7	7.0	0.9	44
	2000	463.2	6.4	61.2	25.6	6.8	-	41
Andijan	1990	233.7	0.4	14.6	40.7	40.6	3.7	60
	2000	228.3	0.43	17.97	40.4	40.4	3.8	60
Bukhara	1990	227.3	0.14	28.2	22.96	42.2	0.5	58
	2000	229.3	0.14	28.8	22.96	40.0	0.2	53
Djizzakh	1990	270.8	4.6	21.4	40.8	30.1	2.9	53
	2000	255.8	0.03	16.0	69.27	13.7	1.0	50
Kashkadarya	1990	450.7	-	14.8	59.1	22.7	3.4	54
	2000	452.3	-	19.5	62.1	16.4	2.0	51
Navoi	1990	107.9	-	23.1	32.9	40.5	3.5	59
	2000	108.1	6.6	27.1	34.1	30.8	2.0	52
Namangan	1990	234.6	0.5	20.6	29.4	33.3	16.2	66
	2000	236.1	0.09	28.2	35.5	28.0	8.2	59
Samarkand	1990	284.0	0.02	6.18	37.7	41.3	14.4	67
	2000	279.3	0.013	11.08	51.7	31.4	5.8	57
Surkhandarya	1990	284.0	0.06	10.2	24.84	40.5	24.4	68
	2000	279.3	0.7	22.8	39.5	30.7	6.3	60
Syrdarya	1990	275.7	0.02	25.7	40.1	33.8	0.5	53
	2000	273.9	0.05	29.7	54.75	16.5	-	49
Tashkent	1990	339.6	-	23.0	35.3	35.5	6.2	66
	2000	337.5	-	31.8	45.6	17.9	4.7	59
Ferghana	1990	296.6	0.06	5.5	28.4	35.4	30.7	66
	2000	296.0	0.5	24.8	38.7	34.0	2.0	56
Khorezm	1990	216.8	0.6	17.1	30.0	30.2	22.1	54
	2000	240.2	0.7	17.5	32.5	32.3	17.0	54
<b>In republic</b>	<b>1990</b>	<b>3709.4</b>	<b>0.2</b>	<b>20.8</b>	<b>34.8</b>	<b>34.9</b>	<b>9.3</b>	<b>58</b>
	<b>2000</b>	<b>3729.5</b>	<b>0.3</b>	<b>26.4</b>	<b>44.5</b>	<b>26.0</b>	<b>2.8</b>	<b>55</b>

Source: Ministry of Agriculture and Water Resources

25. Much of the loss in land quality is the result of an increase in soil salinity. The following Table 6 highlights the substantial rise in soil salinity levels over the 1990-2000 decade. In Uzbekistan as a whole, the proportion of irrigated land affected by salinity has increased from 48% to 64%. Almost a third of irrigated land is now classified as medium to strongly saline. This situation has major implications for future crop productivity levels and for water management. Large amounts of water are used to simply flush salts out of the soil before any crop can be grown; even then, raising crop productivity levels to international standards will be difficult in many areas.

**Table 6: Trends in the Level of Salinity of Irrigated Lands by Oblast (1990-2000)**

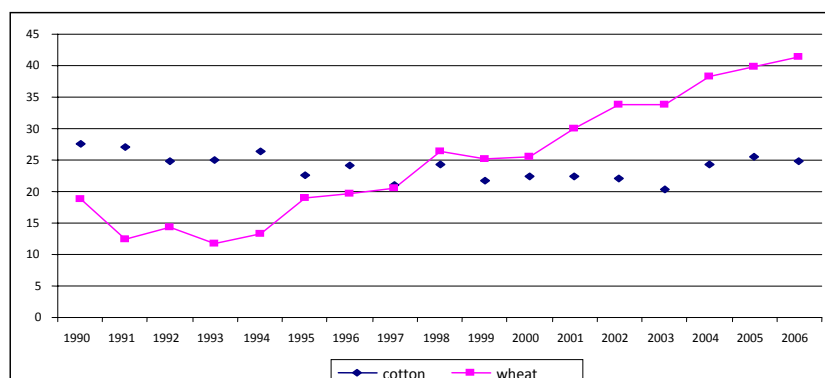
Region	Years	Distribution of lands on the level of salinity to the total area of irrigated lands			Total salinity lands
		Weak salinity	Middle salinity	Strong salinity	
1	2	3	4	5	6
Republic of Karakalpastan	1990	36.6	40.2	16.3	93.1
	2000	23.9	32.8	30.9	87.4
Andijan	1990	20.8	8.4	2.3	39.6
	2000	22.6	8.8	2.1	33.8
Bukhara	1990	58.4	25.1	7.2	90.7
	2000	54.9	21.0	13.6	89.5
Djizzakh	1990	23.1	7.5	3.1	33.8
	2000	36.6	27.5	14.1	78.2
Kashkadarya	1990	36.1	16.9	6.3	59.3
	2000	48.0	14.0	7.0	68.9
Navoi	1990	17.1	70.2	3.2	90.1
	2000	46.1	18.1	6.2	70.4
Namangan	1990	11.7	7.3	2.8	21.8
	2000	21.6	7.7	5.5	34.9
Samarkand	1990	11.0	1.6	0.0	12.6
	2000	33.7	6.4	1.5	41.6
Surkhandarya	1990	22.7	15.6	2.5	40.8
	2000	38.8	17.0	8.1	63.9
Syrdarya	1990	45.9	21.0	13.6	80.4
	2000	42.3	25.6	17.86	85.7
Tashkent	1990	8.4	0.8	0.1	11.4
	2000	20.0	3.9	1.6	25.5
Ferghana	1990	10.8	3.5	0.91	15.2
	2000	36.5	22.8	14.5	73.8
Khorezm	1990	50.8	15.2	6.3	72.3
	2000	44.5	21.1	9.7	75.2
In republic	1990	27.0	15.9	5.4	48.2
	2000	35.0	17.9	11.2	64.0

Source: Ministry of Agriculture and Water Resources

#### 4. Crop Productivity Trends

26. The national average yields of cotton and wheat are low by international standards. Cotton yields declined steadily from an average of about 2.7 t/ha in 1991 to about 2.2 t/ha in 2003. Since then, the national average cotton yield has increased again. The average yield for the period 2004-2006 has been 2.5 t/ha, and the prognosis for 2007 is 2.65 t/ha. However, by international standards productivity levels remain relatively low; the recent three year cotton average of 2.5 t/ha compares to an international average of 3.2 tons/ha. The Ministry of Finance (MOF) calculates that a cotton yield of 2.6 t/ha is the break-even yield; the point at which cotton becomes profitable. This break-even yield level is not achieved by many raions implying that many cotton growers are making a loss.

**Figure 2: Productivity of Cotton and Wheat on Irrigated Land, ct/ha**



27. The trend in wheat yields has been increasing since the mid-1990s, partly because more wheat is being irrigated. In the period 2004-2006 wheat yields have averaged 4.15t/ha, compared to less than 2.0t/ha in the early 1990s when large areas of rainfed wheat were cultivated. However, irrigated wheat yields again remain low by international standards partly reflecting the difficulties in sowing wheat after cotton; there is usually too little time to undertake appropriate operations and prepare a good seedbed. For best results, winter wheat should be sown by early October, but cotton is still being harvested into November. It is therefore quite common for winter wheat to be sown into a standing cotton crop, a practice that is not conducive to high productivity. In parts of Uzbekistan, where wheat does not have to be grown after cotton, yields of 6 to 7 tons /ha are being achieved.

28. Crop productivity levels within the selected raions, included in the farm survey, are shown below in Table 7.

A critical point arising from the table is the quite significant geographical variation in productivity levels. Cotton yields in Sherabad raion are almost half those in Marhamat raion. Similar differences may be seen in the case of wheat yields. Such regional differences are not unexpected over such a vast country with marked differences in land quality. However, such variations suggest the need for a more flexible and resource oriented approach to the determination of agricultural production priorities than is evident within the current policy regime. In other words, the current state enforced cropping pattern largely ignores regional variations in land productivity.

**Table 7: Productivity of Cotton and Wheat in Surveyed Raions, ct/ha**

Oblasts	Raions	Productivity by years <sup>x)</sup>			
		Cotton		Wheat	
		2004	2006	2004	2006
Republic of Karakalpakstan	Ellikalla	22.2	21.8	32.7	35.7
Andijan	Marhamat	30.4	24.93	58.0	62.6
Bukhara	Jandor	28.1	26.5	50.9	61.2
	Bukhara	32.7	31.7	57.5	63.7
Djizzakh	Zomin	13.5	15.1	20.5	21.4
Kashkadarya	Nishan	21.1	21.8	40.0	52.7
	Kamashi	30.4	27.7	22.3	28.5
Navoi	Kiziltepa	33.3	29.6	42.7	44.6
Namangan	Mingbulak	18.3	18.8	41.4	43.9
Samarkand	Kattakurgan	23.0	23.6	42.3	40.4
Surkhandarya	Sherabad	20.7	24.3	31.2	37.8
Syrdarya	Ak-altyn	15.1	20.8	38.6	35.2
	Saihunabad	19.3	27.4	37.7	45.9
Tashkent	Ahangaran	-	-	28.9	34.1
	Kuychirchik	25.5	27.0	39.4	45.0
Ferghana	Yazayavan	23.5	25.5	45.1	46.2
Khorezm	Hankin	26.7	27.7	38.4	43.0

Compiled by the TA Team from agricultural statistics

29. The above table also offers a pointer regarding the influence of procurement concessions for cotton and wheat. It might be expected that those raions where the procurement quotas have been reduced for a lengthy period, (at least five years), would demonstrate higher productivity levels in response to their potentially wider marketing opportunities. This does not appear to have happened. Productivity levels of the Group 1 raions are lower than those of Groups 2 and 3. However, the Group 1 raions have registered the most improvement in productivity during the period 2004-2006. This result largely reflects the fact that marketing opportunities have not changed to the extent that they have motivated farms to improve performance. This is especially true of cotton production, where the marketing options available to farms have not changed, even though concessionary procurement quotas have been introduced.

30. It is a little early to reach any judgement about the impact of recent farm restructuring on agricultural productivity. The introduction of leasehold farms should, in theory, provide the motivation to improve productivity. However, cotton production in particular is so bound by regulation and controls that any improvement in the incentive structure could prove more apparent than real. Leasehold farms are also encumbered by state production quotas. The data for Kuychirchik raion shown below encourage the view that the transformation from shirkat to leasehold farm may prove beneficial in the long term. Much will depend upon the extent to which policy adjustments can encourage state and private investment to combine to ensure the underlying quality of land and water management.

**Table 8: Trends in Cotton and Wheat Productivity in Kuychirchik Raion**

	2004	2005	2006	2007
Number of shirkats	15	11	4	-
Leasehold farms	379	459	516	1008
<b>Production to the previous year in %</b>				
Cotton	127.0	80.2	147.5	100.7
Wheat	98.0	99.3	108.9	102.2
<b>Productivity c/ha</b>				
Cotton	25.5	26.0	27.0	30.0
Wheat	39.4	42.0	45.0	45.0

Source; Kuychirchik raion

**Table 9: Trends in Crop Productivity by Type of Farm in Kuychirchik Raion (c/ha).**

	Grain			Vegetables			Potato		
	2004	2005	2006	2004	2005	2006	2004	2005	2006
Shirkats (agricultural cooperatives)	39.0	37.3	35.6	151.8	168.1	169.6	103.7	109.7	139.3
Leasehold farms	33.9	38.6	40.3	172.4	181.6	206.2	120.3	132.5	158.6
Dehkan households	49.4	52.2	52.6	219.8	230.7	233.6	164.4	175.2	177.6

Source; Kuychirchik raion

## 5. Technical Resource Efficiency of Agriculture Sector

31. State organisations play an active role in the distribution and redistribution of fertilizers, seeds, agricultural chemicals, machinery and fuel. This level of provision has declined in recent years and is cited by some experts as a reason why agricultural productivity remains relatively low. For example, energy consumption per unit of production in the sector is said to be inadequate. Energy consumption per 100 ha of cultivated area has declined from 656.3 hp. in 1991 to 322.2 hp. in 2005. Similarly, energy consumption in the form of labour has declined from 7.9 hp to 3.2 hp per unit area. In 1995, 11 kg of raw cotton was produced per 1 kg of mineral fertilizer; this indicator decreased to 8.8 kg in 2005. With respect to fuel efficiency the amount of raw cotton produced per 1 kg of fuel and lubricating materials fell from 8.5 kg to 7.3 kg. Technically, cotton production has become less efficient and therefore less competitive internationally as a result of current policies.

Agriculture sector efficiency is also determined by the efficiency with which irrigation water is used. The average volume of irrigation water used per 1 ha of irrigated land varies from 9,600 to 14,000 m<sup>3</sup>. Output of raw cotton per m<sup>3</sup> of irrigation water is equal to 0.25 kg, and for grain it is 0.60 kg. By international standards these physical indicators are low suggesting that the cost of producing a ton of cotton or wheat is high relative to international competitors.

## 6. Livestock Sub-sector

32. At the beginning of the 1990s livestock products accounted for 45% percent of the value of agricultural output. A period of marked contraction followed characterized by a fall in livestock numbers but, more recently, there has been a recovery and gross livestock production is now almost at its former level. However, livestock productivity remains very low. At the same time, statistical data on cattle breeding has become less accurate over recent years due to the increased share of dekhkan (household) farms whose activity is not taken into account fully in the official statistics. Some 93% of livestock (including more than 90 % of cows), 75% of sheep and goats, more than 67% of pigs are concentrated within dekhkan (household) farms. Their share of total livestock output amounts to nearly 90 %; on the other hand, they account for only 22% of fodder crop production (2006). This imbalance is a major factor contributing to low livestock productivity levels and the substantial cost of animal feed in dekhkan farm budgets.

33. Many major livestock enterprises, meat and dairy processing plants, continue working under state control. In some cases, local authorities require them to provide dairy products on concessionary terms to schools, hospitals and other local organizations which have special status. Such covert controls undervalue normal livestock product prices. They create artificial marketing channels to the extent that meat and dairy products sold in local markets may reach there through the food industry. Thus, even though livestock sub-sector production is relatively free from centralized controls it is not maximizing its potential.

34. To realize its potential the livestock sub-sector should be allowed to follow a dual strategy based upon potential productivity levels. Part of the sub-sector based upon dry land farming should be allowed to follow extensive farming systems, largely regulated by the availability of fodder. The main enterprises would be sheep and goats. Another part of the sub-sector should have a focus on relatively high value products such as milk and dairy products for urban markets. This dual strategy calls for quite different approaches to production. Extensive systems use natural pastures whilst intensive systems are based upon irrigated forage. Policies relating to both land and water management need to reflect these different approaches and their differing cost base.

In 2006 annual average milk yield per cow on dekhkan farms was 1,708 liters and on leasehold farms, 978 liters. Both these productivity levels are low, but the more interesting conclusion might be that current policies do not encourage the development of dairy farms in circumstances where they could be financially viable. The data for meat production tell the same story.

In the interest of efficient livestock production the Government should be promoting measures which match natural resource (land and water) availability to specific types of livestock enterprise or farming systems. For example, the integration of fruit production

(orchards) with certain types of livestock can be far more profitable than growing a single arable crop. More flexible policies would encourage such diversification of farming systems.

#### D. Sector Output Data

35. The approximate annual physical output of the agriculture sector is summarized in Table 10 below. Crop output is dominated by cotton and wheat. Wheat production now exceeds national requirements but there is no evidence that Uzbekistan is internationally competitive as a wheat producer. On the contrary, an average wheat yield of 4.5 tonnes /ha using a very expensive water delivery system suggests that Uzbekistan is not internationally competitive as a wheat producer. There are many countries with an average wheat yield much higher than that of Uzbekistan, but which rely solely upon rainfall.

**Table 10: Agriculture Sector Output, (2004-2006)**

	Unit	2004	2005	2006
Raw cotton	thous.tons	3536.8	3749.0	3600.3
Grain	thous.tons	6008.8	6518.0	6639.0
including wheat:	thous.tons	5507.6	6047.0	6094.6
rice	thous.tons	188.1	160.4	213.7
Potato	thous.tons	895.7	916.8	1018.4
Vegetables	thous.tons	3336.1	3494.7	4279.4
Fruits and berries	thous.tons	851.7	937.7	1171.8
Grapes	thous.tons	589.1	635.8	790.4
(Water-) melon	thous.tons	572.5	609.4	740.8
Meat (live weight)	thous.tons	998.3	1060.4	1139.8
Meat (dead weight)	thous.tons	598.2	632.6	679.4
Milk	thous.tons	4280.5	4554.9	4855.6
Eggs	mln.units	1860.3	1966.4	2128.1
Karakul skin	thous.units	674.8	675.2	na
Wool	thous.tons	19.0	20.1	21.4
Cocoons	thous.tons	16.8	16.2	20.2

Source: State Statistical Committee

36. Since 2004 there has been a general modest increase in sector output as yields have marginally improved. Given the reliance of agriculture on irrigation and the dominance of state procurement there is little scope for an extension of the cultivable area. On the contrary, the area cultivated has been declining. The current system is, therefore, highly dependent upon improved productivity as the basis of agriculture sector growth. On the other hand, current policies and farming systems are contributing to the degradation of natural resources and are thereby making it extremely difficult to obtain productivity gains. Without a change

in strategy it is very difficult to see where future sector growth opportunities might come from.

With a change in strategy, there is the prospect that the productivity of leasehold farms could approach that of dekhkan farms or even improve upon their performance. Dekhan farms produce about 1.1mill.tons of grain annually or 18% of the annual average total. It is estimated that approximately 20% of dekhkan farm cereal production is marketed. Production of fruits and vegetables is distributed between leasehold and dekhkan farms in the ratio of 45-50 %. In the case of livestock output dekhkan farms dominate. All the output produced by dekhkan farms is freely marketed at market prices.

If leasehold farms were as productive as dekhkan farms, agricultural output would increase between 35-45%. But, dekhkan farms have the freedom to select their crops and marketing outlets, freedoms not available to leasehold farms. However, dekhkan farms do not have the possibility to expand their landholding. It would seem that a strategy designed to promote significant future sector growth must come to terms with the need to give farmers more freedom to choose their crops and better access to land and water resources.

**Table 11: Agriculture Sector Output by Type of Farm, 2006.**

Output	Shirkats		Leasehold farms		Dehkan households	
	Volume, ths. tons.	Weight, %	Volume, ths. tons.	Weight, %	Volume, ths. tons.	Weight, %
<b>Crop output</b>						
Cotton	489.6	13.6	3110.7	86.4	-	-
Grain	708.6	10.8	4662.5	71.2	1175.6	18.0
Potato	14.6	1.4	108.3	10.6	898.1	88.0
Vegetables	170.7	4.0	1305.4	30.4	2818.0	65.6
Melons and gourds	25.7	3.4	325.7	43.8	392.7	52.8
Fruits and berries	95.1	8.0	487.9	41.2	599.2	50.7
Grape	62.9	7.8	408.3	50.8	332.4	41.4
<b>Livestock output</b>						
Meat (in dead weight)	21.6	3.3	14.3	2.1	643.9	94.6
Milk	35.4	0.7	111.1	2.3	4709.1	97.0
Eggs, mln. units	773.4	36.3	76.7	3.6	1278.0	60.1
Wool (in physical weight)	3.2	15.1	0.9	4.2	17.3	80.7
Astrakhan skins, ths. units	218.5	30.1	31.5	4.3	476.8	65.6
Cocoon	6.4	31.5	13.9	68.5	-	-

Source: Data of State Committee on Statistics of Republic of Uzbekistan.

37. Agriculture sector output varies in different oblasts of the republic. However, not enough consideration is given to regional specificities of soil and climate conditions for growing of certain crops, which is then reflected in the competitiveness of the enterprises and in the development of appropriate infrastructure. Taking into consideration the fact that

Uzbekistan has big export potential of fruit and vegetable output, it is necessary to give greater consideration to regional specialization of production of agriculture crops. Pilot programs have been initiated to promote diversification in specific areas but have been unsuccessful because they were not supported by appropriate credit mechanisms or the necessary marketing infrastructure. The lesson is that changes to current policies and programs require comprehensive support packages for alternative crops.

38. In summary, the following points may be emphasised:

- Reforms in the agricultural sector have contributed to diversification of the different types of farming enterprise and emergence of privately managed farms. Measures have been undertaken to halt the decline of production levels during the last years; since 2000 production volumes of crops and livestock have stabilized or increased marginally.
- Two forms of farming are now well established: leasehold and dehkan farms. Wheat and cotton are the priority crops for most leasehold farms. Only a small number of leasehold farms are dealing with production of vegetables, melons and gourds, grapes and livestock. Production of these commodities is the priority of dehkan farms.
- Dehkan farms, which produce more than 60% of food output, have limited access to land and other resources. This restriction inhibits the rational use of land and the potential of dehkan farms to contribute to agriculture production and rural employment. At the same time, this type of farming is the main source of income for the majority of rural families.
- Wheat self-sufficiency program adopted in 1994 has played a positive role in strengthening the agricultural economy, removing the need for imports and increasing farm incomes. However, as mentioned above, wheat produced in Uzbekistan is not competitive in world markets; there is no justification for cereal production in excess of domestic demand.
- The narrow specialization of the wheat program, where the emphasis is entirely on wheat rather than cereals and underdevelopment of wheat marketing reduce significantly the effects of this program. Consideration should be given to expanding the range of cereals (including barley, maize, and oats, plus legumes and oilseeds).
- Another positive factor has been the increase in production of potatoes, vegetables, fruits, grapes and livestock products. Also there has been some increase in the volume of processing of these products. However, the productivity of these types of agriculture crops and livestock are at a low level.
- The main reasons include breach of sustainable crop rotations. Current situation with land tenure (division of land plots into small farms) does not contribute to the use of previously developed schemes of crop rotation. It is

necessary to develop crop rotations including legumes and oil-bearing crops. This would allow an increase in the fertility of soils, increase farm incomes and improve the forage supply of livestock.

- There is still administrative interference into technological processes of production of agriculture crops and financial activity of farmers. Administrative authorities define the sowing area and heavily influence productivity and gross harvests of cotton and wheat. In many cases local authorities obligate farmers to grow only cotton and wheat on leased land, and the production of other crops is considered as non-purpose use of land with all related consequences – up to the rescinding of lease agreements. However, in the legislative acts there is no definition of the non-purpose use of land, which gives the authorities room to interpret this issue in their own way. This lack of rigour in key legislation creates uncertainty and is a disincentive to investment in farming.
- Equipment is in short supply and energy consumption per capita during the reform years decreased by three times. Establishment of MTPs, including alternative MTPs, and establishment of leasing organizations has had a positive impact. However, high costs of services together with high interest rates of banks make it difficult for farmers to use services and buy equipment. Underdevelopment of agro-technical measures, especially, pest controls, is one of the main reasons of low productivity in the industry.
- Timely delivery and use of irrigation water are key components of agriculture production. The very low cost of irrigated water and poor development of WUAs is a major reason for low effectiveness of water use. There is no mechanism for providing sanctions or incentives for water use. Farmers as well as WUAs are not interested in improved irrigation methods without having any control over application rates and ownership of the infrastructure.

### **III. ECONOMIC PERFORMANCE OF THE AGRICULTURE SECTOR**

#### **A. Introduction**

39. There are a number of dimensions to any analysis of the financial and economic performance of the agriculture sector in Uzbekistan. The most basic is the profitability of the individual farm. The farm income and expenditure survey answers this question in broad terms and with respect to the main crops. However, there are clear differences in crop and farm productivity across the country, which suggest that a degree of specificity is needed when discussing farm profitability.

40. A second dimension relates to this need to match the quality of natural resources to farming systems. The current cotton and wheat regimes, which account for over 85% of the irrigated area, restrict leasehold farmers to centrally determined production parameters that often take inadequate account of the actual quality of natural resources. Consequently, costs of production remain relatively similar even when productivity levels vary by up to 100%. On a raion level, it is possible to compare the amount of state funding made available to cotton and wheat production with the value of the output from these crops. The outcome suggests that the cost benefit ratios vary widely and some raions are obviously not recovering their production costs.

The above conclusion raises questions relating to the sustainability of the state Agriculture Fund, which finances the current cotton and wheat regimes. It is evident that this Fund does not recover its annual outlay in the form of directed credits to producers. The implication is that the Fund incurs an annual deficit, which becomes a budget item. Specific data are not available but it would seem that a typical annual shortfall incurred by the Fund is of the order of 20% of total disbursements.

41. A further dimension relates to the competitiveness of agricultural commodities in international markets. This is of particular significance in the context of the Governments requirement to maintain foreign exchange earnings. In economic terms the country will incur a net loss of output by exporting commodities that farmers have been required to grow but which are not internationally competitive. There are recognised methodologies for assessing international competitiveness, such as Domestic Resource Cost (DRC) calculations but it is possible that in the case of Uzbekistan this relatively simple calculation does not provide an unambiguous answer. This is due to the complex nature of the calculation relating to the economic cost of irrigation water. The provision of irrigation water in Uzbekistan incurs both a delivery cost and an environmental cost. The delivery cost is expensive but is largely a domestic cost. The environmental cost has both domestic and external cost components. The value placed upon the external cost has a significant effect on any DRC calculation.

42. Finally, any assessment of the economic performance of the agriculture sector must include the related issues of food security and poverty alleviation. The sector development

strategy should seek to achieve a balanced approach between the multiple objectives of rural income growth, state revenues and foreign exchange earnings. The available evidence suggests that the current regime gives too much weight to the latter objectives at the expense of farm incomes.

## **B. Farm Level Performance**

43. In the context of the state procurement system in Uzbekistan the debate on the profitability of agricultural activities tends to revolve around the two main crops, cotton and wheat. The question “is cotton or wheat profitable” has tended to create a very simplistic view of sector performance which is not in the best interests of formulating progressive policies. If the answer is “yes,” based upon very simple crop budgets, the standard interpretation is that all is well with current policies and no adjustment is necessary. If the answer is “no,” then possible solutions tend to be framed in terms of generalised adjustments to current policies, such as the removal of state quotas. Whilst such an objective may be a desirable goal, the implications need careful thought. It is necessary to have a very clear view as to what is meant by “profitable” and what measures might create enhanced profitability.

To formulate such a vision requires something more than a simple answer as to whether or not a particular crop is profitable or not. It can be helpful to begin by analysing the costs of production of individual crops, but this type of analysis must then be set in its appropriate context. Firstly, one set of figures cannot do justice to the variation in cost profiles across the country. Consequently, there is a need for a conclusion on what proportion of producers fall below or rise above the calculated “typical cost”. Secondly, the cost of production or profitability of a particular crop is usually only a part of a farming system that comprises a combination of crops and livestock enterprises. In formulating policy adjustments it is preferable to take a comprehensive view of the whole farming enterprise rather than a narrow perspective on one crop. These views are used to shape the arguments relating to agriculture sector profitability.

44. Official data relating to whole farm costs and revenues over a crop year are not available. However, the cost of production of cotton and wheat, and therefore a measure of their profitability, is prepared and used by the MOF in the course of formulating state procurement requirements. These average costs are largely based upon the amounts of directed credit made available for cotton and wheat. These amounts are then divided by the amount of raw cotton produced to give a cost per ton of the produced crop. This cost is then compared to revenue derived from crop sales assuming the average national yield. The difference is the profit or loss.

Estimates of official average cotton and wheat production costs in 2006 are shown in Tables 12 and 13. In the case of cotton, the official 2006 data indicate that the average cost of production was almost UZS 29,5000/ton of seed cotton, (\$245). This cost estimate results in a small profit before tax and financing charges of UZS 11,000/tonne (\$9). Once tax and financing charges are deducted the profit becomes a loss.

In the case of wheat, the cost of production for 2006 was estimated at almost UZS 95,000/tonne (\$79) which gives a profit before tax margin of UZS 3,500/tonne. After allowing for tax and financing charges the profit is zero.

**Table 12: Cotton Cost of Production Data, 2006**

<b>Official Structure of Seed Cotton Production Costs/ Ton</b>	
Item	(Soum)
1. Payment for labour with extra fee	104614
including:	
salary	83384
out of that: hand harvesting	49820
extra fee	21230
2. Fertilizers	64213
3. Crop protection	12914
4. Fuel	41472
5. Seeds	16015
6. Mechanical services	29382
7. Other expenses	26303
<b>Total cost</b>	<b>294913</b>
9. Profit before tax and financing charges	11087
10. Single land tax	3570
11. Financing Charges(3%)	8847
12. Profit after tax and financing charge	<b>(1330)</b>
12. Purchasing Price	<b>306000</b>

Source; Ministry of Finance

**Table 13: Wheat Cost of Production Data, 2006**

<b>Official Structure of Wheat Production Cost (2006)/Ton</b>	
Item	(Soum)
1. Payment for labour with extra fee	11915
2. Fertilizers and Chemicals for protection	27841
3. Fuel	12494
4. Seeds	15818
5. Mechanical services	19526
6. Other expenses	7274
<b>7. Total cost</b>	<b>94869</b>
8. Profit before tax and financing charges	3531
9. Single land tax	2294
10. WUA's expenses, communication services, insurance and other expenses of financial activities	1237
11. Profit after tax and financing	0
12. Purchasing price	<b>98400</b>

45. These official figures have a number of limitations which need clarification. Firstly, the calculations are made by the Ministry of Finance based upon the quantity of directed credit made available. Such credits are only made available for specific inputs, not all inputs. For example no credit is given for machinery repairs. Also, cost of production data for cotton and wheat remain a function of current policies. Some inputs are subsidised and do not therefore reflect their true market cost. Secondly, the inputs used are subject to strict physical quotas, which may not reflect the optimum use of resources if farmers were given the freedom to determine their own level of use. Consequently, these official costs tend to underestimate the true cost of production. In effect, they reflect the amount of directed credit per ton of output provided, not the agricultural realities.

The calculations do not make clear the point at which “profit” is assessed. It seems that some financing charges and taxes are expected to be paid out of the derived profit figure. Moreover, some taxes appear to be ignored completely. For example, payments to the road fund, school fund and off- budget pension fund which are levied upon the sale of produce (at 0.7 to 1.5% of sale value) are not included. If this data is to be used as a measure of crop profitability all items not included as part of the crop credit, but which farmers have to pay, should be added to the total. The main conclusion to be drawn from the above crop budgets is that, in 2006, the procurement prices offered for cotton and wheat did not provide a profit for farmers with yields at or lower than the national average. In all probability, only farms in the top 20% productivity level will have made any significant surplus once all costs are taken into account.

46. The data is highly aggregated; it is not possible to relate the data to the proportion of farmers who are actually covering their costs. This is an important issue in the context of the current cotton and wheat regimes. In a market economy farmers who make a loss on a crop will grow something else or may even cease farming. In Uzbekistan, farmers are locked into a statutory crop rotation which means that losses are absorbed by the farm household, at least in the first instance. In this situation, from a welfare perspective, it is important to know what proportion of farms is truly profitable in strict financial terms. This can only be determined by properly conducted farm income and expenditure surveys undertaken on an annual basis, not by using simple single crop budgets.

This approach would also help to overcome the inability to relate physical and financial data using the MOF estimates.

47. The results of the farm income and expenditure survey undertaken by the TA team provide a measure of comparison to the official crop profitability data, but are a much more comprehensive assessment of farm household profitability. These results are based upon two farm models; a leasehold farm of 34 ha of irrigated land and a dekhan farm of 0.6 ha. These are the average cultivated areas derived from the sample. The average cropping pattern is shown in Table 14. More detail is provided in a separate farm survey report.

48. Dekhan farms do not grow cotton and most wheat is grown for their own use. In addition they grow a range of fruit and vegetables plus forage for their livestock.

The leasehold farm cropping pattern depends upon the availability of water and requirement to grow cotton or wheat. In practice, farms are nothing like as diversified as this average profile. Apart from cotton and wheat the remaining crop areas are insignificant, reflecting the small amount of irrigated land that is available for alternative crops.

**Table 14: Average Leasehold and Dekhan Farm Cultivated Areas**

	Leasehold			Dekhan		
	Area (Ir. Land)	Output per Ha (tones)	Total Amount	Area (Ir. Land)	Output per Ha (tones)	Total Amount
Cotton	16.26	2.67	43.96			
Wheat	12.63	3.53	43.49	0.1	4.11	0.33
Rice	0.19	3.56	0.62	0	4.9	0.01
Corn	1.32	4.81	6.71	0.07	4.97	0.29
Other types of cereals	0.44	2.41	0.88	0.01	3.18	0.02
Potato	0.08	17.27	1.61	0.06	12.73	0.7
Oil crops	0.12	1.64	0.23	0		
Legume	0.05	1.96	0.08	0	2.4	0.1
Vegetables	0.24	13.92	2.75	0.1	14.3	0.9
Melon and gourds	0.2	14.96	2.74	0.08	14.16	1.1
Fruits	0.35	3.69	1.39	0.12	7.64	0.46
Grape	0.04	4.25	0.21	0.02	8.78	0.1
Forage	1.89	9.55	18.05	0.06	11.52	0.57
<b>Total:</b>	<b>33.81</b>			<b>0.62</b>		

Source: Farm Survey

49. On this basis the summary farm income and expenditure data for the sample of farms surveyed are shown in Table 15. The average leasehold farm had total farm revenues of UZS 30 million (\$23420) and expenses of UZS22.3 million (\$17315) leaving a net income before financing and tax of UZS 7.7 million (\$6105). After allowing for taxes and finance charges the net income of the average leasehold farm was approximately UZS 5.5 million (\$4317). This implies a per capita net income of \$616 per annum.

Dekhan farms, by virtue of their much smaller area but similar family size have a much smaller net income and per capita income. The revenue and expenditure of dekhan farms was closely matched at around UZS 4.3 million (\$3400) in 2006. It is calculated that, after allowing for all expenses, the average dekhan household had a net income of \$297 per year. This figure takes account of interest payments, taxes and social benefits.

50. It may be noted that in the case of dekhan farms, the net income from farming is not enough to provide an adequate family income. Without external employment and social benefits the average dekhan farm household would not be sustainable. Net income would be

negative. Dekhan farms have very little room in which to grow their business. Their size is limited and they use their land to the limit. Income and expenditure are carefully matched. Wages from external employment are a critical part of their income. It would boost their prospects if the size limit on dekhkan farms was abolished and the families were allowed to grow their businesses. Although dekhkan farms market about half their production, in terms of income they remain essentially subsistence farm households.

**Table 15: Net Annual Income of Farm Households**

Net Income (USD)		
Revenue	Leasehold farms	Dehkan farms
Agricultural output	19548.86	829.51
Sale of live animals	1168.15	758.81
Sale of livestock products	1997.69	1227.09
External employment	706.18	630.00
<b>Total :</b>	<b>23420.88</b>	<b>3445.41</b>
<b>Expenditure</b>		
Supplies	8090.86	340.23
Purchase of live animals	569.41	448.55
Personal Expenses	3698.01	2555.84
Hired Labour cost	4402.51	
<b>Total:</b>	<b>17315.81</b>	<b>3345.46</b>
Cost of finance	-488.33	-141.30
Taxes	-1666.34	-27.62
Social benefits	366.39	366.39
<b>Net Income</b>	<b>4316.79</b>	<b>297.42</b>

Source: Farm Survey, 2007

51. The average leasehold farm had a net profit of about \$4300 after all expenses were met. This represents a per capita annual net income of \$614 for a family of seven. However, most of this income is generated by secondary crops and livestock produce that are not subject to state procurement. It is estimated that cotton accounts for over 60% of the gross income of the average leasehold farm, but only 8% of its profit margin. Only 15% of cotton growers have funds in their free bank accounts. In effect, cotton and wheat are being grown on contract to the government with little if any benefit to the average leasehold farm household.

52. Table 15 also illustrates the importance of livestock keeping to both dekhkan and leasehold farms. Without livestock, dekhkan farms would quite simply fail. In the case of leasehold farms, revenues from the sale of livestock products and external earnings are almost equivalent to their net income. Again, leasehold farms are sustained by those activities not under state control.

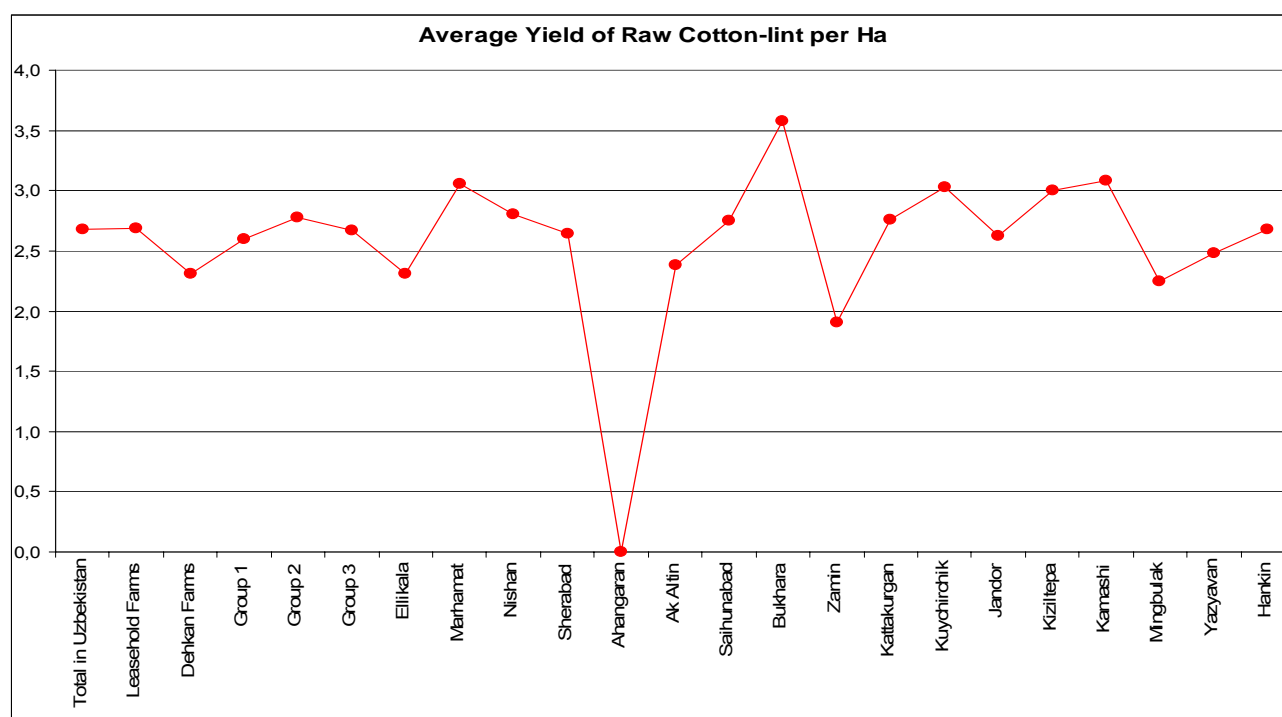
53. At the individual farm level, it is concluded that the vast majority of farms are not profitable in the conventional sense. In other words they are not achieving surpluses that, cover operating costs, allow the replacement of assets and enable new investments to be made in the business. The methodology used to determine procurement prices for the main crops does not encompass this definition of profit. Consequently, the concept of profit is too narrowly defined, leading to sub-optimal levels of return to the farm. Revenues from cotton and wheat production are mostly captured by the Government in the form of foreign exchange and taxes to the detriment of farm incomes.

### C. Raion Level Sector Performance

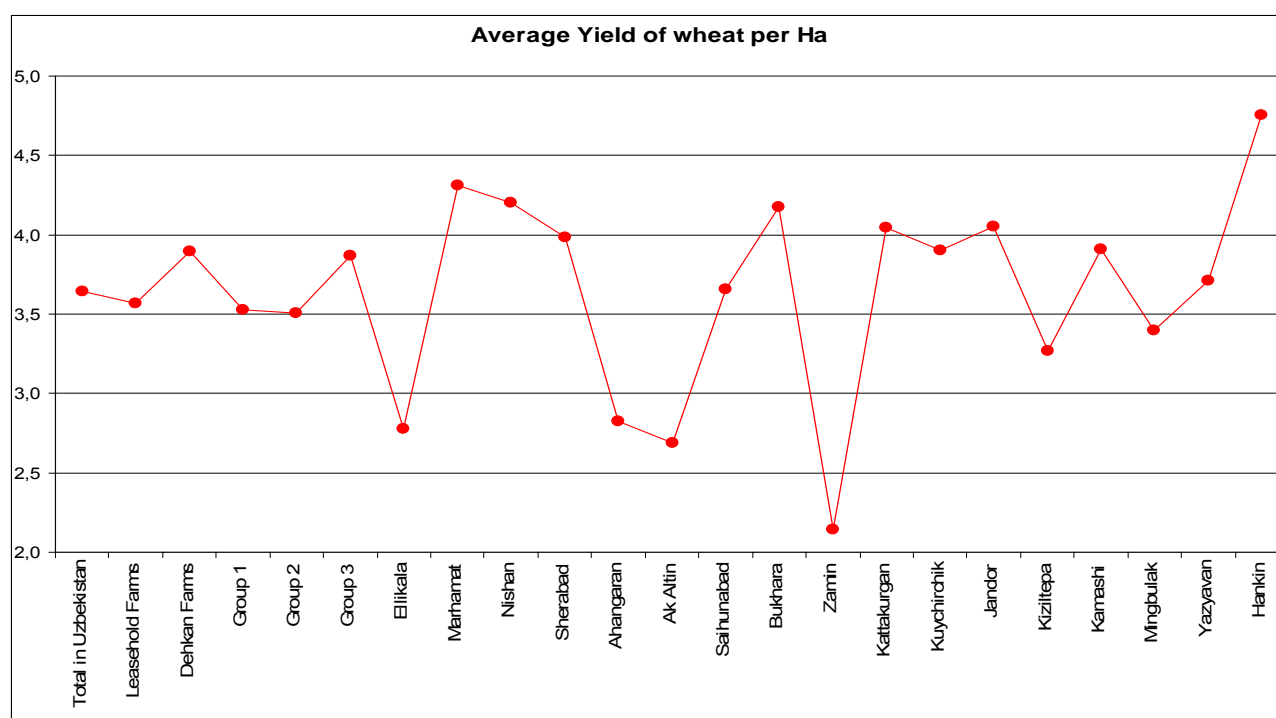
54. In both physical and economic terms the data previously discussed clearly indicates that there are substantial variations in agricultural performance across the selected raions. At the individual farm level there is a need to relax cotton and wheat quotas to enable farms to operate technically sound crop rotations. At the raion level, it would be appropriate to match cotton and wheat quotas to the quality of the natural resources.

55. It is evident from Figures 3 and 4 that productivity levels vary widely across the selected raions. In the case of cotton, only Bukhara has an internationally competitive yield and four raions, namely, Ellikala, Ak-Altin, Zamin and Mingbulak have particularly low productivity levels. In the case of wheat, a similar situation is evident.

**Figure 3: Cotton Productivity Levels in Selected Raions**



**Figure 4: Productivity of Wheat in Selected Raions**



In these low productivity raions, it would be sensible to withdraw poor quality land or land which cannot be adequately irrigated from cotton or wheat production in favour of crops more suited to the natural environment. The data in Table 12 indicate that the MOF is broadly correct in its view that a raw cotton yield of at least 2.6 tons /ha is needed for farmers to breakeven. Given the relatively similar centrally imposed input regimes imposed on cotton growers across the country, it may be assumed that cost of production profiles remain much the same irrespective of actual productivity levels. Consequently, farmers find it difficult to compensate for lower yields by lowering input costs. Thus any reduction in yield below the breakeven point will be largely reflected in substantial financial losses rather than lower input costs. Table 12 suggests that a cotton yield of 2.0 tons/ha would be associated with a loss of at least \$110/ha. It is estimated that some 250,000ha of the cotton growing area regularly fall into this category, implying an annual loss of around \$30million which is borne by farmers and the Agriculture Fund.

56. These losses provide a starting point for an assessment of the prospects of introducing greater diversity into Uzbek agriculture. There are clearly parts of the country that are not suitable for cotton production but which are nevertheless growing cotton of low productivity. A similar comment applies to wheat production. These areas need to be defined in detail and alternative farming systems developed. It is likely that such innovative farming systems will need a package of Government support in early years, but this initial cost maybe compared to continuing losses under the current regime.

57. Detailed raion level assessments of their capacity to produce cotton and wheat competitively would provide a much needed platform on which to build a more sustainable agricultural sector. Thus, the current decision making process would be transformed from one in which detailed cropping parameters for each raion are passed down from the centre to one in which such decisions are agreed at the raion level and then passed upwards. This approach would give farmers more influence in determining their farm level quotas and would relieve the pressure on raion officials to achieve unrealistic central targets. This approach would also allow raion output levels to be more closely matched to credit levels and thereby ensure that financial losses at both the farm and raion levels were kept to a minimum. This detailed assessment would also indicate the extent to which cotton production could be more efficiently located without jeopardising total cotton output targets or required export revenues.

58. This “bottom-up” approach to target setting requires comprehensive up to date databases relating to both the quality of natural resources and actual farm management data using a common methodology. The land quality database is ten years out of date and is the cause of much unrealistic central target setting. There is no consistent farm management database. Some raions compile cost of production data but there are wide discrepancies between cost of production estimates compiled at the farm or raion level and those calculations used by the MOF as the basis of the state procurement regimes. The discrepancies arise largely due to the lack of an agreed consistent estimation methodology.

59. Table 16 provides an example of the cost of wheat production estimated at the raion level. The data is relatively comprehensive and is correctly based on area cultivated rather than tonnage produced. It also contains some of the necessary physical assumptions which underpin the calculation, but not all. However, the calculation remains confined to operational or recurrent costs which do not include financing charges, most taxes or investment costs. On this cost basis, the break-even yield for wheat growers in Ahangaran raion in 2007 has been estimated at 4.7tons/ha using the state farm gate procurement price. However, the actual average wheat yield in the raion was 3.4tons/ha. The logical conclusion is that only those few farms with the highest wheat yields would have been profitable.

It is this kind of calculation which creates a certain lack of credibility in raion level estimates at the central level. The solution has to be an agreed common methodology which is acceptable at the central level and which allows individual cost items to be queried. With such a methodology in place, it would be possible to implement a policy of gradually reducing cotton and wheat quotas whilst being able to anticipate the impact on output.

The ideal instrument would be an annual farm management survey based upon a stratified sample of farms which would provide detailed cost estimates of individual crops and for the farm as a whole. This type of survey should be an integral part of the determination of state procurement parameters, both technical and financial.

**Table 16: Cost of Wheat Production in Ahangaran Raion (2007).**

	Types of expenditures	Measurement Unit	Quantity	Cost of 1 unit (soum)	Amount (soum)
1	Tillage	ha	1	35930	35930
2	Use of stubble breaker	ha	1	16935	16935
3	Harrowing	ha	1	20645	20645
4	Sowing	ha	1	9758	9758
5	Seeds	kg	250	330	82500
6	Fertilizers				
	-Nitric	kg	500	151	75500
	-Phosphoric	kg	350	282	98525
7	Weeding	ha	1	5000	5000
8	Irrigation	ha	5	5000	25000
9	Harvesting	ha	1	65000	65000
10	Transportation	t/km	10	1216	12162
11	Land tax	ha	1	19158	19158
12	WUA fee	ha	1	5000	5000
	<b>Total</b>				<b>471113</b>

Source: Ahangaran raion

60. Comprehensive farm management data would also help to answer questions relating to the potential diversity of the agriculture sector. The dominance of cotton and wheat growing tends to prevent detailed consideration of alternative farming systems. The profitability of other crops relative to cotton or wheat should be of interest to policy makers. Again however, the lack of consistent quality data is a major impediment to consideration of alternative farming systems and any attempt to match farm systems to regional differences in resource endowment.

The production of alternative crops in different regions has technical and financial implications. Pilot schemes to encourage diversification have failed because they were not accompanied by support packages comparable to those for cotton and wheat. In particular, a more flexible approach to cropping patterns has significant implications for agricultural credit. The demand for commercial sources of affordable credit would rise substantially. Likewise, the need to find reliable assets to provide the necessary collateral would also intensify. It is these interdependences that need careful consideration when formulating alternative approaches to current policies.

## D. National Level Sector Performance

### 1. Domestic Procurement Prices

61. State procurement of cotton and wheat at administratively set prices dominates the agricultural economy. The decree of the President “On the Mechanism for Pricing of Cotton” and Resolution of the President “On Regulating the Mechanism of Sale and Settlements for Cotton Fiber” were adopted in August, 2002, and they stipulate the order of formation of procurement prices for raw cotton and wholesale prices for cotton fiber.

In 2007 the Ministry of Finance together with concerned ministries and institutions developed and approved the Statute on the Order of Formation of Procurement Prices for Raw Cotton and Wholesale Prices for Cotton Fiber” which became effective starting from September 13, 2007. According to this Statute, the base (average) procurement price for raw cotton (Type 5, Grade 2, Class 1) is determined in the national currency (Soum) based on the world average price of cotton fiber taking into account the average indicator of fiber output according to the following formula.

$$P_p = (P_w - E_{sf}) * R_e + C_{sp} - E_p) * O_f$$

where

$P_p$  – base (average) procurement price of one ton of raw cotton in Soums;

$P_w$ - average forecasted world price of one ton of raw cotton in US Dollars for the period of harvesting the raw cotton

$E_{sf}$  – expenses for sale of one ton of cotton fiber in US Dollars (approved by the Government).

$R_e$ - average forecasted exchange rate of the Central Bank for the period of harvesting the raw cotton, Soum/USD.

$C_{sp}$ - cost of by- products per one ton of cotton fiber in Soums;

$E_p$ - expenses of cotton gins for provision, transportation, storage and processing of raw cotton per one ton of cotton fiber in Soums;

$O_f$ - average output of fiber for the last three years, ratio.

62. It is specified in the Statute that expenses incurred by the farms according to “accepted norms” are taken into account upon determination of a procurement price of raw cotton. However, neither the mechanism for recording of such expenses nor their relationship to the procurement price of raw cotton is evident. Similarly, it has not been possible to access the data that was applied to the above formula to derive actual procurement prices. Based on

this method, the average procurement price for one ton of raw cotton during the 2007 cropping season was established at Soum 350000. This is equivalent to \$ 275.5 at the September 2007 exchange rate of USD 1=UZS 1,270. The price of 1 ton of cotton fiber at the Liverpool Cotton Association in September, 2007 was \$1360. Consequently, the domestic price of 1 ton of raw cotton constituted 20% of the international price of cotton fiber. Allowing for the conversion of seed cotton to lint (32%), quality differences, and the cost of processing plus transport and handling charges, the indication is that the domestic price of seed cotton in 2007 was significantly below the export parity level of \$376/ton. This latter figure takes account of the fact that farmers receive no benefit from the by-products of seed cotton.

**Table 17: Trends in Procurement Prices for Raw Cotton, 1995-2007**

Year	1995	1998	2000	2001	2002	2003	2004	2005	2006	2007
Procurement Price 000 UZS	8.79	23.55	52.0	80.0	126.0	195.0	295.0	255.0	285.0	350.0
USD			160	116.99	157.5	199.1	212.67	224.67	231.7	275.5
Annual average USD exchange rate			325.0	683.84	800.0	979.39	1.058.0	1.135.0	1.230	1.270

Source: Ministry of Finance

63. The methodology for determining the procurement price of raw cotton needs further clarification. Firstly, the mechanism for recording actual producer's expenditures is not clear. As previously noted, there is no consistent farm management database. Consequently, a consensus on the reliability and accuracy of the farm costs used in the calculation is not evident. Secondly, some expenditures included in the calculation are beyond the control of the farmer, but are a major factor in determining the ultimate farm-gate price, for example, expenses of cotton gins ( $E_p$ ). The methodology used to determine such costs also lacks clarity and would not appear to be subject to productivity criteria. In other words, ginneries are not penalized for poor performance, including any deterioration in fibre quality during the processing period due to their inefficiency. It would seem only fair that such ginning costs should be subject to efficiency criteria in the same way that farms are expected to achieve a given level of productivity. Thirdly, it is necessary to clarify the role of by-products. The current contract makes no provision for by-product payments to the farmer and ginneries do not return them to the farmer. This is a substantial loss to the farmer which should be accounted for in the procurement price. It is not clear to what extent, if any, the farmer is compensated for this loss through a higher procurement price. Finally, it would be appropriate to announce the procurement prices to producers not in August or September, but well before the start of sowing, so that the farmer has more control over his expenditure. This requires a degree of expertise in forecasting future prices and the use of futures markets.

In the case of wheat production two issues are becoming a concern. Firstly, it is clear that production now exceeds domestic requirements. Surveys have shown that this surplus wheat is used ineffectively due to underdevelopment of the domestic grain market, prohibition of exports except by Government approval, and the lack of competitiveness of Uzbek grain on world markets. There is no economic justification for producing wheat for export. A more effective policy would be to diversify the cereal market and focus attention on the quality of wheat. Much of the wheat produced is of too low a quality to be used in bread production. A reduction in the wheat area would be a major contribution to a more diversified and sustainable agriculture.

## **2. Taxes and Subsidies**

64. The agriculture sector is subject to a complex web of subsidies and taxes the net result of which is a net transfer of resources out of the sector. The major taxes (implicit and explicit) levied upon the agriculture sector are i) producer price controls which result in farm gate prices below the export parity level, ii) VAT which is not reimbursed when cotton is exported and is therefore an export tax, iii) taxes on the cottonseed industry, iv) farm household income tax, v) cotton ginning taxes, vi) land tax, and vii) STO commission.

In addition, the low efficiency of ginning may be regarded as a tax, since it results in lower revenues from cotton growing than if the ginning process was of international standard. Also, the environmental cost of current policies may be regarded as a tax. The natural resource base is deteriorating as a result of the requirement to grow cotton and wheat within an unsustainable crop rotation. Similarly, the excessive use of water on agricultural land is resulting in high water tables and elevated soil salinity levels.

Loss of soil fertility as a result of compulsory sowing charts also represents a hidden tax. If farmers were allowed to rotate cotton with profitable forage and legume crops, then this would promote an increase in land fertility, productivity of cotton and farm income. Low efficiency of raw cotton cleaning also represents a hidden tax on producers. For instance, if ginneries achieved average fiber output of up to 38 % as in many cotton growing countries of the world instead of the official level of 32.7%, then final fiber output would increase by 16%. The hidden (implicit) tax computed on the basis of a fiber output of 1 million ton annually and current cotton prices amounts to over US\$100 million.

65. The major subsidies provided to the sector in 2006/7 include, i) interest rate subsidies on directed state credit, ii) cost of operating and maintaining the irrigation system, and iii) subsidised prices of inputs.

**Table 18: Major Taxes and Subsidies of Cotton (2006)**

	<b>Subsidies and taxes</b>	<b>Amount mln. USD</b>
1	Subsidies for irrigation and drainage O&M	290.0
	Subsidised interest rate of directed credit	81.0
	Other subsidies( mostly inputs)	50.0
	<b>Total Subsidies</b>	<b>421.0</b>
	Land tax	43.0
2	Commission for certification	31.0
3	Taxes from ginning	46.0
4	Income tax from producer	86.0
5	Payments to road fund	13.1
6	Payments to school fund	8.7
7	Tax on cottonseed crushing	134.0
8	VAT on fibre exports	212.0
9	Producer price controls below export parity	72.0
10	Low efficiency of cotton ginning	115.0
11	Land degradation	52.0
	<b>Total Taxes</b>	<b>807.0</b>

Source: TA Cotton Taxation study

### 3. Net Transfers

66. Both taxes and subsidies relating to the cotton sub-sector are high relative to the value of the commodity. In 2004, the World Bank's cotton taxation study estimated that net transfers out of the cotton sub-sector (including debt write-offs) were approximately 1.8 % of GDP or about 22% of gross farm income. Without debt write-offs, net transfers rose to 30% of gross farm income. In effect, rural farm households were being charged at a rate of about \$50/ha of irrigated land or \$150/ha of cotton land.

Since 2004 a number of changes have been implemented. Shirkats have been fully restructured into leasehold farms which has obviated the need for debt write-offs. In 2006, payments to the pension fund from wages were reduced from 33% to 25%. Similarly, income tax was reduced from 33% to 25%. However, the land tax was increased and payments to road and school funds started in 2005. Reimbursement of 25% of the cost of MTP (machinery) services was abolished. The cost of directed credit was reduced to 3% from 5% in 2005. From 2006, cotton growers received no benefit from the by-products of cottonseed.

67. Taking account of the changes mentioned, Table 18 estimates that total subsidies to cotton growers in the 2006 season was approximately US\$420 million. The two main subsidies are irrigation systems O&M and the credit subsidy. VAT waivers on inputs no longer apply, but domestic input prices for fuel and fertilizers are still below export parity levels.

68. Table 18 indicates that taxes on the cotton industry are more varied than the subsidies. Total taxes (implicit and explicit) are estimated at US\$807 million. However, it is interesting to separate taxes on cotton production from taxes on cotton processing. Taxes on cotton growers, both implicit and explicit, amount to a relatively modest US\$275 million, which is less than the level of subsidies received. On the other hand, taxes on cotton processing are very substantial at US\$532 million of which US\$417 million are explicit; that is they are actual financial flows rather than economic or opportunity costs.

Taxes on cotton production are mainly derived from producer income tax, the implicit losses incurred due to low controlled state procurement prices and losses due to land degradation resulting from unsustainable crop rotations and water management practices. Only income tax is an explicit financial payment.

Taxes on cotton processing are levied on cotton ginneries, cottonseed crushing plants and there is a VAT levy on cotton fibre which is not refunded when cotton fibre is exported and thus becomes an export tax. In addition, there is the implicit tax resulting from the low efficiency levels of most ginneries compared to international standards.

69. The actual net financial transfer out of the agriculture sector from the cotton industry in 2006 was about US\$77 million annually or about 1.2% of agricultural GDP.. It may be argued that because most of this is contributed by cotton processing enterprises, then the impact on the cotton grower is not that significant. This argument fails to recognize the integrated nature of the cotton industry's finances. The costs \taxes imposed on cotton processing enterprises not only reduce their profits but also reduce the ability to pay cotton growers a competitive farm-gate price for the raw cotton.

The value of net transfers in economic terms is a more complicated calculation. Table 18 indicates that this value is in the region of US\$386 million or 5.6% of agriculture GDP. This is a higher figure than that calculated by the World Bank in 2004, partly because taxes also include land degradation and ginning inefficiency which the WB excluded. It is most likely that this is an underestimate of the true net transfer value. Firstly, it is confined to the cotton industry which is the main contributor, but wheat also makes a contribution. Secondly, some data such as that relating to land degradation is only available up to 2002. A longer period would almost certainly increase this number. Thirdly, some items have been excluded due to lack of data. More detail on taxes and subsidies is included in the separate Cotton Taxation Study.

The general conclusion must be that the agriculture sector, especially the cotton sub-sector, remains substantially handicapped by the current policy regime. Too much liquidity is being drained from the sector at the expense of the rural population. Over a period of time, possibly five years, there is a need to redress this imbalance and enhance the capacity of farming communities to invest in their businesses.

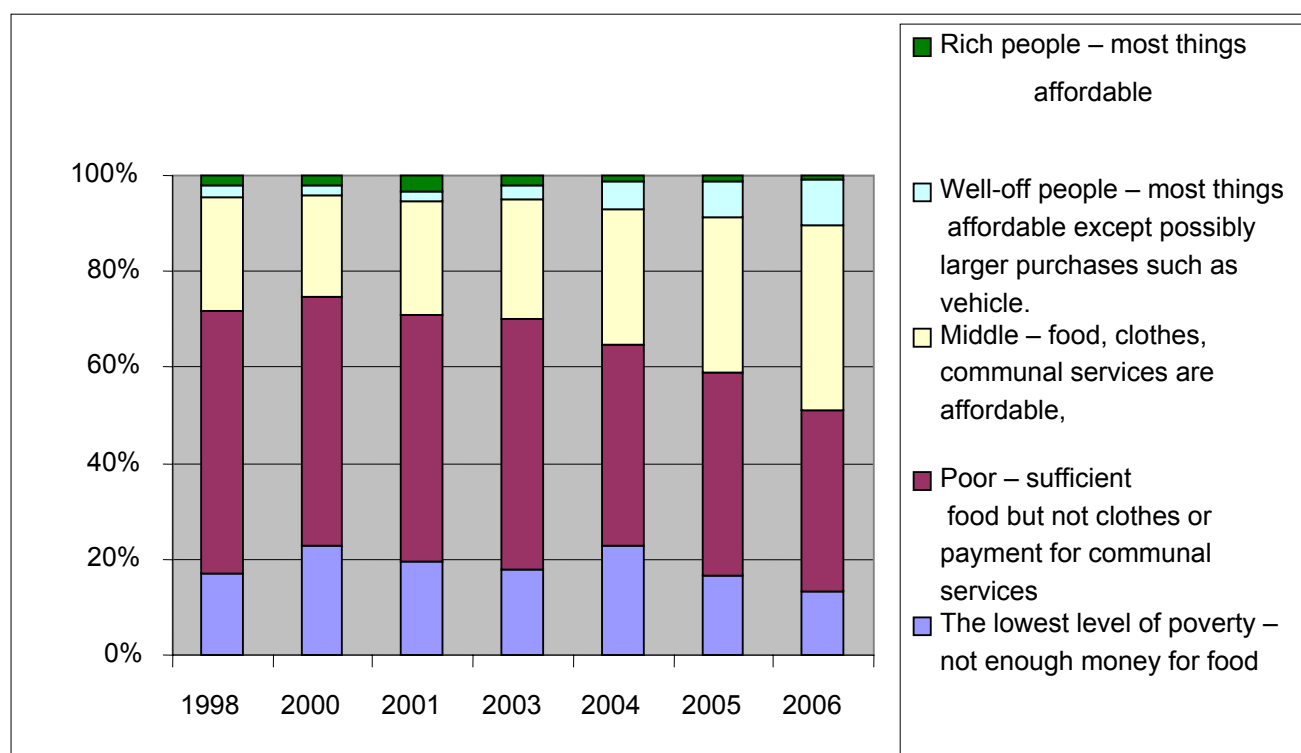
#### **4. Social/Poverty Assessment of Rural Households**

70. Demographic factors have heavily influenced developments in the rural sector since 1991. Similar to all former soviet countries, Uzbekistan was left with a rural population density which could not be sustained once the large financial transfers into agriculture were removed. The rural population is estimated at 63% of the total population or about 16.4 million. In addition, population growth rates remained high resulting in large numbers of young people seeking employment. From 2001-2006 the working age population increased by 1.9million. At the same time, employment opportunities in the agriculture sector were declining as a result of farm restructuring. Since 1995, it is estimated that over 1.2 million jobs have been lost in the rural sector. More than 2.0 million people have emigrated. Since 2000, the proportion of those directly employed in agriculture has declined from 35% of total employment to 28% in 2006. The proportion of the working population categorized as informal has reached 5.8 million in 2006 or about 56% of the total workforce. These trends underpin the need to improve agriculture sector productivity, in particular, using strategies that promote diversification of output and post-harvest processing leading to more employment opportunities.

71. Estimates of the standard of living in rural Uzbekistan are difficult to interpret in precise terms due to the lack of agreement on definitions. The World Bank, UN and Government all use a different base. The Centre for Social Research publishes data based upon self assessed qualitative criteria. According to these estimates, the proportion of the rural population currently with a food deficit (i.e. the very poor) has fallen to about 16% of the rural total from 22% in 2004. A further 36% of the rural population falls into the second lowest category, which has sufficient food but lacks the ability to meet all its basic needs. This suggests that, in total, 52% of the rural population cannot meet its basic needs of food, clothing, shelter and social obligations (including taxes). In other words, over 8million rural people remain within the bounds of the poverty criteria being used.

72. The following diagram illustrates the changes in the various welfare categories from 1998 to 2006. The profiles illustrate that progress has been made but much remains to be done. More than half of rural households remain in the two lowest categories. It is possible that this proportion could be lower if agriculture sector policies were adjusted to achieve a more balanced outcome between state revenue objectives and rural income levels.

**Figure 5. Self-estimation of the standard of living in Uzbekistan**



Source: Centre for Social Research

73. Wage rates in the agriculture sector have fallen way below the average wage rate in the economy partly reflecting the low profitability of much of agricultural production. The following table shows that, in 1991, agricultural wages were slightly higher than the national average wage, but have since declined to about half the national average. The agriculture sector is the only sector where average wage rates have fallen from above the average to below average. Now, agricultural wage rates are the lowest of all the sectors. Moreover, in 2004, wages accounted for only 22% of the income of rural families. In –kind payments accounted for a further 23% and the sale of produce for 25%. The remainder was made up of social payments and other unrecorded sources. In other words, the agricultural economy is very short of cash.

74. Modest progress has been made in alleviating poverty in rural areas, but it is clear that a much greater effort is needed if the rural sector is to achieve a much improved standard of living. The employment and poverty issues in rural areas have been complicated by the transformation of shirkats into leasehold farms. The transformation of each shirkat has added several hundred workers to the list of effectively unemployed or those families entirely dependent upon their household plots. Since a significant proportion of men have left their rural settlements in search of employment, it is mostly women who are working on household plots these days.

Policy adjustments in the agriculture sector would help to create more of the required employment opportunities for men, especially the younger generation.

**Table 19: Indices of Sector Wage Rates**

Sector	1991	1996	2000	2005
National Average Wage	100	100	100	100
Industry	113	139	198	152
Transport	113	137	167	167
Social Services	73	64	74	62
Education	78	64	89	71
Agriculture	109	77	47	53

Source; State Statistical Committee

75. In addition to the employment issue the transformation of shirkats into leasehold farms is having other consequences. According to survey data they include:

- Leasehold farmers are using more water for leaching than the shirkats resulting in a lack of water for households and salinity of their lands;
- Crop yields of households in some raions have been decreasing as a result of higher salinity and higher groundwater levels;
- Due to the same reasons, the quality of drinking water has deteriorated since most of the rural population has been using water from wells and hand pumps;

Shirkats used to fully or partially support social establishments – rural clubs, houses of culture, kindergartens, and schools. After the dissolution of shirkats, the number of these social establishments has declined and access to cultural assets has been significantly reduced.

## **IV. LAND TENURE REFORMS**

### **A. Stages of Reform**

76. Judicial reforms in the agriculture sector since independence may be divided into three stages. The first stage covered the period 1990-1998. This period is characterized by changes in land relations, for example, new rights on land plots such as permanent use and rent were introduced, privatization of cattle-breeding farms, and reorganization of state farms into collective enterprises. The first law “On Dekhkan (Private) Farm” was adopted in 1992 and it has laid the legal basis for establishment of private farms in agriculture. Initial measures for reforming the agrarian sector were provided for by the Resolutions #87 and 88, of the Cabinet of Ministers in 1994.

77. The second stage of reforms covered the period 1998-2003. At this stage a large-scale reform associated with determining the organization and legislative forms of agricultural producers, determination of new property relations and introduction of new on-farm relations were established. The Laws of the Republic of Uzbekistan “On Agricultural Cooperative”, “On Private Farm”, and “On Dekhkan Farm”, plus a number of other presidential decrees and government resolutions were adopted during this stage.

78. The third stage of agricultural reforms started in 2003 when the Decree-3226 dated March 2003 of the President “On Major Directions of Deepening the Reforms in Agriculture” and Decree-3342 dated October, 2003 “On the Concept of Farm Development for 2004-2006” were adopted. These decrees enabled the restructuring of shirkats into private farms. The most recent changes have been shaped by a series of decrees and regulations, dating from 2003-4. They include:

- Decree № PD-3226 of the President of Uzbekistan from March 24, 2003 “About primary orientations of agricultural reforms deepening”.
- Government regulation № 290 from June 28, 2003 “About the Ministry of agriculture and water industry actions development in the Republic of Uzbekistan”.
- Government regulation № 383 from September 4, 2003 “About the measures for development of contractual relations and increasing responsibility of parties for fulfillment of engagements in production of agricultural products”
- Decree № PD-3342 of the President of Uzbekistan from October 27, 2003 “About the concept of farms development for 2004-2006»
- Government regulation № 476 from October 30, 2003 “About the measures on realization of the farms development concept for 2004-2006»
- Government regulation № 486 from November 5, 2003 “About the measures on further development of tenant relations”

- Government regulation № 607 from December 24, 2004 “About the measures on accelerated farms development for 2005-2007”.

## **B. Key Legislative Issues**

### **1. Ownership/Inheritance of Land**

79. The legislation provides for the possibility of inheritance of a private farm's property and continuation of its activity by heirs. In the case of dekhkan farms the right of inheritance may be enacted through the will of the previous owner or, if no will is made, through a decision of the courts. No such provision is available for leasehold farms. Legislation does not make clear what happens at the end of a lease period. Since the land remains state owned it may be presumed that its future use is a decision for state authorities. To date, most leases are only a few years old; there is time to decide the measures needed to ensure a continuation of their activities. However, this uncertainty is already having an impact on investment decisions. Leaseholders will not invest in longer term farm improvements, such as irrigation and drainage infrastructure, unless they expect to reap the benefits. Investment is likely to be confined to farm machinery which has a much shorter life span than the lease.

80. A further issue which confronts the evolution of land ownership is the fact that current leases have been granted; those given leases make no payment for the lease, although in some cases leaseholders have made payments to cover debts of the original farm. In the short term the granting of leases makes it easier for state agencies to claim authority over the land; in effect the leaseholder is simply operating the land on behalf of the state. On the other hand, the initial grant creates problems in the context of land transfers, land valuations and the development of a land market. Such instruments, which are essential to the development of an efficient agriculture, cannot be readily deployed as long as the state agency granting the lease avoids their use.

81. The replacement of the farm's head due to his illness or temporary absence is provided for in Article 16 of the Law “On Private Enterprise”, but is not specified in the Law “On Private Farm”. Similarly, Article 21 provides for the possibility of continuing the farm's activity in case of death of its head and inheritance of property in the order established by legislation; i.e. in accordance with the Civil Code. However, the issue of legalizing the land use right in case of transfer of title and continuation of the farm's activity by the heirs are not governed by legislation. Consequently, inheritance rights to agricultural land are not strong enough to ensure long term investment.

### **2. Specialisation**

82. According to Article 23 of the law relating to private leasehold farms they may determine independently the direction of their activities and production structure. The farm is entitled to engage in any type of agricultural production not prohibited by legislative acts, as well as in agricultural processing and sale. In addition, it was envisaged that interference in

any farm economic activity by the state and its authorities as well as their officials would not be allowed except in cases provided for by legislation. In principle, farms have the right to choose their activities.

However, the regulations contain both internal contradictions and contradict other legislative acts. In practice, a farm's independence is restricted by its so-called specialization. Farms must produce only those products that are associated with its specialization. This particularly relates to cotton and grain growing farms; both the type of crop and its volume are predetermined. Leasehold farms do not, in practice, have free choice of crops to cultivate. Farms are obliged to sow only cotton and wheat on a stipulated area.

The discrepancy between principle and practice is a not uncommon feature of agriculture sector legislation. In one sense, the basic legislation may be seen as an encouraging sign that greater freedom of choice for farmers is the ultimate intention. An alternative view might be that any legislation is subject to interpretation governed by the underlying intention. Such contradictions only serve to undermine the credibility of legislation and reinforce the ability of local authorities to interpret legislation as they deem appropriate.

### **3. Security of Tenure**

83. Dekhan farm tenure status is reasonably protected by legislation; they are not subject to crop specialization conditions. Leasehold farms are not so well protected. The legislation specifies a number of conditions, which, if violated, may be used to terminate a leasehold agreement. There remains a high risk of loss of tenant right. Local authorities (khokymats) may initiate a process whereby the courts can deprive farmers of their leasehold right. The grounds for termination of lease agreements cover a range of conditions, some of which are specified more clearly than others. A farm's failure to use the land for specified purposes, including sowing of crops other than those specified in the contract is deemed as a gross violation of the lease agreement. Similarly, settlements with suppliers of electric power, fuels and lubricating materials, mineral fertilizers and other services rendered to private farms must be effected on a timely basis. Private farms which fail to meet these requirements for three years risk termination of their contract.

Ensuring the sustainability of farming depends on the correct application of grounds for terminating the land use right. Many disputes arise in practice upon termination of the contract of land plot tenancy due to failure to use the farm's lands for specified purpose. Therefore, the legislation must clearly specify which agricultural crops constitute "unpurposeful" use of a land plot. To date, this issue is left to local authorities to interpret.

### **4. Pledging of Land**

84. The possibility of pledging a tenant right is allowed in principle by the Civil Code (Article 267), Law "On Pledge (Mortgage)" (Articles 5, 8), Land Code (Article 24), and the Law "On Private Farm" (Article 13). If a pledger fails to perform his obligations and non-repayment of the loan amount, a pledged land plot is subject to sale through auction. The

leasehold farm obtained the land from the state free of charge so a farmer incurs no financial cost in case of alienation of the land plot, other than the loss of future earnings. However, difficulties following the sale of a land plot may well arise because the tenant right for the remaining term transfers to someone who acquires the land plot as a result of an investment. This creates two types of leasehold farm; one which has been granted and one which has been bought. It is not clear how this development affects the termination of a leasehold right.

The use of a tenant right as collateral is allowable in law but is of little interest to commercial banks. The risk of termination, as well as the limited capacity of most farms to repay loans with a minimum 16% interest rate is a constraining factor. In addition, banks do not have the necessary confidence in the administration of bankrupt farms.

## **5. Land Transfer/Sale**

85. Dekhan farms rent the land for lifetime use with the right of demise. A dekhkan farm is not entitled to sell and buy lands or to sublet the land. However, this rule is not observed in practice. Operations on sale and purchase of land plots are performed under the guise of sale and purchase of buildings and facilities located on such land plots. Dekhkan farms function with and without the status of a legal entity.

Legislation allows for the reorganization of farms (division, separation, merger and association). Farm reorganization is usually associated with resolving the question of land use. However, the issue of legalizing the land use right in cases of reorganization of farms is not governed by legislation. In this connection, it would be appropriate to develop and adopt a statutory act concerning the reorganization of farms.

It is necessary to consider at governmental level a number of issues related to further development of dekhkan farms. These include expansion of land plot size depending on the number of able-bodied persons in the family and region's land resources and consideration of the issue of participation of dekhkan farms in cotton production.

Dekhkan and private leasehold farms are similar to each other in many aspects; many farmers are simultaneously family heads and farm directors. Bearing this in mind, it would be appropriate to consider the issue of bringing them into a single form of land management. Solution of these problems would increase rural employment, raise family incomes and contribute to more efficient use of land and water, labor and other resources.

## **6. Environmental Guidance**

86. Environmental legislation contains articles requiring the maintenance of the quality of natural resources. These articles make particular mention of soil quality, but do not appear to be strong enough to be applied in practice. Given the importance of the soil quality issue to the agriculture sector in Uzbekistan there is a specific need to relate the legislation to the deteriorating measures of soil quality. If soil quality falls below a prescribed level then this should trigger specific amelioration measures under environmental legislation.

## 7. Agricultural Enterprises

87. The government has recently particularly stressed privatization of government corporations. A recent Presidential Resolution (“On Measures for Further Deepening of Privatization Processes and Active Attraction of Foreign Investments in 2007-2010, July 23, 2007”) will set in motion the privatization of 994 companies in Uzbekistan. The resolution states that the government will sell all of its shares in 363 companies from leading spheres of the economy, including chemicals, oil, and construction. These newly privatized companies will be exempt for a specified time from the profit tax, and taxes on development of social infrastructure and land improvement.

In practical terms, this privatization initiative means that government will no longer be owners of many agricultural institutions, although the government will still maintain some oversight control<sup>2</sup>. Even before this resolution, some government corporations (or parts of corporations) were privatizing. For instance, in 2004 the wheat procurement agency privatized bakeries, allowing anyone to start a bakery.

Creating competition in the agro-processing sub-sector is a key part of the reform process. However, it is not clear how far the proposed reforms will promote competition. At least in the medium term it would appear that alternative marketing channels for commodities such as cotton and wheat procurement will be slow to evolve. The timeframe for privatisation is five years and the emphasis is upon restructuring of existing agencies. There is no provision for investment in alternative marketing infrastructure or alternative forms of enterprise.

### C. Summary Findings

1. Land tenure legislation is characterized by ,i) significant gaps that create uncertainty, for example, the issue of inheritance of a leasehold right; ii) inadequate definitions, for example, “unpurposeful” use of land, iii) contradictions between legislation and practical application, and iv) legislation that is practically unworkable. In addition, there are numerous grey areas in interpretation of Uzbek laws and regulations concerning agricultural activity.
2. Land tenure status in the agriculture sector is weak and is not consistent with the need to promote private investment in farming. Legislation is needed to give landholders, especially leaseholders, greater security of tenure, including inheritance rights.

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<sup>2</sup> For instance, the July 23, 2007 Presidential Resolution also states that “golden stock” will be issued for selected industries, including ginning companies, fat and oil industries, and the Tashkent Tractor Plant. The exact nature of these golden shares is unclear, but it is likely related to government maintaining some role and influence in what they perceive to be strategic industries, even if they are not actual stockholders and owners of the company.

3. There is a need to review legislation concerning the transfer of ownership of agricultural land in order to provide a consistent basis for the development of competitive farming.
4. Legislation needs to be tightened to provide a stronger legal basis for sustaining soil quality;
5. Consideration should be given to relaxing the constraints on extending the size of dekhkan farms; this would improve rural incomes and promote more good farmers;
6. It is necessary to strengthen the legislative framework which would allow banks to increase their commercial agricultural lending, using various forms of collateral, including land; the current legislation is unworkable.

## **V. IRRIGATION AND DRAINAGE SYSTEMS**

### **A. Water Resources Framework**

88. Precipitation in Uzbekistan is limited to between 70 and 100 millimeters (mm) per year, so the country must rely primarily on water supplies from international rivers. On the basis of agreements reached in 1992 Uzbekistan was allocated 71,69 km<sup>3</sup> of water resources within the Aral Sea Basin. The current annual volume of water resources used in Uzbekistan is estimated at 47 km<sup>3</sup> to 53 km<sup>3</sup>, of which 70% is provided by the basin of Amu Darya and 30% comes from the basin of Syr Darya. In future, competition for water resources in these basins is expected to intensify further and Uzbekistan will have to become used to a significantly lower level of water availability. Since 90% of agricultural output is dependent upon irrigation it is evident that efficient irrigation management is of the highest priority. There are already areas of the country where water resources are insufficient to support the current cropping pattern. Promoting and achieving the more efficient use of water in the agriculture sector in Uzbekistan is not simply a priority; it is critical to the future of the whole sector.

89. Pilot projects, such as that undertaken by IWMI in the Fergana valley have demonstrated that it is not unrealistic to expect that agricultural output could be increased significantly whilst using about 30% less water, or no more than 36 km<sup>3</sup>. This implies a reduction in gross water application from around 12000 m<sup>3</sup> to 8000 m<sup>3</sup> per irrigated hectare. This objective should be supported by legislation and policy adjustments based upon the premise that water in Uzbekistan has a very high value. This is because water, within the Aral Sea basin as a whole, is a scarce resource with demand far exceeding supply. In addition, delivery costs are high due to the use of pumps with a high energy cost. The combination of delivery costs (including investment costs) and environmental costs is estimated to be of the order of \$60 per 1000 m<sup>3</sup> (6.0cents per m3). Assuming a field requirement of 6000 m<sup>3</sup> the full economic cost of irrigation water for a hectare of cotton would be \$360, excluding any system losses. Irrigation water costing this much should be exerting pressure to i) maximize irrigation system efficiency, ii) develop high value farming or cropping systems, and iii) minimize on-farm water usage.

The current policy framework in Uzbekistan does none of these things because water is not treated as a scarce resource.

### **B. Legislative Basis of Irrigation and Drainage Management**

90. The following decrees and regulations underpin the management of water resources in Uzbekistan.

- Constitution of the Republic of Uzbekistan (December 8, 1992) provides a legal and regulative base for establishing Water User Associations (WUAs).

- Law on Water and Water use (May 6, 1993) is, predominantly, a modified version of laws on water from 1941 and 1972. The Law provides the right for water and consists of several articles concerning the exploitation and technical maintenance of irrigation and drainage systems, and also dispute resolution.
- Civil Code (March 1, 1997) provides a basis for the civil rights to water; Article 77 gives the right for juridical and natural persons to be united in associations.
- Law on Farms (April 30 1998), Law on Dehkan Farms (April 30, 1998), Law on Agricultural Cooperatives (April 30, 1998) define the status of different kinds of agricultural enterprises and their rights to water.
- Annex №7 of the Resolution of the Cabinet of Ministers of the Republic of Uzbekistan as of January 5, 2002. «On Measures for Reorganization of Agricultural Enterprises » provides for primary water users to be united in associations in the territory of liquidated agricultural cooperatives (shirkat farms).
- Code of Managerial Responsibility (April 25, 1997) consists of several articles, stating the responsibility for abuse of laws, regarding water usage.
- Decree of the President of the Republic of Uzbekistan as of March 24, 2003 «On the most important trends of deepening reforms in agriculture».
- Resolution of CM № 320 (June 21, 2003) «On improvement of organizing water resources management» sets the principles of basin structure and functions of the Ministry of Agriculture and Water Resources.
- Land Code of the RUz (as of April 30, 1998) consists of several articles on legal status of irrigated lands.
- Tax Code of the RUz (as of April 24, 1997) gives the legal definition for fiscal responsibilities. In accordance with the articles of this Code, there are provided for several tax allowances for WUAs.
- Law on Property (as of October 31, 1990) gives legal definition of the state and shirkat property, which are the public property.

91. The current legislation concerning water management does not take a sufficiently broad enough view of the sector's issues. Reforms in the farm sector have resulted in large farm enterprises being divided into many small farms. There are now ten times as many farms as when the irrigation systems were designed, plus the millions of tiny dekhkan farms. However present legislation still foresees the border of former state/collective farms as the basis of water management. Neither the legislation nor the infrastructure reflect reality at the field level. Similarly, legislation contains no statement concerning the regulation of water management relationships among farms and dekhkan farms under conditions of relative scarcity. Current legislation should be strengthened to ensure that responsibilities for different aspects of water management are absolutely clear.

92. Irrigated agriculture in Uzbekistan is managed by the Ministry of Agriculture and Water Resources (MAWR). In 2003 MAWR was re-organized to include ten Basin Irrigation System Associations (BISAs) to manage the main and inter-farm irrigation and drainage

systems, based on the river basin and irrigation system hydraulic boundaries. In principle, the BISAs manage and monitor water resources, and ensure irrigation water delivery. Moving to a river basin management structure based on hydraulic boundaries was a bold and welcome step for MAWR, but the BISAs are still relatively new and are still learning and developing their new roles, responsibilities, personnel, and authority. Consequently, issues concerning the transfer of water resources management rights at different levels have not been resolved. For example, it is necessary to clearly determine the legal assignee of water management quotas at the inter farm level.

93. Legislation governing different types of farm enterprises indicate that the “authorized body” (MAWR) sets water usage limits for them, and article #30 of law “On water and water use” states that limits set by the authorized body, are compulsory for all water users. This Article should be amended in such a way that the authorized body may introduce changes in accordance with the availability of water in the river basins.

At the inter farm level the responsibility to set water limits should be clarified. Here, any reference to local authorities is unlawful, as they do not possess any rights to interfere. In practice, rights for water are closely linked with production quotas for cotton and wheat, which are implemented by local authorities. Thus, there is a lack of clarity as to who is responsible for water allocations which tends to result in environmental or scarcity criteria being ignored. It is essential that a more objective basis is developed which ties water usage to its scarcity value.

94. A further drawback of the legislation concerns the amelioration of land (flooding), which has not been sufficiently highlighted. Owing to the absence of the relevant article in the legislation, operations relating to the improvement of melioration conditions of land and productivity of soil have a low priority. The inter farm manifold-drainage network remains in a legal vacuum and there is no provision for funding from government or from landowners.

95. In the last few years the government has started to recognize the importance of establishing and developing Water Users Associations (WUAs) to take over the vital role of “middle-level organizations”, between the supply side of MAWR, and the demand side of hundreds of thousands of individual farmers. Uzbekistan’s WUAs, while gaining increased recognition, are still in a nascent stage and far from fully developed. There is no specific law governing the activities of WUAs.

### **C. Present Conditions and Water Management Practices.**

96. Many of Uzbekistan’s lands have naturally high productivity, but other areas belong to more fragile ecosystems. Thus, land and water resources require careful management to fulfil their development potential. As previously noted, Uzbekistan’s ability to maintain its agricultural economy is being severely tested by land degradation, primarily due to poor irrigation water management practices associated with cotton and wheat growing. Agricultural productivity is low in many areas due to inefficient use of irrigation water, such

as over-application of irrigation water and unsustainable use of fragile lands (mostly desert eco-systems) for agricultural purposes, resulting in severe salinization. Degradation of pasture vegetation through secondary salinization results from the discharge of drainage water into desert depressions or by seepage into areas adjacent to irrigation or drainage canals.

97. Salinity has negatively affected more than 60% of Uzbekistan's irrigated land. The salinity affects cotton yields, which decline 20-30% in slightly salinized land, and up to 80% on highly salinized land. High salinity is leading to a loss of productive land at an increasing rate. Soil degradation is widespread throughout Uzbekistan, but particularly bad in Bukhara, Navoi, Kashkadarya, and some parts of Fergana. Water-borne erosion of soils also strongly affects the agricultural lands of Surkhandarya, Tashkent, Namagan, and Andijan.

This extensive land degradation (primarily due to improper irrigation water management practices) means that Uzbekistan's land classification grades for agricultural land are steadily decreasing. Every year, more and more land has deteriorated and cannot be used for agricultural production. Below shows the dramatic rise in salinity levels of irrigated lands in Uzbekistan. Increased salinization, nutrient depletion, and water logging are severely damaging Uzbekistan's land and water resources. Annually, about 20,000 ha of land in Uzbekistan fall out of production due to increasing salinity levels. National strategies and programs in irrigated agriculture are only recently beginning to stress proper farm water management and salinity control.

98. In addition to improper irrigation water management practices, the physical infrastructure of Uzbekistan's irrigation systems has also seriously deteriorated. Operations and maintenance (O&M) of irrigation systems have been neglected, at least partially due to decreased government budgets for O&M. Deferred capital and O&M expenditures now amount to about 40% of irrigation asset value. The state's proportion in agricultural investment has declined sharply, from 27% in 1991 to 8% in 2001. O&M budgets have declined substantially in real terms in the last ten years. In the last few years, maintenance budgets for major irrigation infrastructure covered only 55% of requirements. Many systems need substantial rehabilitation and upgrading.

99. Pumped irrigation has particularly severe budgetary problems. About 70% of the MAWR budget for the entire irrigation sector pays for pumping irrigation water which covers less than 30% of the total irrigated land. Pumping water for irrigation consumes about 20% of electricity produced in Uzbekistan. Most of Uzbekistan's public pump stations have already served out their service life. At present, 38% of public pump stations in Uzbekistan have served for 10-20 years, and 43% of pump stations have served for more than 20 years.

100. National statistics can sometimes obscure the tangible and day-to-day irrigation and drainage problems that real Uzbek farmers face every day. During February-March 2008, the TA team conducted a series of one-day agricultural workshops throughout Uzbekistan, covering 17 raions. A key result of their discussions was the identification of four priority

problems and challenges in the irrigated agricultural sector. These four priority problems were:

- i) Land Degradation - Ameliorative conditions of lands are worsening from year-to-year. Land and water salinity levels are increasing, and some parts of land can no longer be used for agriculture;
- ii) Pumping Costs - Large parts of irrigated lands in Uzbekistan are irrigated by pumps. Some of the pumps are operated longer than the amortization terms and have high costs for their O&M. Prices for electricity are also high. The returns on crop yields do not cover the pump expenditures;
- iii) WUA Development - WUAs have been established, but their status is not clearly defined, there is no national WUA law, and the economic relationships between WUAs and farmers are not clear. WUAs do not receive timely payments for water supply, and their equipment and facilities are poor;
- iv) Irrigation Methods - Irrigation methods are not improved, and there are high water expenditures per unit of production;

These four problem areas clearly articulate the concerns of the actual water users.

101. The government has begun programs and reforms to try to address the degradation of Uzbekistan's land and water resources. These new government programs and reforms include:

- i) Resolution of the President of the Republic of Uzbekistan: "On Financial Support of Farmers Producing Cotton on Low Fertility Lands", which allocates UZS 60 billion for support of farms;
- ii) Resolution of the President of the Republic of Uzbekistan: "On Improvement of Ameliorative Conditions of Lands", where annual budgetary funding is increasing, and an estimated UZS 100 billion will be available next year for improving land conditions;
- iii) MAWR is preparing its own water conservation strategy;
- iv) This year the government will implement a concentrated program of cleaning of on-farm collectors;

These measures represent recognition of the land degradation issue, but fall some way short of a comprehensive solution to the problem. Much more needs to be done to reverse the downward trend in land quality.

#### **D. Constraints and Issues**

102. The government's Welfare Improvement Strategy (WIS) identifies one of the 12 main objectives of Uzbekistan's agricultural policy in the medium to long-term as "increasing the efficiency of water resource management".

ADB also recognizes the importance of agricultural water management. ADB's Country Strategy and Program (2006-2010) states that, "Uzbekistan's single most important and patterns of water and land resource use...(one of) the most critical problems facing Uzbekistan (is) degradation of land and water resources because of inefficient use and deteriorating irrigation and drainage infrastructure." There is broad agreement that a high development priority for Uzbekistan is to create an agriculture sector development strategy that is consistent with reducing degradation of the natural resource base, while simultaneously enhancing water and land productivity.

103. The challenges being faced may be broadly summarized into five major categories required to improve irrigation water management in Uzbekistan: (i) legislation, ii) incentives, (iii) investment, (iv) institutions, and (v) infrastructure.

**1. Legislation.** Legislation regarding water management does not directly address the new conditions in the field, where large farm enterprises have been restructured into many small farms. Irrigation water management practices need to be decentralized and focused on smaller pieces of land, to take account of new leasehold and dehkan farms. Unfortunately, present legislation doesn't provide guidance on water resources management at the on-farm level. Legislation has assigned the on-farm network to WUAs, although WUAs and their members actually bear no formal or official responsibility for its operation and maintenance.

Water rights are also not properly addressed in present legislation. First, according to law, only "primary water users" have water rights. MAWR is a primary water user, but recent legislation has given WUAs primary water user status. Unfortunately, with BISAs taking over water management functions, there is no legislation regarding the relationship of WUAs to the BISAs. Presently, BISAs bear no responsibility for failure to deliver water. Such responsibility is imposed only on the WUAs. In principle, the WUAs negotiate a contract with the Irrigation Systems Department (ISD) of BISA on behalf of all WUA members, but this contract does not provide any penalties against the ISD if they cannot deliver water. There are only unilateral responsibilities on the WUA.

A third major challenge regarding water rights in Uzbekistan is that there is no mention of improving the ameliorative conditions of the land, i.e. drainage improvements, in the legislation. There is no legislation which provides for rights and responsibilities for land reclamation measures. The on-farm collector and drainage networks remain unattended and no proceeds are officially allocated for their operation and maintenance, resulting in low soil fertility.

All inter-farmer relations in the republic are regulated by the law "On Water and Water use", constituted in 1993, by the Decree of the Cabinet of Ministers. This legislation does not take account of recent developments which call for much greater detail governing water management relationships. It would be appropriate to consolidate recent changes into a new "Water Code" and WUA law. To date, a new law is not expected before 2010.

Strengthening the legislation relating to irrigation water management is a key issue and challenge, but it is only a necessary, not sufficient, condition to improve irrigation practices.

**2. Incentives.** A key economic challenge for Uzbekistan is to develop an incentive framework that encourages efficient water use and profitable agriculture. The incentive framework for improved irrigation water management in Uzbekistan is not developed properly. There is no direct financial incentive to prevent over-irrigation, as farmers do not have to directly pay for excess water use. Although both MAWR and WUAs are attempting to implement volumetric water charges, effective implementation is difficult, often due to lack of on-farm control and measuring structures. For both the service provider and the farmer, a well-balanced incentive framework would improve efficiency and accountability, raise productivity, and promote sustainable and environmentally responsible resource use.

A key financial challenge on irrigation schemes is to finance cost recovery adequate to finance good irrigation service to the farmer. Cost recovery from water users has often been advocated by donors and water resource managers as a way not only to finance needed O&M, but also as a way to conserve water. The reasoning is that if the user does not pay for the water, the user has no incentive to conserve and use the water where it provides the optimal return. This argument is valid up to a point, but realities in the field can significantly alter cost recovery reforms. First, an effective cost recovery strategy assumes that the irrigation water arrives at the right time, at the right place, and in the right quantity. All too often, that does not happen, due to dilapidated infrastructure, lack of control structures and measuring devices at the field level, and improper water management. If the term “irrigation service fees” (or water charges) is used, water managers often focus on the “fee” side of the equation, and neglect the “service” side. Water charges will only be effective and practical if they are directly and tangibly linked to improved irrigation service. If the farmers have no water control, they cannot be expected to pay water charges.

Second, it is impractical to expect cost recovery of irrigation charges if farming in general is unprofitable. When farmers are hard-pressed to find money for basic household necessities, it is difficult to expect them to pay for water charges when their entire farming system is unprofitable.

Third, farmers will pay water charges if there is transparency and they’re assured that their fees (not taxes) stay in the irrigation system. Some raions are now attempting to include water charges in the land tax, but it is unclear whether these water charges are being transferred to the central treasury, or are staying in the irrigation system. It is crucial that water fees stay local, and be used for local O&M and improvements. Any water charge that is automatically transferred to the central level treasury will only lead to farmers refusing to pay, as they have no voice where their money will be spent. Cost recovery programs are essential and needed in Uzbekistan for improved irrigation water management. Such programs, however, will only be successful if farmers have quality irrigation service and control, profitable farms, and have decision-making powers regarding how and where their water charges are spent.

All eight WUAs surveyed by the TA team stated that in principle, they charge their members from UZS 3,000-5,000 per ha. The WUAs also stated, however, that farmers cannot even pay this amount due to lack of funds. Their farms are not profitable enough. The data in Table 12 also indicate that the national average payment for water charges for one hectare is approximately UZS 1,400, far less than even the nominal charges from the WUAs.

**3. Investment.** The government has to find budgetary resources to rehabilitate irrigation infrastructure, at main, inter-farm, and on-farm levels. It is acknowledged that the government has limited budgetary resources to invest in agriculture and irrigation sector infrastructure, but the funds will have to found as the requirements for rehabilitating the irrigation infrastructure over the next ten years are hundreds of millions of dollars. The investments should go beyond just physical rehabilitation. Lack of investments in human skills and human capacity building in water management is also a constraint in Uzbekistan. Lack of a dedicated investment program specifically focused on improved farm water management means that needed irrigation management practices are not developed or implemented.

**4. Institutions.** Although MAWR and WUAs recognize the importance of improved irrigation water management, both institutions require assistance, technology, and resources to fully develop and implement new technologies. In the national context, MAWR and WUAs need assistance to fully shift towards a new public-private paradigm for irrigation, where the government increasingly takes on the role of facilitators, and the users (WUA) and markets pay a growing role in irrigation management and finance. Within Uzbek agriculture as a whole, it will be essential to integrate improved irrigation management practices into broader agricultural reforms.

In some areas of the country the concept of a WUA has been misinterpreted. There are examples of WUAs that are not hydrological units. Also, in some cases the management of the WUA has been taken away from the constituent farm membership. In these cases there is a need to make changes so that the WUAs are constituted in accordance with the legislation. Intensive work on making contracts between a WUA and its members is being held in the provinces. But in this case, the WUA becomes the external organization for its members. This is not how a WUA is meant to work.

Based upon its designation, a WUA can perform the following actions:

- a) exploitation and maintenance of irrigation system within the WUA service zone;
- b) purchase of irrigation water from water suppliers or self-sufficient withdrawal from river, underground and other natural water objects in compliance with contract (license);
- c) fair and objective distribution of irrigation water among WUA members on the basis of annual water use plan;
- d) provision of rational and thrifty use of water, reduction of unproductive water losses.

Established WUAs are expected to cover a wide range of problems relating to the maintenance of the irrigation infrastructure and its operational status. However, there is a substantial gap between principle and practice. In accordance with the present regulations farmers should delegate all authorities to WUAs to enable water resources to be managed. However, to date, most WUAs do not have their own legal position, financing mechanism or authorities for distribution of water resources. Thus, at the present time resources for improving service quality on inter-farmers networks are lacking.

**5. Infrastructure.** Rural and irrigation infrastructure deficiencies constrain improved irrigation water management. Whether it is a pump or gravity irrigation system, if the physical infrastructure is not functioning, or non-existent, improved water management is very difficult to implement. Additionally, as pump irrigation consumes so much of MAWR's budget, the dilapidated condition of the pumps is a serious constraint to implementing effective irrigation water management.

During recent years maintenance of main irrigation infrastructures has been financed at only 55% of requirements. During the last 10 years, the budget for maintenance and functioning of the irrigation systems has steadily declined in real terms. From 1991 to 2001 the share of state investments in agriculture declined from 27% to 8%. Capital investments in water resources were cut to almost 20% of required levels whereas the share of costs for electric power consumed by the pumping stations went from 13% up to 48%. Approximately 20% of consumed electric power in the country and 70% of the budget of the Ministry of Agriculture and Water Resources is consumed by electric power used for pumping stations and drainage.

Because of the reduction in the state budget, there was the same reduction of financing capacities of irrigation complexes that resulted in a decrease in technical performance of the infrastructure so that irrigated lands became salty, and less productive.

104. During the survey of WUAs, farmers and WUA officials were asked to identify the most important water management problems and their underlying causes. The results are summarized in Table 20. It is clear that fundamental policy changes are needed if the current trends are to be reversed and agriculture production is to be placed on a sustainable basis. The lack of an adequate legal base, unclear irrigation system management guidelines, inadequate finances and weak institutional capacity are all significant issues which should be addressed as a package.

**Table 20: Priority Irrigation and Drainage Problems as Identified by TA Surveys**

IDENTIFIED IRRIGATION/ DRAINAGE PROBLEM	IDENTIFIED CAUSE/REASON
Poor Ameliorative Condition of Land	<ul style="list-style-type: none"> <li>i) Funds provided from government budgets and by farmers for irrigation works are very small. Only 25-30 % of collectors and drains are cleaned annually.</li> <li>ii) Lack of excavators and other machinery.</li> <li>iii) Cropping pattern planned without considering need for water supply. Annually more than half of the wheat area is used only after soils leaching.</li> <li>iv) There is too high irrigation water consumption (13,000m<sup>3</sup>/ha) in many areas.</li> </ul>
Expensive Pump Irrigation	<ul style="list-style-type: none"> <li>i) High costs of electricity.</li> <li>ii) New pumps are rarely imported, existing pumps are operated more than 15-20 years.</li> <li>iii) Difficulties in provision of spare parts.</li> <li>iv) High expenditures for O&amp;M of these pumps.</li> </ul>
Weak WUAs	<ul style="list-style-type: none"> <li>i) Legal status of WUAs remains unclarified.</li> <li>ii) Undeveloped interaction mechanism between WUAs and farmers, dehkan farms, and government bodies.</li> <li>iii) Payment mechanism for WUA service not developed.</li> <li>iv) WUAs lack facilities and equipment.</li> </ul>
Improper Irrigation Methods	<ul style="list-style-type: none"> <li>i) No organization focused on improvement of irrigation technologies.</li> <li>ii) Farmers and WUAs not technically capable to deal with this issue.</li> <li>iii) Over-irrigation.</li> </ul>

Source: TA team

## VI. INPUT SUPPLY SERVICES

### A. Input Supply Services Framework

105. The agricultural input supply regime has two broad delivery mechanisms. Those farms tied to the state procurement system rely upon a network of specified suppliers whilst the dekhan farms rely mainly on local markets and own resources. The suppliers to the leasehold farms are largely centrally controlled although Government is now divesting its shareholding in many of these enterprises. In order to gain further insight into the functioning of the service providers a survey based upon a standardized questionnaire and interview was undertaken by the Ministry of Economy Institute. Representatives of the suppliers in the selected raions were interviewed in January 2008. This section is based upon the findings of this survey. The full survey is available as a separate document.

106. All aspects of cotton and wheat production in Uzbekistan are tightly controlled. The starting point for farmers is their contract to provide a given quantity of raw cotton or wheat to the relevant processing facility, ginnery or flour mill. The contracted amounts are based upon technological norms for the location in question. For example a given location maybe allocated a cotton productivity level of 2.6 tons/ha based on soil quality and other local factors. This norm and the area of the farm are used to determine how much raw cotton a farm should provide for state procurement. In the case of cotton, there is very little flexibility allowed in the drive to maximize cotton output. Wheat contracts are usually more flexible allowing farmers to retain wheat for their own use and private sale.

107. Farmer's complaints about these contracts centre on two main points. Firstly, they complain that the technical norms used are outdated. Official soil quality grades have not changed for over ten years even though all concerned recognize that actual soil quality has declined. The agency responsible for soil classification is no longer undertaking the necessary work. This means that the contracted quantities become more difficult to attain as soils deteriorate. Secondly, farms find themselves pressured into growing cotton on a larger area than legislation requires.

The contracted amounts of cotton and wheat and the prescribed productivity levels are then used as the basis for determining the input requirements of individual farms. Again, these technical norms were established years ago and in many cases no longer reflect the realities of growing cotton and wheat in many areas of the country. Farmers have no control over how much of each input is delivered to their farm but they do control how much is actually used. Nevertheless, they are charged for the normative amounts plus delivery even though in many cases the amount no longer reflects their requirement. Payment for the quantities prescribed is made by bank transfer using the directed credit mechanism and related prices set by the MOF.

108. Apart from being based upon outdated physical parameters the input delivery mechanisms have other limitations. The system as a whole is immensely bureaucratic involving time consuming paperwork and state funded agencies which have to be financed by the sector. These agencies are effective monopolies with no incentive to perform a service function. Their priority is to maintain the status quo rather than improve their service to farmers. It is not surprising that farmers complain of poor service, citing untimely delivery, low quality materials and under weight amounts. The agencies face no accountability; there is no independent assessment of their performance.

109. The Government has undertaken a number of measures over recent years to improve the supply of mineral fertilizers, agro-chemicals and fuel and lubricating materials to farmers. Stations for provision with fuel-and-lubricating materials and mineral fertilizers were established and they are delivered to farmers from such stations. Mineral fertilizers and fuels are limited and sold to farmers engaged in cotton and grain production at reduced prices. Quantities are limited based on the area under crops and yield of such crops. If a farmer wants to purchase more resources than he is allocated, then he may do this through an auction system at higher prices than those of state suppliers. Cost of mineral fertilizers, fuel and lubricating materials sold through the auctions is higher than the directed supplies by about 25%.

With a view to increasing the effectiveness of farmers' activity, the Government has undertaken measures to develop the infrastructure of agriculture service providers; notably they include mini-banks, alternative MTPs, stations for the sale of FLM, zoo-veterinary service stations, network of information and consulting services, networks for provision and sale of agricultural products, and a network of equipment delivery to farmers based on leasing.

Over recent years resources have been delivered to leasehold farmers by service providers on certain dates under strict supervision of local authorities and government. This top-down system is consistent with the requirements of state procurement, but does not always meet the needs of farmers. Firstly, while obtaining the resources (chemical fertilizers, fuel and lubricating materials, services), the farmer is not informed beforehand of their price. Secondly, the farmer obtains these resources without any cash payment. The farmer has little if any control over the costs he is incurring. In effect, the farms financial performance is largely a function of the quality of his soil, which is why leasehold farmers are so concerned about the soil quality values used to derive their state quota.

Resources released according to the centralized distribution are not always sufficient for timely conduction of land treatment and generation of high yields. Although some resources have recently been sold through the auctions, low farm profit margins and high prices make them unaffordable to most farmers.

110. The most logical step forward would seem to be the need to give farmers more choice of supplier. The same "voucher" system could be retained but a choice of supplier would

create competition and allow subsidies on inputs to be phased out. Competition for machinery services including leasing of machinery has already proved successful as a means of reducing costs and allowing more timely operations.

111. More detailed assessment is needed on two key issues. Firstly, the relationship between a farm's natural resource status and its input requirements should be as assessed by the farmer. It is expected that significant differences may be evident even within the same raion. Secondly, it would be helpful to explore the relationship between the value of input resources made available and the output value achieved at both farm and raion levels. In effect, what is needed is the establishment of a bottom up approach to the determination of input requirements.

### **B. Machinery Services**

112. Machinery services are rendered by district Machinery and Tractor Parks (MTPs), subdivisions of "Uzagromashservis". A resolution on the privatization of 185 district MTPs by 2010 was recently adopted, (Resolution #III-627 dated July 20, 2007 of the President of the Republic of Uzbekistan). Currently, the state share in these MTPs is highly variable but tending to decline.

In addition, so called alternative MTPs based on private or collective ownership have been established. As of October 1, 2007 there are 185 alternative MTPs nationwide. Large farmers have their own machinery and tractor park; and they render services to rural farmers on contractual basis in addition to using them for their own needs.

All examined MTPs are 15-100% state owned, but at the same time there are such MTPs where state share is zero. For example MTPs of Yazyavan raion of Ferghana oblast and of Nishan raion of Kashkadarya oblast state share was not observed.

**Table 21: Data on MTPs in Surveyed Raions .**

Name of the raion	Name of the MTP	State share (in%)	Number of executed contracts in 2006	Number of non-executed contracts in 2006.*
Ellikala	JSC "MTP" of Ellikala raion	25	188	8
Hanka	OJSC "MTP" of Hanka raion	25	476	11
Marhamat	SC "MTP" of Mrhamat raion	35	241	-
Mingbulak	SC "MTP" of Mingbulak raion	35	674	46
Yazyavan	SC "MTP" of Yazyavan raion	-	624	9
Jandor	SC "MTP" of Jandor raion	35	578	-
Bukhara	SC "MTP Gala-Osiyo" of Bakhara raion	25	212	9
Kamashi	JSC "SC "MTP" of Kamashi raion	35	872	-
Nishan	SC "SC "MTP" of Nishan raion	-	959	392
Ak-altin	State enterprise "MTP named after Usman Nosir"	100	29	-
Saihunabad	SC "MTP" of Saihunabad raion	25	720	18
Kuychirchik	SC "MTP" of Kuychirchik raion	25	451	17
Ahangaran	SC "MTP" of Ahangaran raion	25	317	-
Zamin	SC "MTP" of Zamin raion	15	815	88
Kiziltepa	SC "MTP" of Kiziltepa raion	25	432	-
Kattakurgan	JSC SC "MTP" of Kattakurgan raion	35	315	11
Sherabad	SC "MTP" of Sherabad raion	35	405	-

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113. Examined MTPs provide the following types of services:

- i) tillage;
- ii) levelling of lands;
- iii) land harrowing;
- iv) mowing;
- v) cotton picking;
- vi) other types of activities including repair and recovery works of machinery.

114. Results of interviews undertaken with heads of MTPs in the selected raions showed that the cost of services rendered to farms varies considerably. For example, in Ellikkala raion in 2006 the cost of tillage of one hectare was 18646 UZS, compared to Yazyavan raion where the cost was 32467 UZS. The variation is partly explained by the fact that mechanization services by MTPs include the use of different type of machinery (manufactured in the US, Russian Federation and local ones). It also depends on the technical condition of lands and distance from farms to MTP bases in the raion. Differences in machinery service costs are also influenced by the cost of repairs and recovery works for imported and local machinery. The wide range in actual machinery costs incurred by farmers illustrates the futility of imposing countrywide norms for specific operations.

At the same time not all concluded contracts between farms and local MTPs are fulfilled. The cause of annulling contracts are alternative services used by farms, such as private services as well as use of own machinery. Maximum quantity of non-fulfilled contracts was observed in 2006 in Nishan raion, whereas the lowest figure was in Ellikkala raion. At the same time it should be stressed that in some raions cases of non-fulfillment of contracts in 2006 were not observed.

115. The total volume of MTP services required for raw cotton and wheat growing is defined according to normative documents calculated by the Fund of Calculations for Agricultural Production for State Needs under the Ministry of Finance of the Republic of Uzbekistan. The volume of services provided by MTPs for growing other types of crops is defined according to demand. In the selected raions MTPs collect payments for services to farms by transfer of money from accounts of farms to accounts of MTPs. In some raions there are farms that have their own machinery which is used for satisfying the needs of neighboring farms and in many cases such services are paid in cash

Limited financial resources of MTPs do not allow them to organize mini-servicing shops for current repair works. It leads to situation when farms are forced to use alternative services of mechanization provided by private individuals under cash payment conditions (in spite of the fact that their services are more expensive than those of MTPs). Although the situation is improving, it is evident that the stock of machinery needed to support the sector remains inadequate.

116. The “Uzqishloqkhujaliklizing” non-governmental leasing company provides farmers with agricultural machinery on credit. Term of leasing is 7 years with interest rate of 7% p.a. This represents a subsidy for agricultural producers. There has been considerable interest in leasing machinery; the major problem is that the majority of farmers is incapable of timely repayment of interest, and cannot afford the down-payment of 15% of equipment value.

Nevertheless, there are a number of problems associated with rendering the mechanized services: quality of services is poor and they don't cover all types of agro-technical needs. The cost of services is very high and this makes them unattractive for farmers to use. Some MTPs are dilatory in performing their contractual obligations and interventions by local

authorities may result in premature termination of contracts. The lack of cash in the agricultural economy also affects the ability of farmers to effect timely payments for services.

### C. Fuels and Lubricants

**Table 22: Fuel Suppliers in Selected Raions.**

Name of raion	Name of the supplier	Share of investors (in %)			Number of executed agreements in 2006.
		State share	Share of private investors	Share of foreign investors	
Ellikala	Hanka branch of the "Ellikala Fuel Storehouse"	51	49	-	2884
Hanka	Hanka branch of the "Urgench Fuel Storehouse"	51	49	-	3095
Marhamat	Unitary enterprise "Andijon Fule Storehouse"	100	-	-	36
Mingbulak	Fuel Distribution Point "Giant"	51	47.47	1.53	236
Yazyavan	Unitary enterprise "Ferghana Fuel Storehouse"	100	-	-	650
Jandor	Karakul branch of the "Bukhara Fuel Storehouse"	100	-	-	810
Bukhara	Unitary enterprise "Bukhara Fuel Storehouse"	100	-	-	1204
Kamashi	Unitary enterprise "Sharisabz Fuel Storehouse"	100	-	-	700
Nishan	Fuel Distribution Point "Ibn Sino"	51	49	-	97
Ak-altin	Unitary enterprise "Gulistan Fuel Storehouse"	100	-	-	114
Saihunabad	Unitary enterprise "Gulistan Fuel Storehouse"	100	-	-	114
Kuychirchik	Fuel Distribution Point №21	100	-	-	602
Ahangaran	Fuel Distribution Point "Shomadlik"	100	-	-	260
Zamin	Dashtabad branch of the unitary enterprise "Djizzakh Fuel Storehouse"	51	49	-	1144
Kiziltepa	Unitary enterprise "Navoi Fuel Storehouse"	100	-	-	717
Kattakurgan	Unitary enterprise "Nurobod Fuel Storehouse"	51	49	-	612
Sherabad	Unitary enterprise "Termez Fuel Storehouse"	51	49	-	881

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117. Quota calculations of fuels for cotton and wheat growing are also based on norms calculated by the “Fund of Calculations for Agricultural Production for State Needs” under the Ministry of Finance of the Republic of Uzbekistan according to agro-technical charts. The payment method for fuel supplies is a transfer payment from buyer’s account to the account of the supplier. There is a discrete secondary market in fuels which helps to overcome the imbalances resulting from the use of centrally determined norms. Prices for gasoline are established by the Decree of the Cabinet of Ministers of the Republic of Uzbekistan and in all regions the selling price from oil bases is fixed. In 2006 A-76 type gasoline was sold at 468 000 UZS per ton and A-95 type gasoline – 617500 UZS per ton in all regions of Uzbekistan.

It should be stressed that oblast oil bases provide limited volumes of fuel to farms which are intended to cover only cotton and wheat growing. If a farmer wants to grow other crops then fuel should be obtained via commodity exchange. The oil base of each region is responsible for delivering the necessary volumes of fuel to mini distribution stations. Payment for services of insurance companies is also effected by regional oil bases in each raion. Mainly, insurance covers road accidents when transporting fuels to the points of destination. Branches of such insurance companies as “Kafolat” and “Agrosugurta” provide this service at the raion level..

#### **D. Fertilizers**

118. According to enterprises which directly supply fertilizers to farms in the selected raions it was established that the majority of interviewed companies are 51-100% state owned managed by state owned company «Kishlokkhojallikimyo». Only in Zamin raion of Djizzak oblast is the state share in enterprise «Kishlokkhojallikimyo» less than 50%.

**Table 23: Fertilizer Suppliers in Surveyed Raions .**

Name of the raion	Name of the supplier	Share of investors (in %)		Number of executed agreements in 2006.
		State share	Share of private investors	
Ellikala	State Company "Kishlokhujalik kimyo"	100	-	891
Hanka	State Company "Kishlokhujalik kimyo"	100	-	1220
Marhamat	State Company "Kishlokhujalik kimyo"	51	49	525
Mingbulak	State Company "Kishlokhujalik kimyo"	100	-	741
Yazyavan	State Company "Kishlokhujalik kimyo"	100	-	713
Jandor	State Company "Kishlokhujalik kimyo"	51	49	1056
Bukhara	State Company "Losha" "Kishlokhujalik kimyo"	100	-	864
Kamashi	State Company "Kishlokhujalik kimyo"	51	49	1123
Nishan	State Company "Kishlokhujalik kimyo"	51	49	2187
Ak-altin	State Company "Kishlokhujalik kimyo" (SC "Yangier")	100	-	153
Saihunabad t	State Company "Kishlokhujalik kimyo"	51	49	1725
Kuychirchik	State Company "Kishlokhujalik kimyo"	100	-	525
Ahangaran	State Company "Kishlokhujalik kimyo"	51	49	461
Zamin	State Company "Kishlokhujalik kimyo"	25	75	992
Kiziltepa	State Company "Kishlokhujalik kimyo"	100	-	517
Kattakurgan	State Company "Kishlokhujalik kimyo"	51	49	629
Sherabad	State Company "Kishlokhujalik kimyo"	100	-	880

Source: TA Survey

119. The quotas used to distribute fertilizers is conducted on the basis of norms established in the Decree of the President of Republic of Uzbekistan №243 dtd 23/12/2005 «On measures of providing agriculture with mineral fertilizers in 2006. On the basis of the Decree

instructions are given to raion branches of «Kishlokkhojallikkimyo» on the allocation of fertilizer limits for farms depending on their land area and land quality. Farms receive fertilizers from warehouses of the raion branches of «Kishlokkhojallikkimyo» for cotton and wheat growing under conditions of 50% advance payment for each lot of product with final payment due within 60 days after delivery. For other agricultural crops, farmers purchase at 100% advance payment.

120. As with other input services, farmers raised a number of issues. There is a growing gap between the amount of fertilizer prescribed by the norms and the amounts that can be taken up by the crop in the prevailing field conditions. The amount of fertilizer a farm is expected to use bears no relationship to expected productivity levels which are constrained by other factors. Farmers also complain about the timeliness of deliveries and in some cases the lack of quality controls. The state agency involved is a monopoly and farmers have no redress for poor performance by the agency.

Although farm-gate fertilizer prices are below world parity levels, farmers generally think that they are expensive. This is partly due to the relatively poor physical return on the amounts of fertilizer used and also to the low level of procurement prices. If fertilizer use was consistent with expected yields and domestic procurement prices fully reflected world prices then fertilizers would not seem so expensive. In recent years Government has also removed the VAT waiver that formerly applied to fertilizer purchases.

## **E. Seeds**

121. The survey of heads of enterprises, which directly supply farms with seed resources of raw cotton and wheat in selected raions it was established that the majority of enterprises interviewed are 51% state owned. Moreover in Markhamat raion of Andijan oblast state share is 100%. Only in Bukhara raion farmers are supplied with seeds by JV «Karvon» (51% of share belongs to foreign investor and 49% - local private investor). Also, foreign investors have shares in seed supplying enterprises in Ellikkala raion (42%), Nishan (29%), Sherabad raion (42%) and in Akhangaran raion (0.5%).

**Table 24: Suppliers of Seeds in the Surveyed Raions.**

Name of the raion	Name of supplier	Share of investors (in %)			Number of executed contracts in 2006.
		state share	share of private investors	share of foreign investor	
Ellikala	JSC "Ellikala oltin tolasi"	51	7	42	797
Hanka	JSC "Khanka don mahsulotlari"	51	49	-	1697
Marhamat	JSC "Ukchi pahta tozalasjh zavodi"	100	-	-	305
Mingbulak	JSC "Gulbog"	51	49	-	732
Yazyavan	JSC "Fargona don"	51	49	-	666
Jandor	JSC "Jandor"	51	49	-	700
Bukhara	JV "Karvon"	-	49	51	704
Kamashi	JSC "Kamashi DKK"	51	49	-	1125
Nishan	JSC "Nishon pahta tozalash"	51	20	29	1385
Ak-altin	JSC "Sardoba pahta tozalash"	51	49	-	1123
Saihunabad	JSC "Ak-Altin don"	51	49	-	815
Kuychirchik	State Company "Mustakillik pahta tozalash korhonasi"	51	49	-	537
Ahangaran	JSC "Ahangarandon"	51	48.5	0.5	454
Zamin	JSC Zarbog elevatori"	51	49	-	452
Kiziltepa	JSC "Kiziltepa un zavodi"	51	49	-	469
Kattakurgan	JSC "Kattakurgan pahta zavodi"	51	49	-	583
Sherabad	JSC "Sherebod Pahta"	51	7	42	550

Source: TA Survey

122. The quotas for seed deliveries to farms are based upon the volumes of wheat and cotton prescribed in contracts between farms and procuring organizations. In turn, these volumes were previously calculated using norms elaborated by the Ministry of Agriculture taking into account specific characteristic of land resources. Farms in the surveyed raions obtain seed resources of raw cotton and wheat from suppliers' warehouses after having transferred money from their own account to supplier's account. Necessary financial resources of farms for payment to suppliers are indicated in their contracts.

123. The procurement price of wheat seed in the surveyed raions, is formed on the basis of price indicators established in Pricelist № 70-01-04-2006 dtd. 22/05/2006 for grain crops elaborated by the Ministry of Agriculture and Water Resources and SC «Uzdonmakhsulot» and approved by the Ministry of Finance. According to this document procurement price of wheat (Grade III) was 98400 UZS per ton. The wholesale prices for wheat seeds taking into account quality premiums for three grades are formed by applying the following premiums to

the procurement price: Super Elite – 200%, Elite – 120%, Reproduction I – 80%. As a result the wholesale price for wheat (Super Elite) comprised 295200 UZS/ton, Elite – 216480 UZS/ton, Reproduction I – 177120 UZS/ton .

124. Procurement prices for raw cotton seeds in the surveyed raions, is based upon the price indicator of 306000 UZS per ton. Wholesale prices for cotton seeds of different grades (Elite, Reproduction I, Reproduction II, Reproduction III) is formed on the basis of the following premiums to the procurement price: Elite -100%, Reproduction I – 75%, Reproduction II – 50%, Reproduction III - 25%. As a result the wholesale procurement price for Elite comprises 612000 UZS/ton, Reproduction I – 535500 UZS/ton, Reproduction II – 459000 UZS/ton, Reproduction III – 382500 UZS/ton.

125. Suppliers of seed resources in raions use services of raion branch offices of “Pakhta Bank”, “Galla Bank”, particularly, for financial operations with farmers. Costs of transportation from a supplier to farms are covered by allocations indicated in contracts at: starting from 100 UZS per 1 ton for 1 km (Zamin raion) up to 553 UZS per 1 ton for 1 km depending on road conditions and type of technique used for transportation.

126. Table 25 lists the prices of a range of supplies and services paid by farmers in the past five years. These are the prices, for the most part, charged to farmers under the state procurement regime.

**Table 25: Prices of Supplies and Services for 2001-2007 ( soums)**

№	№	Types of resources and services	Measurement Unit	2001	2002	2003	2004	2005	2006	2007	
<b>1</b>		<b>Fertilizers</b>									
	1	Ammonium sulphate	kg	32.1	50.2	74.2	100.2	111.4	111.4	111.4	
	2	Carbamide	kg	43.5	47.9	73.3	115.7	149.2	167	181.1	
	3	Superphosphate	kg	26	27.6	45.4	53.5	183.2	186.2	195.3	
	4	Potassium	kg	53.4	92.6	118.9	164.0	206.2	264.0	294.0	
	5	Ammophos	kg	112.0	123.0	123.0	213.4	225.9	272.9	281.5	
	6	Ammonium nitrate	kg	28.4	44.8	68.6	105.6	131.8	145.9	150.6	
	7	Organic fertilizers	kg	5.0	6.5	6.9	8.5	12.1	10.2	11.2	
<b>2</b>		<b>Fuel</b>									
	1	Diesel oil	kg	98.3	111.2	123.5	159.9	237.45	389.67	536.2	
	2	Petrol	kg	128.2	174.0	265.2	294.0	469.0	610.0	720.0	
	3	Lubricant materials	kg	115.4	138.5	188.4	239.8	285.5	468.5	564.3	
<b>3</b>		<b>Services</b>									
	1	Tillage	1 ha	10204	13605	18140	21341	22323	23748	25210	
	2	Coating	1 ha	5102	6802	9070	10670	11161	11874	12605	
	3	Disking	1 ha	2551	3401	4535	5335	5581	5937	6303	
	4	Harrowing	1 ha	2552	3403	4537	5337	5583	5939	6305	
	5	Use of stubble breaker	1 ha	2515	3354	4472	5261	5503	5855	6215	
	6	Sowing of cotton seeds	1 ha	2758	3677	4902	5767	6033	6418	6813	
	7	Sowing seeds of wheat	1 ha	2648	3530	4707	5538	5793	6163	6542	
	8	Cultivation	1 ha	-	-	-	-	-	-	-	
	9	Defoliation	1 ha	-	-	-	-	-	-	-	
	10	Harvesting of wheat	1 ha	26308	35078	46770	55024	57556	61230	65000	
	11	Transportation	1t/km	275	367	489	576	602	641	680	
<b>4</b>		<b>Seeds</b>									
	1	Cotton	kg								
	2	Wheat	kg	100	135	180	214	264	330	345	
	3	Corn	kg	348	470	626	746	877	1020	1200	
	4	Potato	kg	521	705	939	1118	1316	1530	1800	
	5	Onion	kg	869	1174	1566	1864	2193	2550	3000	
	6	Carrot	kg	2317	3132	4175	4975	5848	6800	8000	
	7	Cabbage	kg	7242	9786	13048	15534	18275	21250	25000	
	8	Melons/water melons	kg	8690	11744	15658	18641	21930	25500	30000	
<b>5</b>		<b>Other expenditures</b>									
	1	Land tax	Ha/soum	6586	7109	7592	8567	10256	13159	19158	
	2	Payments for water	Ha/soum	2500	3000	3000	3000	3000	4000	5000	
	3	Salary	Soum/month.	10000	12000	15000	28000	32000	35000	40000	

## VII. AGRICULTURAL CREDIT

### A. Introduction

127. While slowly reforming and progressing, Uzbekistan's banking sector is still very much dominated by government priorities and interventions, especially in the agriculture sector. The banking sector includes 29 mainly private banks, though many of these have large government ownership stakes. The government controls three large banks, totalling about 60 percent of banking assets, which support the government's economic priorities through subsidized loans offered to specific sectors and targeted commercial lending. Foreign banks may operate only in a subsidiary status, and all routine banking operations require government permission. The banking system is a major instrument of tax collection, especially for the agriculture sector.

128. Agricultural credit schemes, specifically directed credit programmes, are being implemented to support strategic sub-sectors in the agricultural economy, notably cotton production. Since 2004 several reforms have been introduced to improve their effectiveness and the effectiveness of agricultural credit in general. These reforms, relating to credit and associated institutions, have included

- the continuing privatisation of farming entities, financial institutions, and related industries
- the increasing loan size and lowering of the interest rate of targeted loans to wheat and cotton growers
- the closing of the business fund
- Microfinance laws introduced in 2006
- Credit Union Law renewed in 2006.

Despite these reforms most farming enterprises do not have access to the type of credit options they feel would be most beneficial. In general available credit is either directed credit which has only a small cash component and is strictly targeted, or a limited amount of commercial credit which does not meet even a small percentage of their needs. This situation is changing slowly as Microfinance institutions, Credit Unions and Leasing companies push into rural areas and add to the credit options available to farmers. Still 67% of farmers are not accessing the formal financial sector for credit<sup>3</sup>.

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<sup>3</sup> On farm survey, 2007

## **B. Directed Credit Mechanism**

129. Since the dissolution of the soviet era agricultural crediting institution, Agroprombank, there has been an emergence of several new banks focused on agriculture<sup>4</sup>. Along with the new banks emerging, there has also been a growth in Credit Unions and Micro Finance institutions. Despite this there are still numerous gaps in the agricultural credit market. These gaps mainly relate to access to credit by those farmers who are not involved in the growing of wheat and cotton, as producers of those crops are able to obtain credit through a government programme of directed credit.

130. The mechanism for lending the direct credits was established in January 2004 based on the “Regulation of procedure of crediting expenses of farming enterprises for production of grain crops and raw cotton, purchased for state needs by commercial banks”

In order to access the funds a farming enterprise must sign a purchase contract with government suppliers for inputs, develop a business plan with expected cash flows and balance sheet accepted by the tax authorities, and submit a report of financial condition.

The loan is made based on a maximum of 60% of the value of production based on the previous year’s prices and current year’s quota. This is split into specific credit lines and tranches based on the business plan and agricultural charts. The tranches may be targeted at the following operational needs:

- Remuneration of wages
  - This line item is the only form of the loan lent in cash
- Purchase of inputs from government suppliers
- Machinery rental or leasing payments
- Payment of taxes, electricity and water related charges

These line items are fixed before the loan is disbursed and, regardless of any price changes or unanticipated need, the use of funds cannot be altered.

131. The loans are distributed according to standardized technical documents for each crop.<sup>5</sup> For cotton the tranches, as a percentage of previous year’s sales and percentage of loan proceeds are disbursed in the following manner:

- 10% (or 17% of loan proceeds) by January 1<sup>st</sup>
- 25% (or 42% of loan proceeds) by April 1<sup>st</sup>

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<sup>4</sup> Pakta Bank, Galla Bank, and Mevasabzavot Bank, which was subsequently merged with Savdogarbank, were created from the remnants of Agroprombank. Turon Bank, Mikrokredit Bank and Zamin Bank were also established with some or a majority of their focus on Agro-enterprise.

<sup>5</sup> The use of technical documents which do not take into account local conditions or farming methods has also been a barrier to the efficient allocation of monetary resources.

- 50% (or 83% of loan proceeds) by July 1<sup>st</sup>
- 60% (or 100% of loan proceeds) by September 1<sup>st</sup>.

For wheat the tranches as a percentage of sales price and total loan proceeds are:

- 35% (or 58% of loan proceeds) by January 1<sup>st</sup>
- 50% (or 83% of loan proceeds) by April 1<sup>st</sup>
- 60% (or 100% of loan proceeds) by June 1<sup>st</sup>.

Cotton finance is lent for a period of 18 months while wheat finance is lent for 12 months, without the right of extension.

132. Banks that focus on the subsidised credit often do this at the expense of other banking activities. With central bank refinancing rates at 14% and deposits paying 10-12% it is easier for banks to sell low cost directed credit guaranteed by the state than try to mobilise higher cost resources for commercial lending. Even commercial activity in the agricultural sector, in large part, revolves around the needs of farmers who have already received directed credit to engage in other activities.

Banks have in fact reduced their intermediation role to a minimum as a result, although this should be a major role of the financial sector. Banks that do collect deposits appear to perform this activity as a result of governmental pressure rather than any real desire to increase their resources. They also have to pay higher than expected interest rates as they have to respond to government pressure to increase deposits in an environment unattractive to depositors.<sup>6</sup> Rather than developing those skills in efficiently and profitably funnelling money from investors to credit worthy clients, banks have rather focused on meeting the government's targeted goals using low cost funds.

133. It is also clear in the banking system that directed credits have led banks to lose focus on transaction and administrative costs. This is most clearly seen in the development of mini banks without any clear idea of their cost structure or sustainability. Overall, the administrative costs of directed credit loans, from origination through to repayment, appears to be very large, due to onerous application and monitoring requirements. As banks follow the procedures set by the government for underwriting and servicing, the ability to innovate has been stifled to the detriment of their clients in need of a variety of products. As privatisation moves forward in both the agricultural and financial sectors, these banks will find themselves without the necessary resources to compete on a commercial basis.

In the long term, the removal of the directed credit program and further liberalisation of the financial sector will enable financial institutions to increase their efficiency and play a more

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<sup>6</sup> Depositors face both the possibility of their funds being inaccessible as cash due to a tight monetary policy and also the possibility of the funds being frozen for tax purposes.

active role in the intermediation of funds in the country. This will allow a multiplier effect of money in the Uzbek economy, insofar as money not being kept in the banking system is money not being effectively used for investment.

134. The impact of the directed credit mechanism on farmers is to create a disincentive structure relative to other unregulated crops. As it stands, most cotton and wheat farmers are making very little if any profit on these activities. Because the farmers are tied to specific quotas, there is a disincentive to increase production; why produce more than is needed of an unprofitable crop? Farmers are more likely to aim at just meeting their quota while diverting resources to other more profitable activities, allowing them to increase their cash based activities where they can make a profit. Insofar as loans are based on previous year sales, farmers also have a disincentive to increase output over the quota, as they will have to use their own resources to make up the difference in inputs.

135. Farmers have shown themselves willing to pay much higher interest rates to be able to control the use of funds in cash and sell on the open market, again for cash. Many farmers who have acquired the lease of former shirkat land view the growing of cotton as a means to access land they may use for other profit making activities. Further opening up the cotton and wheat markets to competition will allow better use of land as well as encourage funds to flow from the banks to the most effective farmers who prove their ability to manage credit at a commercial rate. With a profit motive, farmers have traditionally been more effective in maximising the yield and managing the land more effectively.

Allowing more access to cash, both in loan form and from revenues after harvesting would be a great incentive for farmers growing cotton and wheat. Currently only that amount used to pay labour charges can be accessed both from the loan and held back from revenue. Farmers have little ability to access money even if it is in their account as a result of revenue and is needed for improving their farming activities. This can lead to problems even in repaying loans from other institutions despite having money in their account.

136. Debts and arrears of agricultural enterprises (shirkats) were periodically written-off or rescheduled with participation of the national budget or agricultural insurance organization, whose major shareholder is the state. Data on accumulated arrears by agricultural enterprises were not published on a regular basis; however, according to the analysis performed by the MAWR, accounts payable of agricultural enterprises always exceeded their receivables by approximately 20% of total value of gross product annually. Continuous net excess of payables at such a scale represented, in a sense, substantial net lending to the agriculture sector by its creditors. However, these measures did not have expected results; the volume of arrears and number of unprofitable agricultural enterprises grew; and the state had to undertake cardinal measures for diversification of agricultural enterprises and their reorganization into independent private farms. This process intensified after 2000, and in 2005 diversification of agricultural enterprises specialized in cotton and grain production was

completed. Diversification of agricultural enterprises specialized in horticulture was started in 2006 and all shirkats had been reorganized into private farms by March, 2007.

137. With a view to providing state support to agricultural producers and financing of expenses for production of major agricultural crops (wheat and cotton), the Fund for Settlements for Agricultural Products Procured for the State Needs<sup>7</sup> was established under the Ministry of Finance. Advances to all agricultural producers who concluded contracts with the Fund's commercial agents (enterprises of the Uzkhlomprom and Uzkhlleboprodukt) for supply of produce for state needs were conducted in accordance with the developed order<sup>8</sup>.

Meanwhile, in accordance with the above-mentioned order private farms are not allowed to dispose of the Fund's proceeds at own discretion, because the special proceeds may be used only for certain purposes, and the Ministry of Finance does not permit their use for other purposes; as a result, such proceeds are blocked for use by profitable private farms. Consequently, this mechanism of advancing the expenditures for production of products for state needs requires improvement.

138. In this connection, the Government introduced the mechanism of lending through commercial banks instead of advances for expenditures (of farms) through the procurement organizations<sup>9</sup>.

In accordance with this mechanism and based on the contracts concluded between the farmers and "Uzkhlomprom" and "Uzkhlleboprodukt" enterprises which are procurers of agricultural products for state needs, commercial banks extended loans with interest rate of 5% to finance 50% of value of products for the following purposes: payment of salaries and deductions from the Wage Fund; procurement of mineral fertilizers, pesticides, fuel and lubricating materials, films for cotton sowing, spare parts for agricultural machinery; payment for services of MTPs, lease payments for agricultural machinery, for electric power, cleaning of collecting and drainage system, and payment of the Single Land Tax.

In accordance with the Statute<sup>10</sup> annual interest rate for concessional loans is now fixed at 3% (including 2% bank's margin) and such loans are extended to farms to cover the expenses related to raw cotton and grain growing for state needs.

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<sup>7</sup> Decree #-2165 dated December 31, 1998 of the President of the Republic of Uzbekistan.

<sup>8</sup> Order of Effecting the Advance Payments for Grain, Rice from the Fund for Settlements for Agricultural Produced Procured for State Purposes registered with the Ministry of Justice of the Republic of Uzbekistan under registration number 656 dated March 1, 1999 (amendments and addenda #656-2 dated January 31, 2002) and Statute on the Order of Advancing and Settlements with Producers of Raw Cotton from the Fund for Settlements for Agricultural Produce Procured for State Needs (registered with the Ministry of Justice #1062 dated August 15, 2001).

<sup>9</sup> Resolution #383 dated November 7, 2002 of the Cabinet of Ministers

139. During the period from 1997 to 2001 the Government undertook a number of measures aimed at improving the financial condition of agricultural enterprises (shirkats). During this period sanitation covered 412 unprofitable shirkat farms. However, these measures did not give the anticipated results, and the number of loss-making farms increased. As a result, a resolution on writing-off the budgetary arrears of shirkat farms and partly private farms was adopted. A total of UZS 346 billion was written off and UZS 35 billion was given an extended repayment period. However, even these measures failed to achieve the anticipated results. Write-off of arrears for unprofitable farms did not motivate the latter to improve their activity.

140. With a view to creating opportunities for use of banks' credit resources by the farms, the Central Bank developed the Statute<sup>10</sup> which became effective on April 26, 2004. According to this Statute, commercial banks extend concessional loans only against a pledge of cotton and grain harvest. Farms specializing in the production of other types of products (fruit and vegetable, meat and dairy products, etc.) use commercial loans. Some private farms with insufficient financial resources for covering production expenditures have to use commercial loans. This fact calls for development of mechanisms and new approaches to lending to farms specialized in production of fruits and vegetable, meat and dairy products.

141. According to information of the Central Bank in 2006 there were purposeful credits in the amount of 482.8 bln UZS dedicated for cotton production, and for wheat production 98.0 bln UZS. The, subsidy element in the bank-rate is included into contractual relations between producers and state procurement organizations. Elements of the subsidy included in advance financing are fully or partially compensated for by delayed payments for delivered products. This may take several months, maybe 5-6 months for cotton after completion of processing of raw cotton and its sale.

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<sup>10</sup> Statute on the Order of Lending by Commercial Banks of Farms' Expenditures for Production of Grain Products and Raw Cotton Procured for State Needs in new edition (adopted by the MOF on August 3, 2005 under #71 and by the CBU on August 3, 2005 under #266-B and registered with the MOJ on August 11, 2005 under #1508)

<sup>11</sup> Statute on the Order of Lending by Commercial Banks to Farms against Pledge of Future Crop (registered with the MOJ on April 16, 2004 under #1337)

**Table 26: Amount of Subsidised Credits Allocated For Cotton and Wheat Production**

Regions	2004		2005		2006	
	Cotton	Wheat	Cotton	Wheat	Cotton	Wheat
Republic of Karakalpakstan	0.0	0.0	17055.0	155.0	23608.2	957.2
Andijan	3649.5	602.2	34100.0	1426.0	41732.7	12619.6
Bukhara	13442.2	375.3	37514.0	950.0	49288.9	4480.6
Jizakh	16615.2	0.0	21981.0	0.0	32961.2	8326.5
Kashkadarya	0.0	0.0	38601.0	3230.0	55279.8	10239.7
Navoi	3245.8	138.5	10406.0	347.0	13577.1	2450.5
Namangan	5527.1	667.3	25738.0	1476.0	33890.7	9945.2
Samarkand	7486.9	1490.9	24986.0	3523.0	34440.5	14054.5
Surkhandarya	0.0	0.0	36769.0	1402.0	49109.8	8415.2
Syrdarya	0.0	0.0	23153.0	1627.0	32909.2	4893.8
Tashkent	0.0	0.0	28565.0	1354.0	35476.0	8043.4
Fergana	8694.6	633.7	30767.0	2408.0	42492.1	11363.9
Khorezm	6191.5	64.2	23596.0	431.0	38043.3	2217.6
<b>Total in the Republic</b>	<b>64852.8</b>	<b>3972.0</b>	<b>353231.0</b>	<b>18329.0</b>	<b>482809.7</b>	<b>98007.6</b>

Source: CB data.

Farmers consider the very limited access to cash as one of the most serious deterrents to cotton production. Farmers receive less than 20% of expenditures for cotton in cash form which is intended to pay for harvesting. All other payments are conducted through bank accounts. Farmers' increased access to cash even in small amounts would be a substantial incentive with zero expenses for the budget.

### C. Commercial Credit

142. Agricultural enterprises can obtain commercial credit from five sources:

1. Commercial Banks
2. Credit Unions
3. Micro Finance Institutions
4. Leasing companies
5. Informal lenders.

The reality is that these sources, with the exception of informal lending from relatives, suppliers and local money lenders, meet very little of the demand for credit in the agricultural sector. In order to modernize the increasingly capital intensive agricultural sector, farming enterprises will need to have access to a variety of credit products; including working capital, seasonal loans, and longer term investment loans. Poorer people in rural areas need access to modern and innovative financial services to help climb out of poverty. In many cases only access to credit will allow the small farmer to make an investment necessary in order to develop a profit making enterprise. Improving credit opportunities for farmers will achieve not only an increase in production, but also a reduction in rural poverty.

143. Commercial banks offer credit to agricultural enterprises on a commercial basis, in the banking system this accounts for 4% of the total portfolio. This usually entails loans to farmers who have already accessed directed credit to engage in other activities or loans for agro-processing. Depending on the client, banks offer different interest rates, tenure and collateral coverage policies. This can range from 5 year loans at 14% for preferred credit to good clients up to 20% loans for under 1 year for regular clients. Collateral coverage policy ranges from no collateral necessary to 125% coverage necessary. Banks do not have any specified loan terms, but tailor each to the business plans of the farmer, the mean term of the loans is almost 42 months in the agricultural sector<sup>12</sup>.

144. Commercial credit terms are underpinned by the refinancing rate of the Central Bank which is currently 14%. Credits are usually offered up to 80% of the value of the collateral. For example “Pakhtabank”, “Savdogarbank”, and “Gallabank” require 120% coverage of the loan amount and “Microkreditbank” 125%. The following Table 27 shows the rates on offer for various types of borrower based on own resources and compares them to subsidised funds.

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<sup>12</sup> 2007 On Farm Survey

**Table 27: Terms of Credits available from Commercial Banks, 2007**

Name of commercial banks	Fixed percentage rates of credits					
	For cattle purchase	For existing asset replacement	For equipment purchase	For Agro-Processing	For Small Enterprise	For trade activity
<b><u>“Pakhtabank”</u></b>						
A. From Own Funds	16%- 18%	Not less 14%	16-20%	16-20%	Not less 8%	Not less 16%
B. Subsidised Funds	2.7% -7. 2%	-	-	2.7%-7.2%	2.7%-7.2%	
<b><u>“Gallabank”</u></b>						
A. From Own Funds	16%	-	16-20%	-	-	-
B. Subsidised Funds	7.0%	7.0%	-	4.6%	4.6%	-
<b><u>“Savdogarbank”</u></b>						
A. From Own Funds	16 - 20%	16-24%	24%	16-20%	16-20%	20-24%
B. Subsidised Funds	7.0%	-	-	7.0%	4.6%	-
<b><u>“Microkredit bank”</u></b>						
A. From Own funds	16%	18% -22%	16% -20%	16% -22%	16%	18%-22%
B. Subsidised Funds	7.0%	-	-	4.6-7.0%	4.6%	-

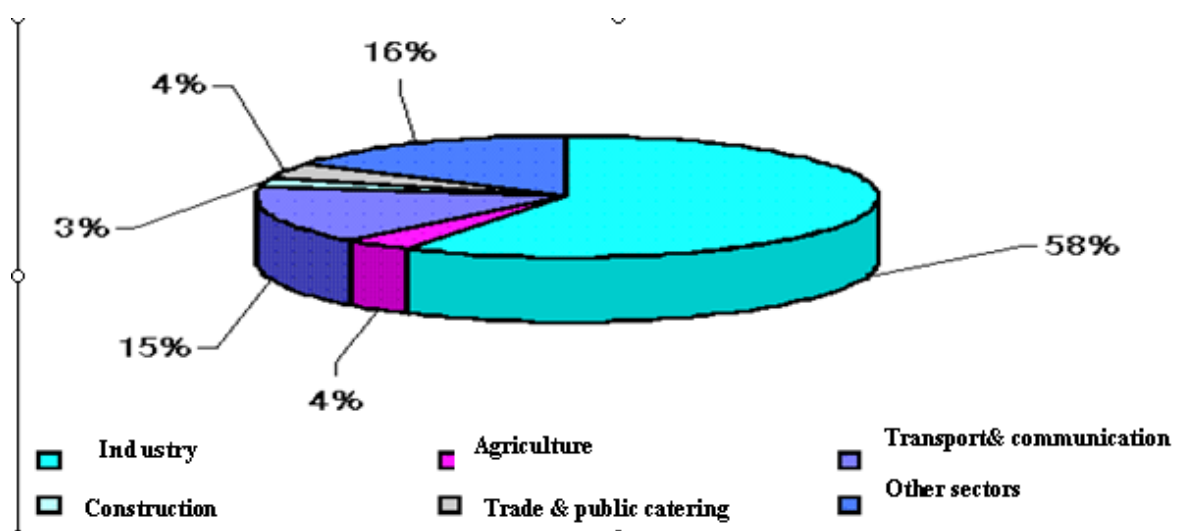
145. The available data indicate that commercial bank lending to agriculture is a very modest 4% of their total lending at commercial rates. According to information of the Central Bank in 2006 the sector distribution of commercial loans was as follows:

Industry – 58%, agricultural economy – 4%, transportation and communication – 15%, building – 3%, trading and public catering – 4%, material-technical provision – 1.2%, housing service – 3.19%, personal services to the public – 0.11%, foreign commerce – 0.2%, other branches – 11.1% .

The largest amount of credits provided to agriculture comes from “Pakhtabank” (31.6%), then “Tadbirkorbank” (23.1%), “Alokabank” (12.9%), “Gallabank” (12.8%) and “Turonbank” (10%).<sup>13</sup>

<sup>13</sup>Source: Financing of agriculture: achievement and perspectives: Magazine – Market, Money and credit 2007(116) N 1

**Figure 6. Distribution of Commercial Credits by Sector, 2006**



Research shows that many farmers do not have the necessary personal assets to use as loan collateral. Even if farm households had the necessary assets, they are not able to afford the high interest payments because their farms are not generating sufficient profits.

### 1. Credit Unions

146. Credit Unions are a relatively new development in Uzbekistan, operating since 2002, but have been growing at a rapid pace. Currently there are 45 registered with 29 fully operational, with an average asset base of \$800,000 for each institution. Agriculture represents a small proportion of the portfolio, but it is a growing percentage and considered to be a strategic sector. Further expansion of the Credit Unions will be focused mainly on rural areas. Currently about 15% of the total portfolio is directed for agricultural purposes. Credit Unions, as opposed to the banking sector, are fully vested in developing an intermediation function, with 98% of their resources derived from deposits. Despite the growth, which is anticipated to reach 90 Credit Unions by 2010, Credit Unions still do not have the resources, both in asset terms and delivery systems, to reach the large number of small farmers seeking credit. As the loans must meet the profit needs of the Credit Unions, which is around 2% margin per month resulting in interest rates of 5% per month, they must be geared towards those enterprises that can provide high profit activities with a short turn around time. This includes construction of greenhouses, harvesting activities, and grape production, but precludes seasonal loans. The need to achieve high margins also rules out working with government credits which do not offer high enough margins to cover the transaction costs.

147. The total sum of current stock of credit unions in September 2007 was 35.1 bln UZS. The credit portfolio for 2006 was 17.1 bln UZS and in year 2007 31.7 bln UZS. The proportion of dedicated credits for agriculture of large credit unions was 8%, middle credit unions 15%, and small credit unions 17%. Farmers use the resources of credit unions mainly in cash for 3-4 months, because farmers can receive short-term credit in 2-3 days without

unnecessary difficulties. Because of insufficient credit resources, credit unions can satisfy only 7-8% of the demand for their funds. Credit unions that operate on the territory of Uzbekistan do not have a right to conduct operations using foreign currency.

The Credit Union movement is supported by a Credit Union Association, which aside from technical assistance, also runs a stabilisation fund valued at \$400,000 to insure deposits and offer some liquidity support. Beginning before the end of 2007, four pilot Credit Unions will begin leasing programmes.

## **2. Microfinance**

148. Before 2006 Microfinance Institutions (MFIs) operating in Uzbekistan were not working under a strong legal basis, only a Cabinet of Ministers Decree from 2002. In mid-2006, two new specialized laws — “On Microfinance” and “On Microcredit Organizations” - were adopted in order to finally provide a legal basis for the operation of non-bank lending institutions. This created a sound environment to work but also obliged some international organizations to close their MFI, rather than register as local entities as required by the new regulations. In Uzbekistan, MFIs still have a low penetration rate in rural areas, and focus mainly on urban small entrepreneurs. The sector is growing again in 2007, with several new institutions recently registered.

In addition to those MFIs operating under the new laws, the Uzbekistan government has also worked to downscale several banks, and in May 2006 the state run Tadbirkor Bank was reorganised as the Mikrokredit Bank, offering a range of subsidised and commercial credit, with rates from 5-14% to clients seeking small loans. Currently 60% of their portfolio is in the agricultural sector.

Many MFIs and the Mikrokredit Bank offer micro-leasing programmes for agricultural machinery.

## **3. Leasing Companies**

149. Leasing in Uzbekistan was established in 1993 and strengthened with Presidential Decree #3122 “On Measures for the Future Development of Leasing,” enacted August 28, 2002, and supported with more than 40 legislative amendments to the Civil Code, Tax Code, Civil Litigations Code, and the Laws on Leasing and Customs Tariffs between 2002 and 2003. Further tax advantages were implemented with April 2004 and April 2006 Government resolutions which provided even more momentum to accelerate the activity in the sector. Uzbekistan has moved forward with the privatization of leasing companies which, along with the lifting of associated restrictions for entering the market, has opened the door for competition amongst the financial institutions for a portion of the leasing business.

Many banks and credit unions have either begun, or are implementing, a leasing programme, and in many cases this is expected to become a large part of their business strategy. As equipment purchase is one of the major needs of the agricultural sector leasing will continue

to play an important role in meeting the needs of the sector. Currently leasing of agricultural machinery makes up 57% of the leasing market (end 2006), with a total of \$61.3 million in leased machinery during the year. This is a strong indicator that when a portion of the financial sector is open to competition the benefits to the client are positive. Currently there are beneficial tax privileges for leasing which will continue to make it a popular method for financing equipment, both from the financial sector and enterprise point of view. This includes, as of April 2006, an exemption from income tax on leasing transactions until 2009. As the general risks associated with agricultural lending are increased over a long term loan, leasing will continue to be an important tool to mitigate these risks for the financial institutions, as the financial institution maintains a strong legal position for seizure and sale in case of default throughout the life of the lease.

The legal regulations in place in Uzbekistan are some of the most progressive in the region and provide an enabling environment for the growth of this sector. As of the end of 2006 there were 33 institutions involved in leasing, eighteen of these are banks, 14 are leasing companies, and 3 are microfinance institutions. This is expected to continue to grow as Credit Unions and other financial institutions add leasing to their suite of products.

#### **4. Informal Credit**

150. Evidence indicates that there is a large informal credit sector in Uzbekistan, from moneylenders charging annual rates of up to 120% to loans from relatives. These offer fast alternatives for immediate funds compared to the banks. There have also been some informal rotating savings and credit associations (ROSCAS) whose members lend and save amongst themselves. Several of these Roscas were in fact transformed into Credit Unions. Supplier and processor credit is also available in many instances in Uzbekistan. For those producing for the export market, some intermediaries have even developed a form of futures contract for advance payment to farmers to guarantee purchase of their goods for delivery.

Farmers turn to these informal means due to a lack of alternatives. If similar services were offered on a more formal basis the farmers would benefit tremendously.

#### **5. Farmers Association Funds**

151. The government has developed the Fund for the Support of Peasantry and Farmers (Dekhan Fund) from the revenue of the unified land tax. The funds lend mainly to small farmers through the commercial banking sector with highly subsidised interest rates equivalent to 1/3 of the central banks refinance rate. The average loan size is \$10,000 with a maximum three year term. The fund has been steadily growing since its inception in 1998, allocating a total of 1.3 billion UZS in 2006 and supporting around 500 farms, out of an estimated demand of 214,000 possible clients. The Dekhan Fund is not a guarantee and the financial institution incurs all repayment risk. The Fund is a legal entity with its own balance, settlement and other bank accounts in national and foreign currency, seal with their own emblem and name, corresponding punches, blanks and other attributes.

The Fund has concluded agreements on the provision of subsidised credit with a range of banks like Pakhtabank, Gallabank, Turonbank, Khamkorbank, Peoples'Bank, and National Bank. Thus, if today's refinancing rate of Central Bank is 14%, then the interest rate of the Fund's credit is going to be 4.6%.

152. Credits for initial (starting) capital are offered to dekhkan farm households with the aim:

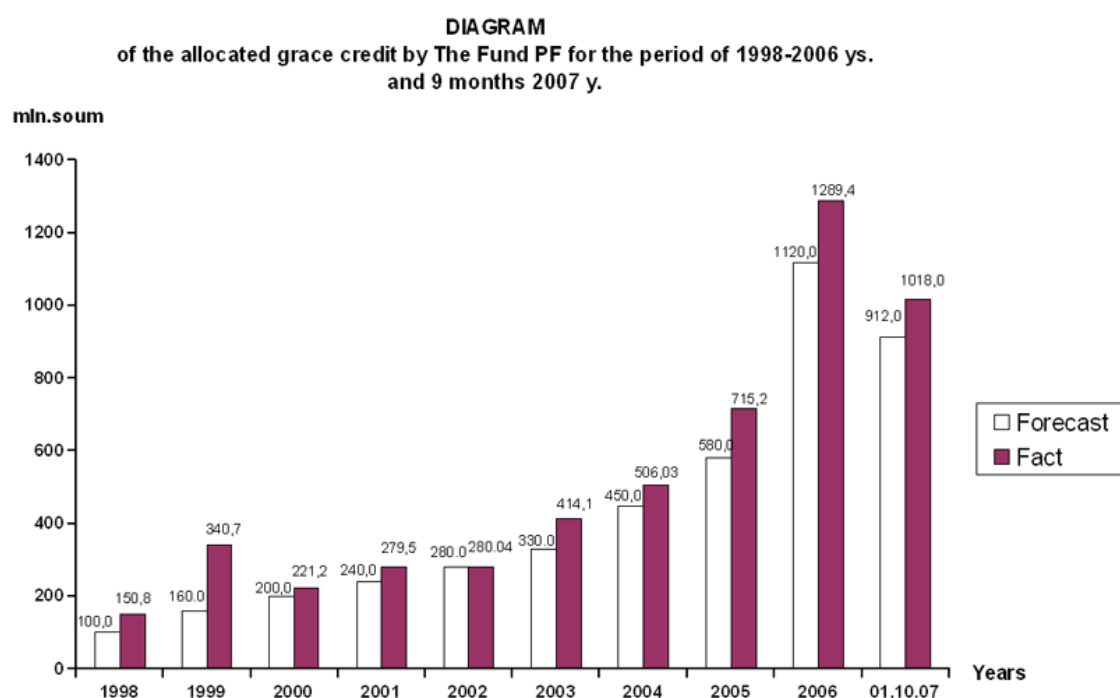
- to support cash flows of commercial activity;
- development of technical-economic justification of investment projects;
- equipment purchase

Every year 50% percent of Fund's credit resources are allocated to credit lines in commercial banks to form initial (starting) capital for newly created dekhkan farms. These credits are offered only to those farms who submit their requests for credit in the period of 6 months after their government registration. Subsidised credit at a rate of 1/6 refinancing rate of Central bank for a period of 3 years without the right to extend is made available to such farms. For these credits, deferred interest is offered for 12 months and repayment of principal begins after 18-24 months following receipt of credit.

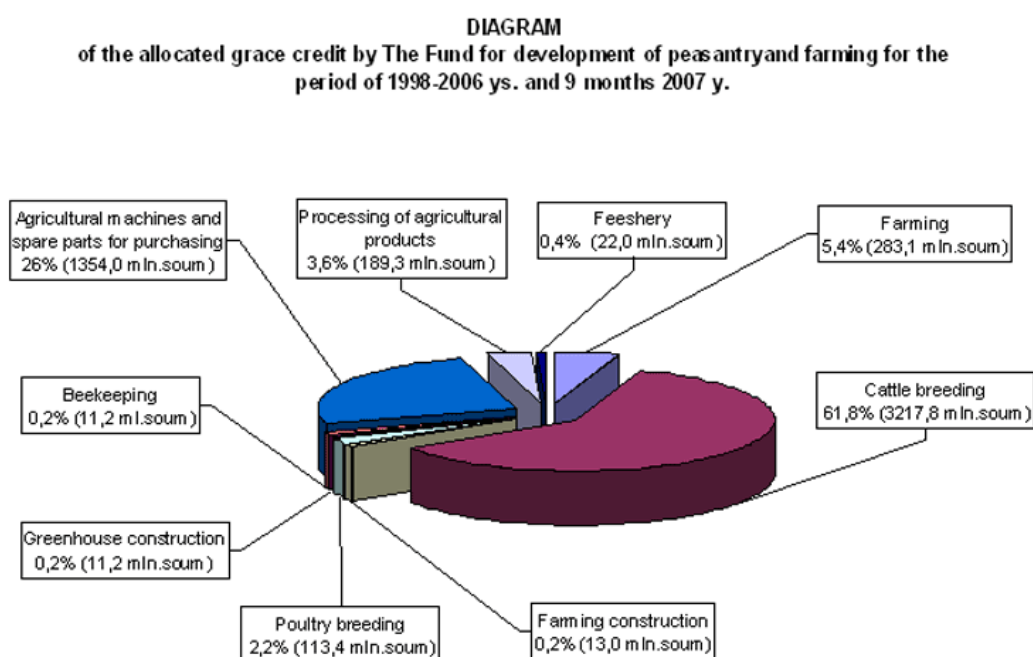
To get subsidised credits from the funds they must apply to the bank that provides service for them and present necessary documents, namely: proposal for subsidised credit receipt on the line of support Fund DFE; business plan; balance sheet (Form #1) for the last reporting period, certified by organs of Government Taxation service; reference on debit and credit debts (Form #2a); report on financial results (Form #2). Borrower also presents to the bank one of the following types of deposit provision: deposit property; guaranty of bank or Insurance Company; third party guaranty; insurance policy of insurance company on risk insurance in case borrower will not repay the credit.

The Dekhkan and Farmers Support Fund annually provides credit to approximately 450-500 farms. This covers about 5% of requirements.

**Figure 7:**



**Figure 8:**



#### **D. Limitations of the Banking Network**

153. In order to develop a financial services sector catering to agricultural enterprises it will be necessary for the government and foreign donors to create an environment in which financial institutions feel secure offering products. In order to accomplish this several weaknesses must be overcome.

The current environment does not allow many farming enterprises to offer the 120% collateral coverage required by the banking sector due to lack of liquid instruments. The main reason is a lack of liquidity in the land market and the lack of any secure manner to use the production as collateral. Currently farmers can only lease land from the government, but this lease is not liquid and can be revoked by the local Hakimayit if production quotas or cropping targets are not met. Although as of 2004 there has been legislative guidelines on the manner of valuing the leasehold, without any market for the lease banks are reluctant to use these as collateral.

154. In order to use production as collateral there must be an effective manner for banks to be assured the production exists, is of expected quality and they have first rights to the sale of the goods; none of which effectively exist currently.

155. An obvious need in rural areas is more banking outlets. This need is being addressed through the establishment of so-called mini-banks. By April 2007 according to data of the Ministry of Agriculture and Water Resources there were 1043 mini-banks operating; these are sub-divisions of the district branches of commercial banks serving farming communities. Of the total quantity of mini-banks "Pakhta Bank" accounted for 62%.

Mini-banks commonly consist of 3-4 people (head of mini-bank, accountant and cashier) who are often seconded from the district bank branch. Farmers opening accounts in mini-banks must present all the same documents to receive credit as they would in the district bank. The mini bank presents these documents to the district bank. On the basis of documents presented by the farmer the district bank dedicates credit funds to a mini bank and then farmers receive credit from the mini bank.

There are no norms that specifically regulate mini-bank activities. In banking legislation there is no definition of a mini-bank, or its status, rights and duties. As units of a recognised bank it is presumed that their activities are covered by internal documentation. Research shows that in practice 95% of mini – banks do not meet the requirements of a branch of a commercial bank; they are practically unable to undertake the operations of a bank branch.

156. Farmers complain that mini-banks cannot:

- satisfy farmers' requests to dedicate subsidised credits to specific categories of expenditure such as crop production, agricultural equipment purchase, cattle breeding;

- avoid late payment of wages to wage earners, because of lack of cash in the banks;
- satisfy the request of farmers for advanced payments;

Farmers also complain about the lack of appropriate qualifications of specialists in the bank and their monitoring methods;

157. On the other hand, bank staff complain that they are not receiving the necessary support. Mini-banks have inadequate equipment with necessary technology (computers, printers, communication-modem, phone); the electricity supply in rural areas is periodic, the client base is too small, and living conditions in some areas are unacceptable.

Firstly, mini-banks without clearly defined functions and abilities create false expectations among farmers. Actually mini-banks can operate neither like full-fledged banks, nor like their branches. They do not have the authority to take independent decision on credit issuing or provide valued banking services to their clients.

Secondly, because of the expense which were to be covered by head banks under the mass creation of mini-banks, technical equipment of mini-banks is quite poor, this also does not allow them to introduce valued services to their clients. Mini-banks which are not equipped with telephone lines, computers and modem connection can not timely communicate with their district branches and correspondingly can not provide an effective service.

Thirdly, the client base of mini-banks and the scale of their operations are small, and does not allow mini-banks to have sufficient operational profit from their activities.

158. With the view of regulating the activity of mini-banks, it is necessary to make addenda to existing legislation which governs the order of organizing the activity of mini-banks established for servicing the farms.

Expansion of the network of commercial banks which service agricultural producers is essential. But, this will almost certainly require provision of special privileges to commercial banks which establish networks of mini-banks. This may be in the form of exemption from the Property Tax of mini-banks and tax on land where mini-banks are located; and exclusion of all or part of expenses of commercial banks incurred for establishment of network of mini-banks from the amount of the Profit (Income) Tax subject to payment to the budget. Such measure of state support would allow the commercial banks to direct quickly the real financial resources to technical equipping the mini-banks.

## **E. Credit Proposals**

159. From the point of view of the development of an efficient agricultural credit sector there are several policy strategies that can be taken as well as some specific interventions into the marketplace that can help support the reforms.

The rights of the leasehold farmers must be insured allowing banks to have confidence the leaseholder will not have their right to use the land revoked. This would include abolishing the contractual obligations of the farming enterprise with regards to quotas and cropping patterns to bolster the underlying value of the lease as well as maximising the profit of the enterprise. This will also be necessary to begin to develop a market for the leases in order for financial institutions to assess a tangible value of the collateral, as the value will be dampened if rights are not secure and use of land is encumbered.

160. There needs to be a reduction on lending limitations faced by the banks. If banks are unable to set their own lending criteria they will be unable to fully control the risks of lending to this sector. The current World Bank project supporting agricultural credit in five raions offers a framework on how to liberalise the agricultural crediting sector successfully. Banks working with this credit line point to these areas as the only raions they are able to offer a full range of products to the farmers.

161. Some specific actions that would support the reforms are:

1. Allow commercial banks more freedom in developing products geared to their clients needs, rather than based on specific technical guidelines.
  - a. Allow banks to develop products for all types of agricultural activities with a variety of terms.
2. Allow clients to direct the use of credit as deemed appropriate, within the scope of the financed activity, allowing the farmer to maximize profit and thus repay in a timely manner.
3. Support the growth of leasing companies, micro-finance institutions and Credit Unions in the rural areas.
  - a. Intervention should take the form of supporting the access to credit resources for those institutions, including those which are unable to access foreign currencies.
    - i. As a stabilisation fund already exists for Credit Unions, it would be possible to use this amount, currently \$400,000 as a guarantee for a credit line from outside sources.
4. Support the development of insurances or guarantees against loss for agricultural loans.
5. Free up liquidity in the banking system, allowing banks to increase cash based loans to farming enterprises.

Any intervention in the financial sector should have as the final objective the development of sustainable institutions able to attract commercial funds on their own merit.

162. The directed credit program should be transformed and eventually discontinued in order to foster a modern agricultural credit sector. It will be important to do this in a prudent manner in order to insure that by doing this a void is not created making it even more difficult to farmers to compete and access credit. The withdrawal of the directed credit must be accompanied by further liberalisation in the agricultural sector allowing farming enterprises to increase their profit making capability. This includes allowing farmers to direct their cropping patterns and choose when and where to sell their output, increasing their profitability and ability to repay commercial credit. There must also be viable alternative credit sources in place to avoid any disruption in the ongoing operation of the enterprises. This will entail supporting all sources of credit, such as mini banks, Credit Union, and MFIs to ensure their profitable involvement in the sector. In addition there needs to be during the period of adjustment to market rates some subsidised agricultural credit available, to avoid any withdrawal of credit available to the sector.

### **1. Priority Concerns**

163. Discussion with stakeholders, surveys of farmers and raion level workshops have identified four priority areas where the agricultural credit sector faces immediate issues that need to be addressed in order to make it more accessible for the farming community.

- High interest rates for commercial credit
- Lack of effective collateral available for banks
- Inability of farmers to control use of funds
- Lack of long term credit

Under these overarching categories, specific issues were also identified affecting the agricultural finance sector. Results of workshops held at the raion level prioritised the following issues fairly consistently throughout the country, as their major concerns relating to agricultural credit.

**Table 28: Priority Credit Issues**

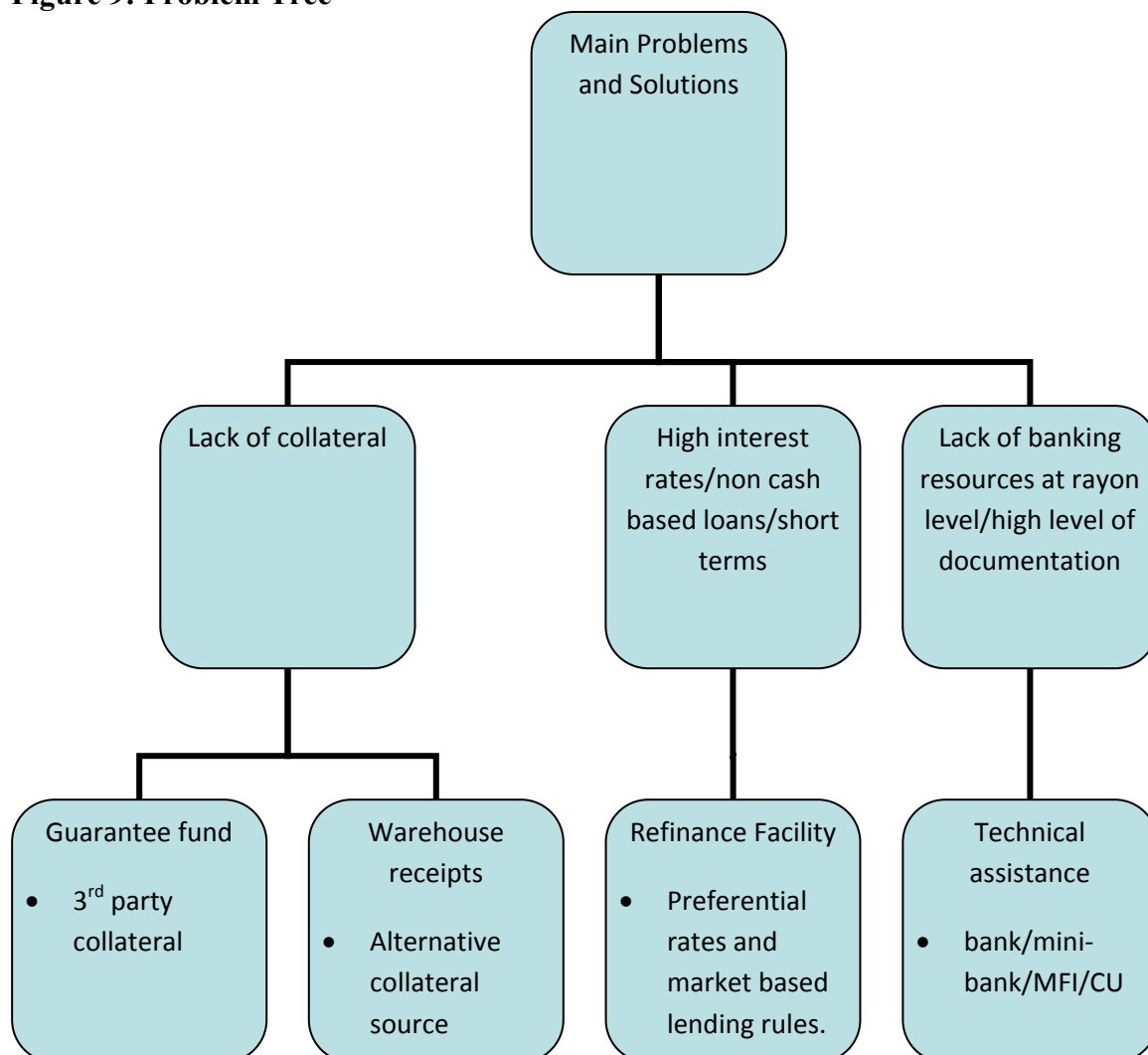
Priority	Problem	Interventions needed to solve
1	Current directed credit does not cover the real needs for credit.	TA (technical assistance) in developing cash flow lending skills and product development
2	Lack of ability to withdraw funds to use for urgent needs	Liquid loan proceeds and income
3	Fixed dates of dispersion not in line with need	Farmer needs to have more discretion, loans cash based and disbursed on cash flow needs
4	Constricted use of funds	TA for product development to widen the credit options in market.
5	Credit availability is very limited for other agricultural activities outside of cotton and wheat.	Development of refinance facility and TA for product development.
6	Collateral is insufficient or not liquid	Development of guarantee fund and support land market and tenure reforms
7	No long term credit for land improvement, irrigation, new technologies	Refinance facility with long term funding available.
8	Commercial credit high interest rates	Refinance window for agricultural credit at lower than Central Bank rates
9	Need agro-processing loans	Longer term loans through commercial banks using refinance window. TA for product development and improved lending technology.
10	Mechanism for using the leasehold as collateral not working	Improve tenure rights and create liquid market for leases. Enforcement of legislative directives.
11	Lack of knowledge and inefficiency of bank officers and lending methodology	TA and opening financial sector to competition
12	Lack of working capital	Develop warehouse receipts
13	Poor leasing terms and high collateral requirement	Extend guarantee fund to leasing.
14	Lack of commercial or directed credit to farms under 20 hectares	Encourage alternative financial institutions in the raions, specifically Credit Unions and Microfinance Institutions
15	Need to open 7-8 bank accounts to manage current credit programme	Increase efficiency and run loan proceeds through only one account
16	Highly bureaucratic and expensive to gather needed document to access credit	TA in lending methodology
17	If money is not accessed and used within 5 days it will be returned to the bank	Enforce freedom to dispose of loan proceeds as needed
18	Need to have cash available at local branch	TA to banks for cash management and asset and liability committees (ALCO) to manage cash needs
19	Leasing quite expensive when all costs included	Open competition through other financial institutions
20	Administrative fees drive effective interest rate of even directed credit to very high levels	Support competition and implement TA to develop efficient and transparent procedures
21	Communication with farmers	TA in origination techniques.
22	No common appraisal techniques for livestock	TA for appraisal techniques

164. Most of these problems can be mitigated through some specific interventions, with government, donor and financial institution involvement. While it is often considered good practice to deregulate and let the market solve the problems, it is important to recognise the reality on the ground in Uzbekistan. A sudden move to a market priced financial services sector would be an imprudent first step, as this would lead to a severe curtailing of affordable credit available in the sector. There is a need to initially focus on sustainability and viability of financial institutions and farming enterprises through interventions that would expand access to credit and knowledge of agricultural lending technologies while decreasing the distortions a highly subsidised programme causes. Any strategy must provide for solutions to these issues that will be temporary measures slowly curtailed until the sector is prepared to operate in a market based environment.

165. Any transformation should aim for the long term goals of:

1. free pricing of financial products;
2. a shift away from targeting;
3. recognizing the variety of agricultural enterprise needs and dispose of rules permitting only limited credit uses;
4. encouraging domestic savings mobilization and a focus on intermediation;
5. emphasizing the soundness of financial intermediaries participating in credit programs; and
6. encouraging competition among intermediaries

**Figure 9: Problem Tree**



Instituting these proposals would allow for the transition towards a market oriented agricultural finance sector. They would provide for the development of skills within the financial institutions to lend to this sector successfully, spread the risk amongst the stakeholders, and keep the credit affordable to the farming enterprises. Once linkages are made between the agricultural enterprises and the financial institutions, and the loans are being managed securely and profitably, these support facilities can slowly begin withdrawing and allow the market to function without intervention.

## 2. Guarantee Fund

166. A guarantee fund is a tool to overcome collateral deficiencies in a sector with perceived risks higher than banks would generally take. In Uzbekistan most farmers do not have sufficient collateral to satisfy bank requirements, usually up to 120% of credit required. This mainly reflects the lack of real liquidity in the leasehold market. Although in reality

there is a mechanism for valuing leaseholds, effectively there is no market for them making them unusable as collateral. Banks point this out as a major impediment for them to begin any large scale lending in the sector. Even if offered credit lines, the risk is considered too great to enter the market on any scale. A guarantee fund is designed to overcome this problem, it would provide a repayment guarantee, for a percentage of the outstanding loan amount, to a bank in the case of default, thus providing to a bank the security the farmer is unable to provide. A Guarantee fund should encourage banks to lend to clients that have a good prospect for success, but do not necessarily have the collateral or business record needed to meet the banks general risk tolerance.

167. Guarantee funds, when correctly designed, can be used as a robust tool to encourage commercial lending to agriculture, a sector banks in Uzbekistan view as high risk. While there have been many successful examples of guarantee funds deepening the financial sectors knowledge of, and participation in, the rural and agricultural sectors, there are as many instances of failures and ultimately irrelevant funds. More than half of all countries and almost all OECD countries operate some type of credit guarantee scheme to target priority areas underserved by the commercial finance sector; with different levels of success in overcoming the weaknesses identified which initially led to the development of the fund. The design, underlying economic conditions, sources of capitalization, fund management, and stakeholder support all contribute to the success or failure of guarantee funds.

168. There are many pros and cons to the development of guarantee funds, which make them very susceptible to poor design. The main reasons for the support of their development in Uzbekistan are:

1. guarantees can overcome current collateral constraints,
  - a. offsetting the risks of lending to the agricultural sector, and
  - b. overcome the lack of liquidity in the land market
2. compensating for low profit margins,
  - a. Through grouping several financial institutions offering similar loans, the guarantee facility can spread the cost of development of lending methodology and development of baseline data for the target group.
    - i. gathered data can be used as an informal credit bureau, further lowering the cost of client assessment.
  - b. In many cases TA from the fund may help bring product development and administration costs down.
3. forcing financial institutions to develop skills in agricultural lending
  - a. This will lead to a higher level of comfort in providing credit to the sector and eventually further expansion.

4. Produce additionality.

- a. Allows a target group unable to access credit otherwise to be granted a loan.

A well designed programme will ensure these issues are taken into account, in particular additionality; meaning that if guarantees only provide for credit to those enterprises which were already able to access the credit markets, it is not effectively developing a more robust credit market. This is particularly important in Uzbekistan where only a small percentage of farming enterprises are actually able to access credit.

169. The pitfalls to avoid in design are:

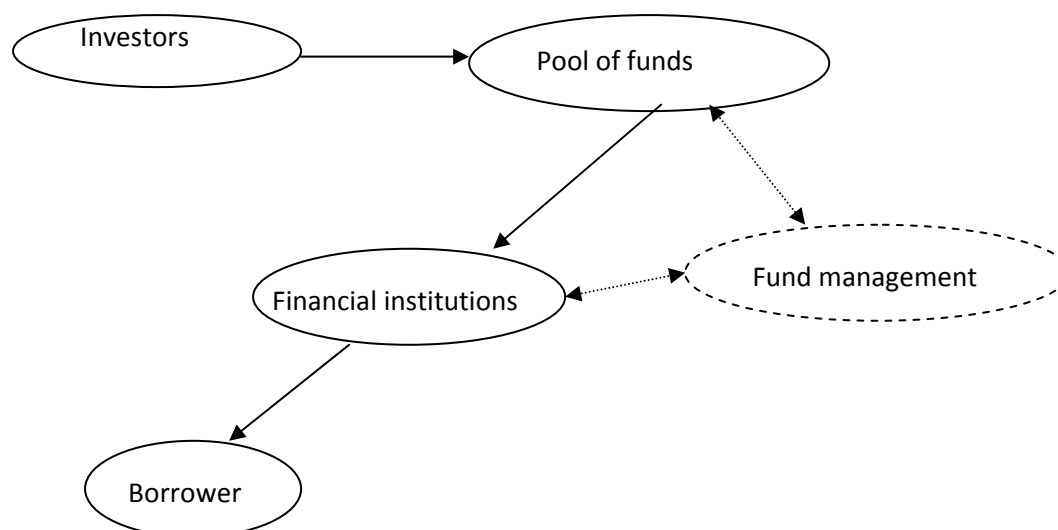
- a. The supply of credit available is not enough to effectively leverage the fund, and in fact no additional loans are made.
- b. The cost structure overburdens the fund
  - i. If the administration cost is too high the fund will be diminished rapidly.
  - ii. If the fund inaccurately prices the risk, it will also run at a loss.
- c. Guarantee fund takes over the assessment of credit from the banks
  - i. Banks should be more adept at assessing their clients and shoulder the risk.
- d. Banks will only use the guarantee fund for their risky loans
  - i. Bank given the chance will display opportunistic behaviour and only guarantee their risky assets rather than blanket coverage for all agricultural loans.
    - 1. This will increase the risk to the fund.

170. The government of Uzbekistan has many compelling reasons to develop a guarantee scheme. Several of those issues identified during the workshops with stakeholders can be overcome using guarantee funds, specifically lack of collateral and the employment of associated technical assistance to increase banking competitiveness and knowledge of agricultural lending. In addition guarantees can help to motivate lending to enterprises which currently do not have access to appropriate credit, and increase the social goal of supporting the agricultural sector.

In order to ensure the success of a guarantee scheme in Uzbekistan it will be imperative to define clear and precise goals, against which performance is regularly monitored, apply realistic pricing verified by consistent and transparent accounting, and pay close attention to the market forces that affect the intermediaries as well as the beneficiaries of the fund. To do this an independent entity must be created to manage the fund, although with representatives of stakeholders on the board.

The overall concept of a guarantee fund involves an independent institution shepherding investor funds, usually a mixture of a loan for capital and a grant for initial operating costs, to promote lending to specific sectors through the financial sector.

**Figure 10: Guarantee Mechanism**



171. Ideally this pool of funds remains safe, and in some cases provides a small income to the investors. Investors can be donors, government, financial institutions, pension funds etc. These funds are then able to be returned to the investors upon termination of the fund. This entity should have members of the financial sector, government, agricultural enterprises and the donor community on the board, depending on the ownership of the fund, to set the strategy of the fund.

The effective design of the fund from the initial stages will determine whether or not it meets its sustainability and social goals. Table 29 indicates the major design features of a guarantee fund, and what is suggested for the Uzbek environment.

**Table 29: Suggested Fund Parameters**

Sample of fund parameters			
Factor	Sample Range	Suggestion for Uzbekistan	Comment
Leverage (max)	2.5-10	4	Many funds remain underleveraged due to the lack of loan capital available in the market.
Coverage (percent of loan covered by the fund)	50-80%	75%	This is maximum allowable, the average will be lower
Cost (premium)	<ul style="list-style-type: none"> <li>1-2% per annum depending on bank performance.</li> <li>3% for small loans</li> <li>2.5% of loan value at inception and 1% annual on outstanding</li> <li>1.5% per annum guarantee value</li> <li>3%/annum amount guaranteed</li> </ul>	1.5% /annum of outstanding amount guaranteed	Administrative costs must be kept low - if the cost to the bank and borrower is too high the fund will be ineffective.
Default	1.2-3%	Anticipate 2%	Higher for failed funds
Other collateral	Most often bank decision	Bank decision	
Funding	Soft loan, trust fund	Soft loan	Must closely manage the investor base.
Provisions	4-27%	5%	Will adjust based upon actual payout
Payout	15 days - 2 year lockout (cannot claim during this time) then after 30 days only 75% of payout with rest after all recoveries finished	30 days 75% paid out with rest paid after all recoveries	Timely payout will reinforce use of fund. Fund failure is often tied lack of trust in the fund to promptly pay on claims.
Underwriting	Banks review all - Fund reviews all	Banks responsible for all underwriting	Fund must set underwriting parameters and audit portfolio.
Working capital vs. investment	20-100% working capital	60% working capital	Serve a planned mix of institutions and beneficiaries
Number of employees	11-179	25	Keeping administration costs to a minimum will be essential

172. In the development of any guarantee scheme there are two important concerns to keep in mind:

1. Farmers and banks must not perceive the coverage of their loans as automatic and without any consequences in the case of default. Financial Institutions must uphold the quality of underwriting of all guaranteed loans.
2. Transaction costs must not be out of reach to farmers and agricultural enterprises, but still allow sustainability of the fund.

173. From a governmental standpoint guarantee funds are a popular tool, as a relatively small sum of money can leverage a large number of loans benefiting a specific target group. It is this leverage that also gives guarantee funds a market oriented viewpoint, which can help during a transitional process such as Uzbekistan is experiencing; as the funds are designed to stimulate market based lending. In addition to the loans directly guaranteed by the fund, the larger goal is that it will also leverage further unguaranteed loans from the financial sector as they become comfortable lending to agriculture.

174. For many funds the main problem has not been over-leveraging, but in fact under-leveraging. This is due to many factors, but in Uzbekistan two major issues must be faced to avoid this problem. The first is to ensure that there is available liquidity in the market that can be used to generate the loans, and also keep the cost structure to a minimum allowing the borrower to afford to access the guarantee. The development of a refinance facility for the financial sector, discussed in the next section, is a solution to the liquidity problem, and is also effective in keeping the overall costs down. The fund design will also have to keep costs at the forefront of the strategy in order to avoid pricing themselves out of the market.

An initial maximum allowable leverage of 4:1, thus allowing the fund to guarantee credit worth four times the funds capital base, would be appropriate until the real risk characteristics of the fund are determined. As the real default rate is determined, the allowable leverage can be raised or lowered.

175. Sustainability is one of the most difficult goals to realize while still achieving the social objectives of the fund. The design phase must make great efforts to keep down the administration costs to a point the income can cover these as well as any claims the fund may incur. In box one it makes clear the large burden the costs of managing the fund can have on the sustainability.

### Box 1: Cost Example of Guarantee Fund

#### **Romanian Rural Credit Guarantee Fund (RCGF)**

The RCGF was set up in 1994 with involvement of the Romanian Government, the European Union and local commercial banks. The fund received euro 9 million from the EU to guarantee the fund commitments, and euro 40 million from the Romanian state budget to seed the fund. The fund takes an active approach towards the risk analysis of individual loans, thus increasing the overhead costs. Overall the cost to provide a guarantee of \$100 costs the fund \$19.84 in administration costs and loan provisions; this supports a loan of \$166. Premiums and fees only cover 15.7%, or \$2.66, the rest must be derived from investment income, which must be carefully managed to avoid eating into the capital.

176. If the investment income is below expectations the fund will quickly find itself unsustainable, which unless a further grant of operating capital is injected into the fund will mean a diminishment of the funds capital and eventually the inability to continue operations, or meet payout obligations.

Farmers have pointed out that the administrative and indirect costs of accessing credit is as much a burden as the interest rate. Transparency and efficiency needs to be built into the system, both on the banks operations as well as the operations of the fund to minimise these costs.

177. Product innovation and a customer focus must be part of the culture of any guarantee fund. The initial design must take into account both the needs of the farming enterprises as well as the financial institutions. This should include the guarantee of several types of products, allowing both short and long term credit. While the fund must set basic underwriting guidelines, they should be flexible enough to allow the financial institutions to modify the basic terms to meet their client needs. The fund should set maximum and minimum limits in which the financial institutions can operate. This will include maximum loan values, minimum borrower contribution, minimum qualifying income ratios, use of fund restrictions and other standard underwriting techniques.

In order to promote the expansion of agricultural credit options, any fund should not focus on only the banking sector, but also develop products useful for Credit Unions and Microfinance institutions.

### **3. Refinance Facility**

178. A refinance facility is a tool of the government to direct credit to strategic sectors of the economy in an efficient mode as possible. It uses the same system as the market, i.e. setting a discount rate through the central bank, but sets a lower rate for the portion of a financial institutions portfolio directed towards specific sectors. This allows financial

institutions to access central banks funds at preferential rates to lend to these sectors, and by refinancing their portfolios does not in fact reduce their capital. As the surveys of Uzbekistan farm enterprises have shown, the current commercial rate of 15-25% is too high for farmers to manage, this tool offer the prospect of realistic rates of interest for farmers and agro-processors to access. The funds currently used to support the directed credit programme could eventually be used to seed a refinance facility, as both are funded through the central bank.

179. Refinance schemes are products of central banks, using the discount window as a tool to fund the agricultural portfolio of participating financial institutions. This instrument has the option to offer different products (long and short-term) to different types of institutions depending on the target which may include commercial banks, Credit Unions, MFIs and leasing companies. Any agriculture refinance scheme should be developed with a targeted share of short, medium and long term funding. Short term for working capital, medium term for equipment and development purposes and long term, ( five years and more), for project financing.

While the scope of the lending should be limited, agricultural enterprises in this instance, introducing a refinance facility with severe restrictions will continue to limit the autonomy of the banks. There must be a compromise between enforcing underwriting and servicing guidelines and allowing the bank to develop independent internal policies. Part of the transformation process is the need to allow banks in Uzbekistan to become comfortable lending to the agricultural sector without relying on third parties to impart all lending characteristics and mechanism on them. Currently Uzbek banks have not developed skills in agricultural lending; they follow only the government regulations and have not developed their own skills.

180. There should be quite strict governance criteria to ensure that any refinance facility does not become a new method of state intervention in the sector which will continue to distort the sector. The following list is based on the governance criteria The World Bank enforces for similar types of institutions, which offers a good guideline:

- Fully autonomous management that is held accountable for the facilities financial performance.
- Exemption from civil service pay scales to attract and reward quality staff on the basis of the institution's financial performance.
- Insulation from staffing pressures by local authorities, for example through autonomous organizational charts with professional qualifications criteria.
- Freedom to set lending rates to provide an adequate spread to cover costs.
- Application of international best practice prudential regulatory, accounting, and disclosure practices, and therefore the development of a strong management information

system by the institutions, and both off-site supervision and on-site examinations by the same agency that supervises private banks.

-Hard budget constraint.

-A clear time-bound strategy to develop rural financial markets that are supported only with initial, nonexclusive, transparent budgeted subsidies.

Alongside the lending scheme, capacity building, human resource development and product development assistance needs to be offered to the financial institutions availing themselves of the refinance scheme. Uzbekistan is specifically in need of support for the development of innovative products, such as those based upon cash flow lending, more closely matching the needs of the farming enterprises.

181. As refinancing schemes are by definition aimed at specific targeted sector, there is a built in cost involved with monitoring the use and impact of funds. In addition there needs to be a comprehensive technical assistance component, specifically needed in Uzbekistan, to support the financial sector to efficiently and securely lend to the agricultural sector. The rates charged to intermediary institutions should be set at levels that do not undermine their deposit mobilization activity, as the post transition goal is to allow the financial sector to self finance agriculture through mobilisation of funds. Despite the general consensus among farmers in Uzbekistan that they need very low interest rates experience has shown that borrowers, specifically small-scale borrowers are more sensitive to the nonfinancial costs of transactions (processing fees, travel costs, and income lost due to delays in approval and disbursement) than to the financial costs(interest payments).

182. Feedback from farmers in Uzbekistan indicates that the administrative costs, burdensome requirements and lack of cash proceeds are almost or equally as important as the interest rate, as these other costs can increase the effective interest rates of even subsidised loans to 14-15%. This is underpinned by the fact they will take loans at up to 60% from alternative sources if the administrative requirements are low, approval is fast and credit is in cash. Thus it is as important, or more important, to keep these costs down in addition to lowering the interest rate; this includes not only direct cost but the indirect costs associated with the many days spent accessing the funds which results in income lost as well as costs of travel.

183. Sensitivity analysis on an average sized cotton farm growing around 16 hectares of cotton shows, based upon current lending schedules, that there would be a difference of \$597 USD in the interest costs between a loan of 7% and a loan of 20%, this would drop to \$300 for a typical 12.6 hectare wheat farm. While this may be significant, much of this could be offset through more efficient and timely lending techniques, as anecdotal evidence indicates that the costs, direct and indirect, resulting from the current directed lending regime, may not be much different from this amount. This will entail a need to increase income by 7 and 10% respectively to offset the higher rates. Farmers have indicated that more efficient crediting methodology which would allow them to direct the use of funds would increase their

incomes. This may eventually be enough to meet the higher income targets needed to manage the higher rates. An ongoing World Bank project indicated that yields increased between 20 and 50% due to improved use of inputs, partly attributed to more liberal credit terms.

184. Experience has shown that a sudden increase in market rates to around 20% cannot be accomplished effectively, specifically if subsidised rates are still available. There needs to be a period of transition towards the market rates through a period of subsidised rates in conjunction with an increase in technical assistance needed to eliminate the indirect costs through more transparent operations and enhanced efficiency. The preponderance of farmers who had access to credit at market rates through a World Bank sponsored project returned to the directed credit programme in order to access credit at 3%.

Compared to a loan at 3% a farmer would have to pay \$780 more in interest payments on cotton and \$393 more interest on wheat over the course of a year for a commercial loan at 20%. In all cases though the revenue derived from the farming activity is not enough to provide standard debt coverage, in the case of both cotton and wheat, approximately 75% of revenue would need to go to debt service, when anything over 60% is considered dangerous. In fact unsubsidised credit at 20% would return only a slight net income of \$289 on cotton farming, while wheat would show a small loss of \$88.<sup>14</sup> Table 30 shows the actual difference between a subsidised rate of 7% and market rates of 20%, and the impact for the farmer.

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<sup>14</sup> Farm income information is a result of on farm surveys and data collection completed in 2007/2008 in the course of the ADB Monitoring and Implementation of Policy Reforms in the Agricultural Sector Project.

**Table 30: Interest Rate Sensitivity Analysis (US dollar)**

**Sensitivity Analysis of Interest Rate Impact<sup>15</sup>**

Average revenue and cost for Uzbek farming activity	Cotton		Wheat	
	per ha	per farm	per ha	per farm
<b>Total Revenue</b>	\$716	11647	305	3.852
<b>Total cost</b>	\$642	10438	275	3.478
<b>Net income</b>	\$74	1208	30	374
<b>Credit need (80% of costs)</b>	\$514	8351	220	2.782

Without Subsidized Credit	Loan Amount	Interest	total repayment	minimum revenue needed	Increase in interest payments	increase in income to qualify
<b>Cotton</b>	\$8.351	20.00%	\$9.269.76	13.905	\$597.11	6.88%
<b>Wheat</b>	\$2.782	20.00%	\$3.244.90	4.867	\$300.80	10.22%

With subsidized Credit	Loan amount	Interest	total repayment	minimum revenue needed
<b>Cotton</b>	\$8.351	7%	8.673	13.009
<b>Wheat</b>	\$2.782	7%	2.944	4.416

185. Pricing will thus have to be at a level attractive to farmers, but still moving in the direction of market rates. Feedback from the workshops has suggested that rates between 7 and 9% would be appropriate. As farmers and the financial sector becomes more efficient at accessing these funds and the overall administrative and indirect costs decrease, agricultural enterprises should be able to accept a slow move toward the market rate. Thus any long term refinance product would need to be priced at 2-4% allowing the financial institutions to include a mark-up to meet their margin needs and absorb the costs of any associated guarantee fund. In addition the banks would need to be sure the fund terms matched the longer term loans they would be providing for investment and land improvement.

186. For smaller scale loans through microfinance institutions as well as Credit Unions the pricing would be less important as their high cost structure currently requires a margin of 2% per month, or around 24% yearly rate, and yet they are still unable to meet demand despite interest rates of 5% per month. Thus access to funds is of primary importance to this sector

<sup>15</sup> Ibid

that would focus on short term loans, as well as introducing technology to lower the transaction costs of these institutions in order to bring down rates. In addition to increasing credit access, of importance would be developing new products and systems meeting a wide variety of needs, from seasonal loans to agro-processing credit. Mikrokredit Bank has already begun delivering some subsidised credit to the agricultural sector at 5-14% with a resulting strong demand.

#### **4. Warehouse Receipt**

187. The development of a suite of financial instruments to support the financial sector is an important step in the creation of an efficient agricultural sector. Warehouse receipts are one such instrument that has proven to be particularly successful in transitional economies in the provision of credit during crucial post harvest period in order to finance the marketing of the product as well as continued harvesting activities. In Uzbekistan this will be important for those farmers who currently hold back produce and store at their house for future sale, and allow them to store their goods properly while availing themselves of the liquidity they offer. This would be immediately applicable to the grain sector where farmers are able to sell 30-50% of their production, depending on their ability to produce over quota, on the open market. This will allow the farmers access to working capital while storing their crops until higher prices in the future instead of being forced to sell immediately for a lower price in order to receive funds.

It has been shown that in countries undergoing similar reforms, the establishment of credit flows in the short term will be critical to the overall success. Warehouse receipts offer a tool to provide these credit flows in a manner appropriate to the financial sector as well as the agricultural sector.

188. Warehouse receipts deliver to the farmer proof of ownership of the product which they have stored at a certified warehouse, this can then be used as collateral for a loan from financial institutions as shown in figure 10. The financial institution is able to convert this collateral into cash in a very short time in the case of default, thus limiting their risk. The advantages of this system are:

- fast access to liquidity for the farmer,
- source of income for the warehouse,
- source of almost risk free income for the financial institution, and
- efficient system to assess product quality and quantity for buyer and seller.

189. In order for a warehouse-receipt system to be viable, the economy within which it operates must meet certain conditions:

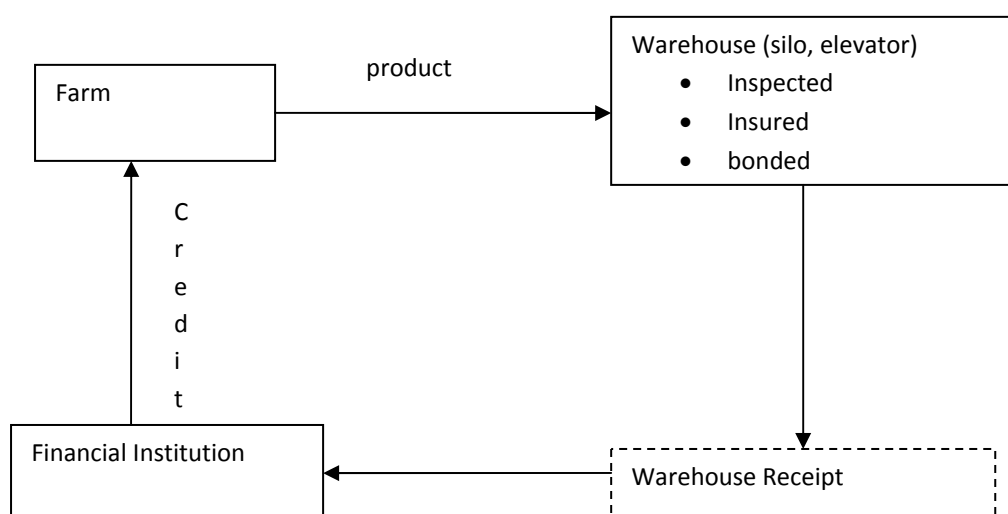
- There must be an appropriate legal environment

- There must exist a dependable independent verification and certification system guaranteeing the quality and financial viability of warehouses as well as the quality and quantity of stored goods.
- There must be the availability of a reliable insurance carrier to insure the goods under storage

Where these prerequisites do not exist, other systems such as bank owned warehouses have also been introduced to occupy this financial niche.

In order to determine the capacity of a warehouse receipt system to work in Uzbekistan a pilot project involving a handful of grain elevators could be implemented to define the certification and verification procedures needed to secure the integrity of the system and concurrently assess the legal basis for the system.

**Figure 11: System of Warehouse Receipts**



190. Currently in the wheat sector, the most viable crop to begin developing this system, all storage facilities are government owned through Uzdonmaksolut. This organisation currently has excess capacity and would be very willing to support any attempts to initiate warehouse receipts. This would provide them another source of income, which would currently run between US\$1and \$4 per tonne per month in storage fees depending on the elevator used. Farmers have a choice to store in any elevator in the Uzbek Republic. These fees compare to an international standard of about \$1.20-\$1.50 per ton per month.

A reliable certification and guarantee mechanism must be in place to backstop the system. This must ensure that the physical infrastructure is appropriate for storage, the financial health of the warehouse facility is strong and that the quantity and quality of stored goods are

as stated upon the receipt. In Uzbekistan there is a State body, Texnizavod, currently providing these certifications; the quality of the inspections is considered appropriate by the State insurance company and Uzdonmaksolut. The insurance company would be able to rely on these assurances to provide property and casualty insurance on the goods at 0.5 to 2% of the value. Currently only the state insurance company UzAgroSigorta is operating in this sector, but if the demand is large enough to provide a profit they would be very interested in providing this underlying insurance. Aside from the state there is at least one private certification company assessing cotton warehouses and one private company certifying grain quality operating in Uzbekistan.

191. The legal system must support pledge instruments, such as warehouse receipts, as secure collateral. The lack of an appropriate legal environment is probably the single most important constraint to developing a system in Uzbekistan, as all other parties are ready to move forward if this system is in place.

The pertinent legislation must meet several conditions:

- warehouse receipts must be functionally equivalent to stored commodities;
- the rights, liabilities, and duties of each party to a warehouse receipt (for example a farmer, a bank, or a warehouseman) must be clearly defined;
- warehouse receipts must be freely transferable by delivery and endorsement;
- the holder of a warehouse receipt must be first in line to receive the stored goods or their fungible equivalent on liquidation or default of the warehouse; and
- the prospective recipient of a warehouse receipt should be able to determine, before acceptance, if there is a competing claim on the collateral underlying the receipt.<sup>16</sup>

192. The current legislation is supportive to the development of a warehouse receipt scheme although it will need some minor revisions to ensure it is specific to this transaction. The key lesson learned from other transitional countries establishing similar schemes, is that the warehouse receipts must be specifically recognised in the legal system so that the ownership of the underlying goods are not challenged. The specific articles that may need to be adjusted under the Law of the Republic of Uzbekistan on Collateral, issued on 9/12/1992 and updated in 01/05/1998 are:

#### Article 9

- a. The timing of the right for the right of pledge to be used for collateral on goods held by a third party must arise at the moment the goods are delivered to the third party and agreement concluded for storage.

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<sup>16</sup> Richard Lacroix and Panos Varangis, 1996

## Article 12

- b. The subject of any pledge under control of a third party must be insured by the third party according to storage agreement.

## Article 14

- c. In the case a pledged property is stored under agreement with a third party, the risk of accidental loss or damage of the pledged property shall be taken by the third party.

## Article 36-1; Collateral kept with third parties

- d. The subject of the pledge kept with third parties may be agricultural production as defined in article 5 of the current law.
- e. The mechanism for designing the pledge for agricultural production should be defined in the legislation.

In addition to these specific legislative issues, it must be assured that the owner of the receipt has priority over the tax department for the goods if the farmer or warehouse owner is delinquent on taxes.

193. Within the banking and farming sectors there is a great need for education and training; focusing on financial literacy for the farmers and agricultural lending techniques for the banks. Banks need to more fully understand the cost of loans to the agricultural sector and how to lower them by improving lending practices. Farmers need to more comprehensively understand their obligations with regards to credit, and what form is most beneficial for their needs. In order to increase the success of both a guarantee fund and refinance facility there needs to be an integrated technical assistance program associated with the activities. Many of the issues raised by attendees in the workshops relate to the lack of capacity within the financial sector to efficiently manage agricultural credit and provide the services needed. To lower the administrative costs, increase the service level to the borrower and help safeguard the funds a high degree of knowledge transfer to the financial institutions partnering on any programme will have to take place before lending can begin.

194. Agricultural lending requires a unique set of skills, in designing the products, originating the loans and instituting ongoing servicing. Specific farming activities are often only one source of a farmers income, thus to develop skills in cash flow lending techniques encompassing different income sources can allow a more accurate assessment of repayment capacity. As financial institutions enhance their ability to securely and profitably lend to this sector, the need for external guarantees and subsidised credit will diminish.

The immediate areas that need to be addressed are:

- i. develop new documentation allowing farmers to more simply access credit while providing the financial institution the necessary information to make an informed credit decision.
- ii. Training of asset and liability committees to develop skills enabling the availability of money at the locations, and during the season, it is needed. Clients need to rely on funds being available as they become needed. The committee can also manage the matching of funds to increase the level of long term credits to the sector.
- iii. Training of credit officers in cash flow lending techniques to ensure the client has access to the funds needed at the time they are needed. Lending too little is as dangerous as lending too much, and it is the credit officers who need to determine the optimum amount, which may differ from client to client.
- iv. Develop realistic collateral appraisal techniques to protect the banks as well as allow client to fully leverage their assets.
- v. Support the development of new products and service lines to fully address the needs of the sector.
- vi. Provision of technical assistance with particular emphasis on deposit mobilization; financial and project management and use of information technology

195. Longer term capacity needs to be provided to research and academic institutions to conduct studies and convene policy level discussions that will promote awareness of agricultural finance as an integral part of economic policy and promote it as a sound commercial investment. Overall the financial sector, commercial banks especially, need to increase their ability to handle risk, as currently their risk adverse culture views the agricultural sector as a risky area outside of their comfort zone. They need to begin lending to this sector as a strategic business decision, rather than as a result of government directives. This will mean supporting their understanding and management of the risks involved.

196. Financial institutions that work with any of these proposed schemes will need to prove their capacity to lend to this sector, and as well their commitment to serving these clients long term, beyond the scope of these types of support mechanisms. Uzbek banks, which do not always have the best technology to lend to the agricultural sector, must also be able to accurately work within the underwriting guidelines of the refinance facility, and any associated guarantee fund. MFIs and Credit Unions often have a more thorough understanding of how to lend to their sector, but must also be given support on how to adapt this to specific agricultural needs. For example, a combined household and business model of credit analysis (in which all business and personal income and expenditure flows are considered in calculating repayment capacity), is more appropriate to this market segment, and makes specific restrictions on end use of credit impractical and undesirable. This would

improve upon the current system of basing credit decisions on previous year's prices and quotas

The creation of sustainable financial intermediaries working with the facility will require identifying organizations with strong leadership; a clear mission to assist the rural sector; an efficient approach; a proven lending technology, or a willingness to adjust current methodology to address institutional weaknesses. The process of selecting institutions will be crucial to success; consideration of all alternative financial institutions and rigorous analysis of their actual and potential performance will be essential. Currently several banks are very interested in working with these types of projects, either on a pilot basis or on a wider scale.

197. Without government involvement in the funding and strategic orientation of these schemes they will unlikely become reality. The Central Bank will need to be a direct partner in any refinance facility and policy decisions from the Ministries of Finance and Agriculture as well as the Cabinet of Ministers, will determine how supportive the environment will be for the development of these interventions. For funding, sources such as insurance and pension funds may become investors. As much of the agricultural and financial sector is still state run or controlled, they will continue to play a leading role during the transformation process, and these schemes must serve to support their reforms.

198. In order for rural financial markets to function effectively, complementary reforms are needed in titling, securitisation, judicial process, and disclosure that would improve the environment for financial services. There must be a strategic policy shift allowing the reforms to take hold and flourish. Government interventions in rural finance should be based on the principle of removing the causes of market failure in a cost-effective way. The long term goal is to support the implementation of market forces on the sector. An efficient rural finance sector is identified by a range of financial institutions and products available within reach of the borrowers, thus policies must be put into place to support this.

199. The agricultural credit market must not be seen as a stand alone sector, or the domain of any one stakeholder, but in fact as the confluence of an efficient rural/agricultural sector, and an enabling financial sector. For this reason it needs the support of both the Ministries of Finance and Agriculture who set policies for these sectors and the support of other stakeholders such as the central bank, regional authorities and farming unions to implement reforms. During the course of the work it has become clear that even where legislation has been put in place to support more efficient agricultural credit operations, the implementation has often been slow to take place. There must thus be a strong follow up and enforcement of any policy reforms that are developed.

200. Uzbekistan needs to implement an inter-ministerial task force, including the participation of the stakeholders in order to truly begin to develop policy guidelines to overcome the deficiencies in the current legislation and identify those who can take the lead in implementing the latest policies. The Ministry of Agriculture has some relationship with

the Ministry of Finance in the development of the directed credit scheme, but this should be deepened to encompass a wider policy dialogue.

Providing an enabling policy environment, increasing the knowledge base for agricultural lending as well as decreasing the risk of lending to this sector will be an important initial step to improving access to credit by farming enterprises.

## **VIII. COMMODITY MARKETING**

### **A. Regulated Commodities**

201. The division between commodities regulated by the state and those not regulated extends into the marketing of agricultural products. Cotton and wheat marketing are largely controlled by state agencies; other commodities are freely marketed. In accordance with legislation, leasehold farms are required to provide 50% of their cotton and wheat output to state agencies. In practice, farms also have specified areas of each crop which tend to override the 50% criteria. The availability of alternative marketing outlets also governs post-harvest allocations. In the case of wheat, farmers have some flexibility since actual state procurement quotas usually cover about 60% of output and surplus wheat may be sold in local markets. In the case of cotton the lack of alternatives to state controlled ginneries means that almost all cotton is still marketed through these enterprises.

202. This section of the report focuses on the cotton industry. This is because cotton processing and marketing dominate post – harvest activities in the agriculture sector and because cotton processing is an integral part of the state controlled cotton regime. It is impossible to envisage how changes to the way in which the state controls the agricultural economy might be introduced without an understanding of cotton processing and marketing.

203. The bureaucratic apparatus pertaining to the growing, processing and marketing of cotton is complex, costly, and a formidable obstacle to change. The cotton regime involves a wide range of government agencies. Policy with regard to credit is the responsibility of the Ministry of Finance, land and water resources are the responsibility of the Ministry of Agriculture and Water Resources, input suppliers operate under their Associations, the ginneries operate under Uzpaxtasanoat Association (which is a government based group), warehousing and marketing is the responsibility of the Ministry of Foreign Economic Relations, Investment and Trade and the technical seed policy comes under the Oil and Fat Industry Council. This diversity of agencies and operational responsibilities makes it very difficult to assess the effectiveness of the implementation of policies across the cotton industry as a whole.

204. There are concrete plans to privatize parts of the cotton industry. For example, plans have been announced by the government that it intends to sell most of its shares in cotton ginneries. However, the shares of stock that it retains are classified as “golden shares” which basically means that the government will continue to control the business even though it may own a minority shareholding. This constraint plus the fact that the privatization legislation does not envisage competition between ginneries means that attracting the kind of quality investor who wants to modernize the cotton processing business and strive for greater efficiency in a competitive environment is almost impossible. With one exception, the ginning industry is entirely dependent upon state funding for its investment needs. In essence, this means that the industry has been under funded for many years and many ginneries are in

need of major investment. Creating the policy environment which would encourage alternative sources of investment would seem to be a priority.

## **B. Cotton Fibre Processing and Marketing**

205. Each year the government through the Uzpaxtasanoat Association, sends seed cotton production quotas to the oblast authorities. The oblast authorities then send local authorities production quotas which are pro-rated and each farmer receives a cotton production contract. The contract identifies the area of the leasehold farm that is to be planted to cotton and, additionally, notifies the farmer what yield is expected. The specific amount per hectare is listed and then multiplied to determine the total amount (in centners) of cotton that his farm is expected to produce. The quality of the raw cotton that is to be delivered is also defined and the contract refers to a government standard of quality for raw cotton. Failure to meet quality or production quotas can result in a fine. Production losses such as disease or insect infestations, unusual heat, or lack of water can be cited by the farmer, but the government will be the final judge in regards to any shortcomings. All cotton fiber becomes the property of the government and remains property of the government until it is either sold for export or to a domestic spinning factory

206. The ginning industry in Uzbekistan is comparatively inefficient for many reasons. Under investment, poor ginnery management, a planned 200 to 240 day ginning period with associated storage problems all contribute to less than optimum output in both quantitative and qualitative terms. In most cotton producing countries, gins are sized so that the ginning of raw cotton is completed in 100 days. This is in fact the case in all major cotton producing countries except for Uzbekistan and Tajikistan. Some of these inefficiencies can be costed using international benchmarks but for others it is difficult. Indirectly, all cotton processing inefficiencies contribute to a reduction in the farmer's revenue from their cotton crop.

207. In the ginning process, the raw cotton first goes through a dryer to give the cotton a uniform moisture content as it passes through the gin. After drying, the raw cotton goes through the "gin stand" where the seeds are separated from the fiber. The fiber then goes through a cleaner which removes the leaves, stems and other trash from the fiber. After the removal of foreign material, the fiber is fluffy. At this point, steam is forced through the stream of processed cotton fiber to increase its moisture content and make it easier to pack into bales. The equipment adding this moisture needs to be precise and in good working order. Otherwise, there is the danger of adding too much moisture or "snags" in the system accumulate and release small wads of wet fiber which can results in the development of mildewy or moldy pockets of fiber in the bale. Also, the addition of too little moisture results in fiber that is difficult to pack sufficiently so that bales are of the desired weight. Bales of cotton fiber from Uzbek ginneries s average about 217 kg.

208. The bales of fiber are then shipped to one of 24 terminals that are located throughout the country in cotton growing regions. Once inside these warehouses, it is then selectively offered for sale to potential buyers. At this point, by law the grade cannot be lowered and prices cannot be negotiated outside of the posted price range list that is updated daily by the government.

According to the Cotton Marketing Law, when sales of cotton fiber are made, the money is deposited in the Ministry of Finance account. The ministry of finance then provides the government operated ginneries with the needed funds with which to operate. This does not include money for the purchase of raw cotton from farmers.

209. The mechanism for procurement and pricing of cotton is determined by the Decree dated August 20, 2002 of the President, and Resolution #93 dated February 19, 2003 of the Cabinet of Ministers “On Measures for Implementation of Market Principles and Further Improvement of Organization of Raw Cotton Production”, according to which it was stipulated that effective from the 2003 cropping season, contracts would serve as a basis for determining the production volume and procurement of raw cotton, and forecast volumes of raw cotton production for the current year shall be established nationwide and with breakdown by regions. Volumes of procurement of cotton fiber for state needs are established on average at the level of 50 percent of its actual production. Raions where the World Bank and Asian Development Bank have projects are exceptions in accordance with Resolutions #421 dated October 31, 1995, #201 dated May 2, 2001 and #461 dated November 26, 2001 of the Cabinet of Ministers and have lower procurement quotas. A further nine raions will be added to the list of exceptions following approval of the ADB funded Land Improvement Project.

210. Settlements for raw cotton taking into account its qualitative indicators and adjustment ratios to procurement prices for selection species is effected in accordance with the Order approved by the Resolution #501 dated December 26, 2000 of the Cabinet of Ministers. Settlements for raw cotton produced in excess of established forecast volumes should be effected at prices exceeding the single procurement price by 20 percent. Similarly, 70 percent of cotton cake and husk produced from the raw cotton actually sold should remain at the disposal of cotton producing farms. According to the resolution the farmer should obtain the products of processing of seeds of cotton sold in excess of state orders; however, the mechanism for obtaining this rebate is extremely complicated. It would appear that farmers are not obtaining any benefit from the by-products of cotton production. If farmers are benefiting they are often not aware of any benefit, possibly because the manner in which cotton revenues are calculated is not clear to many farmers. It is a common complaint of farmers that the revenue received from cotton is less than expected.

211. A particular issue is the extent to which the inefficiencies of the ginneries are passed on to the farmer. The average national ginning out turn of 32% is well below the international average of about 38%. Farmers have no way of checking their out turn figure and cannot

prevent the ginneries from passing on this inefficiency in the form of less cotton lint. There is a clear need for ginneries to be subject to efficiency criteria so that they have an incentive to improve rather than penalizing the farmer. One of the most potent acts the Government could introduce would be competition in the cotton processing sub-sector. Allowing private investment into the industry would improve efficiency immediately and reduce the cost of marketing, substantially. There is plenty of evidence to indicate that the ginning industry is high cost relative to international competitors.

212. After the seed cotton is harvested, it is transported on wagons to the ginnery where it is stored in large piles or mounds known as “bunts.” Each bunt contains 300 to 500 tons of raw cotton. While there are efforts to separate varieties and different qualities of cotton by storing it in different piles, managing this process is extremely difficult. Frequently grades are mixed, which results in lowering the value of the higher quality cotton as it is processed into fiber. This also creates a problem for spinners. The lack of uniformity in quality and staple length makes it difficult to maintain a uniform quality in the yarn that the plant is producing. Both foreign and domestic users of Uzbek cotton complain about this lack of homogeneity within individual bales. This problem is related to the way that seed cotton is delivered to the gin, its storage method, and the length of time the raw cotton is stored. Almost universally, cotton producers in developed countries use module builders and module haulers to form modules each containing about 15 tons of fiber. As the cotton business in Uzbekistan modernizes, this technology will help reduce this problem.

213. The National Cotton Association indicates that the total annual capacity of those ginneries that are in operation in Uzbekistan is 4.5 million tons ranging from having a capacity of 30,000 tons to a high of 60,000 tons of seed cotton. With an annual seed cotton production of 3.7 million tons, the 99 operating gins would on average process approximately 37.7 thousand tons each, which is below the average capacity of about 45 thousand tons of seed cotton per year

214. A major reason for the extended ginning season is the desire to provide gin workers with year-round employment. However, people dealing with quality issues report that cotton deteriorates in quality when stored as raw cotton during the additional time period usually resulting in a full 1-grade drop in quality and a reduced selling price. Also, it may deteriorate further if it is not covered properly enabling seasonal rains to cause the development of “wet mouldy” pockets. It also delays the final payment to farmers for their cotton adding to interest costs on borrowed money. In the raion workshops farmers universally complained about the slowness in receiving payment for the seed cotton they delivered to the ginneries. If 40 percent of the entire cotton crop remains to be ginned after January 1<sup>st</sup>, then using industry accepted data, nearly 480,000 tons of Uzbek cotton fiber will be of a lower quality. In open and competitive markets, a drop of one classification grade would be expected. However, in the Uzbek market this change is unlikely to occur. Rather it is stored and marketed under the higher grade. Buyers, relying on their own sampling and classification will not purchase the fiber at the asking price.

215. If the fiber remains unsold, then it is carried over into the next marketing year. Fiber remaining unsold after several years is written off. Experts estimate that in Uzbekistan, delayed ginning costs a minimum of \$30 per ton in discounts on the 480,000 tons of fiber processed after January 1<sup>st</sup>. This calculates to a total loss of \$14.4 million. This does not take into account the value of the cotton that ultimately is written off due to its lack of marketability at the designated grade or include an interest charge that farmers receive on debt waiting for the settlement of their cotton account. This is a real loss that cannot be recovered. From a producer's point-of-view, it amounts to more than \$3 per ton of raw cotton delivered to the gin. Evaluating it from a per gin point-of-view (99 operating gins assumed to process equal amounts of fiber), it amounts to more than \$145,000 per gin. A more profitable management strategy would be to offer gin employees a bonus for early completion of the ginning process.

216. The cost of ginning cotton is a crucial element in determining the procurement price offered to farmers. This cost data is provided by the industry on the basis of actual costs, rather than a cost profile that creates the incentive to improve performance by investing in the industry. Farmers are being penalised for the inefficiency of the industry. Alternative marketing channels such as auctions and the embryonic commodity exchanges should be developed. In other Central Asian countries, farmers themselves are much more involved in the marketing of cotton, sometimes as investors in the cotton ginning industry.

**Table 31: Average Procurement Prices of Seed Cotton and Wheat in 2000-2007**

Indicators	2000	2001	2002	2003	2004	2005	2006	2007	2008
Procurement prices for raw-cotton, tonne/soum	52000	80000	126000	195000	225000	255000	306000	352000	430000
Procurement prices for wheat, tonne/soum	35440	44332	72600	76398	87374	93853	120000	129888	
Average exchange rate of 1 USD to UZS	325.0	683.84	800.0	979.39	1058.0	1135.0	1230.0	1270	1315
Procurement prices for raw-cotton, ton/USD	160.0	116.99	157.5	199.10	212.67	224.67	231.7	277.2	326.5
Procurement prices for wheat, ton/USD	109.04	64.83	90.75	78.00	82.58	82.69	97.56		
World price of 1 ton of cotton fiber	1182	1294	936	1249	1550	1198	1276	1362	

217. The cotton bales are transported to terminals or warehouses. Each of the three government sanctioned trading companies manage a portion of the terminals; although in making sales each trading company has access to the cotton stored in all of the facilities. The trading companies are organized under the laws of Uzbekistan as joint stock companies with the government holding the controlling interest in each trading company. The international

companies that purchase cotton fiber may deal with representatives of any of the 3 Uzbek government trading companies. While there is some room for negotiation, it is severely restricted and usually limited to the minor points of the contractual agreement. Most of the cotton that is sold for export is shipped by rail to the Iranian port city, Bandar Abbass.

218. There are many other aspects of cotton marketing that need attention, even within the context of the current state regime. Issues include the ownership of cotton lint, quality controls and classification of the lint, the terms of export contracts and the repayment mechanism. The TA team has reviewed these issues in a separate report. It is clear that improvements are needed. Little progress will be made in improving the competitiveness of cotton unless serious consideration is given to promoting institutional change in the industry.

## **2. Cottonseed Processing**

219. The seed that is removed from the fiber at the ginnery passes through a mechanical delinter to remove the lint that remains on the seed. The short pieces of cotton are called linters. The linters are of some value and in Uzbekistan these are sold. In the United States and Australia, the technical seed is not further processed; only cleaned to remove foreign material that may be present. In Uzbekistan, the government controls the distribution of the technical seed to the crushing plants. Seed that is retained for planting is kept separate at this point. The traditional method of delinting inflicts some nicks in the seed coat therefore reducing germination. The newer acid delinting method removes the fuzzy coat without reducing germination. In addition, it kills disease and mould organisms that may be present on the seed. Seed that is acid delinted also has a higher percentage germination when planted. The only cotton seed plant in Uzbekistan with acid delinting facilities are those owned by the private and joint venture companies operating in the country.

220. The amount of technical seed produced is between 40 and 50 percent of the amount of seed cotton produced. Newer varieties used in some parts of the world yield less averaging about 40 percent; the older varieties approach 50 percent. For Uzbekistan, a reasonable estimate of seed production is 47 percent of the amount of raw cotton that is produced or approximately 1.67 million tons. The seed yields, on the average, about 17.5 percent oil (This is non-processed oil.) and 43 to 47 percent cottonseed cake. Of all aspects of the cotton industry in Uzbekistan, it is the cottonseed industry which is the least transparent.

221. Cottonseed oil has long been the staple cooking oil for Uzbekistan's families. It is readily available and less expensive than competing vegetable oils. Paints, soaps and cosmetics are also significant users of cottonseed oil. Cottonseed oil is used in preparing some foods including mayonnaise. In families with improved economic conditions, usually other oils such as sunflower, corn oil and even safflower oil are used with less reliance on the old standard. During the period starting in late 2007 with rapidly rising food prices, once again cotton oil became the oil of choice due to its lower price for consumers.

However, even cotton oil comes at a premium. Today families may purchase 2 liters of cottonseed oil per month at a price of 1600 to 1800 UZS per liter. Many families use more than that and additional quantities are sold on the black market for 2800 to 2900 UZS per liter. The wholesalers handling the black market oil must pay a premium using dollars at the warehouses in order to supply their retail outlets.

222. In recent years, cottonseed meal has gained recognition as being a high quality source of protein supplement for animal feeds. (Poultry feeds are the exception due to the absence of critical amino acids in cottonseed meal that are of high importance to growing poultry.) The dairy industry especially has recognized the attributes of cottonseed meal and today most high producing dairy herd managers insist on the inclusion of cottonseed meal in the ration formula.

### **C. Non-Regulated Commodities**

223. Apart from cotton most commodities may be freely marketed within Uzbekistan. Even wheat has a relatively free market for about 35% of its total production. No state orders are placed with dekhkan farms, and they determine independently the selection of agricultural crops, and sell the excess products at the markets. In all regions dekhkan farms market their products (fruits and vegetables) through intermediaries or by themselves.

The key marketing issue for these alternative crops is the marketing infrastructure. Since most dekhkan farms are tiny, the amount of produce marketed by each dekhkan farm is also small. If produce is intended for the local market then small quantities of variable quality are not a problem. However, Uzbekistan is quite capable of becoming a major exporter of fruit and selected vegetables, especially in Central Asia. To expand these markets will require well equipped producer marketing organizations.

### **D. Agricultural Trade**

224. The agriculture trade regime is an important part of the policy matrix governing the state procurement regime. Exports of cotton and wheat are tightly controlled but most other basic food items are subject to only phyto-sanitary regulations. Exports of livestock products are not allowed. Import tariffs vary but are commonly around 30%; details are shown in the following table.

**Table 32: Export and Import Tariffs on Selected Agricultural Products**

Product	Import tariffs, %	Export tariffs, %
Grain	5 %	Regulated by the government
Flour and bakery goods	30 %	Forbidden
Cotton fiber	10 %	Regulated by the government
Goods made of cotton	30 %	Regulated by the government
Fruits and berries	30 %	Only phyto-sanitation and customs declaration required
Melons and water-melons	30 %	Only phyto-sanitation and customs declaration required
Grapes	30 %	Only phyto-sanitation and customs declaration required
Vegetables	30 %	Only phyto-sanitation and customs declaration required
Potatoes	No customs duties	Only phyto-sanitation and customs declaration required
Processed fruits and vegetables	30 %	No customs duties
Meat and meat products	10 % – 30 %	Forbidden
Milk and dairies	5 % – 30 %	Dried milk is forbidden
Eggs	30 %	No customs duties

*Source: Resolution “On additional measures on ordering of export-import operations” by the President of the Republic of Uzbekistan N183 dated 19 September 2005*

225. The general pattern of trade tariffs suggests that they are designed to promote a high degree of food self-sufficiency. Where exports are allowed there are few restrictions, but import tariffs discourage food imports. Table 33 below shows that food imports are at a very modest level. The principal imports are those commodities that cannot be grown in Uzbekistan.

226. One indicator of the standard of living is the proportion of household income that is spent on essential goods and services. Table 34 shows that almost 55% of household income is spent on food. This figure places Uzbekistan in the same category as some of the poorest countries in the world. A figure in the range of 55-65% is typical of those countries with a high incidence of poverty. It might be expected that the figure for rural Uzbekistan will be in this range.

**Table 33: Volume of Imports of Agriculture Products**

Products		1998	1999	2000	2001	2002	2003	2004	2005	2005 to 1998, %
Meat	Total, ton	6784.7	34416.2	14446.6	8067.52	20928.9	31220.4	20109.3	12630.1	186.2
	Per capita, kg	0.28	1.40	0.58	0.32	0.82	1.21	0.77	0.48	171.4
Milk	Total, ton	16961.7	14258.2	12454	6050.64	10719.6	11610.9	11491.0	13156.5	77.6
	Per capita, kg	0.7	0.58	0.5	0.24	0.42	0.45	0.44	0.5	71.4
Wheat	Total, ton	755764.9	621949.9	580605.5	420015.3	255485.2	35348.7	16453.1	50784.1	6.7
	Per capita, kg	31.19	25.3	23.31	16.66	10.01	1.37	0.63	1.93	6.2
Raw rice	Total, ton	242.3	737.5	747.2	51430.4	61510.43	10836.8	10185.2	526.3	217.2
	Per capita, kg	0.01	0.03	0.03	2.04	2.41	0.42	0.39	0.02	200.0
Potato	Total, ton	12115.5	6391.5	8717.8	12857.6	3062.8	4902.4	522.3	263.1	2.2
	Per capita, kg	0.50	0.26	0.35	0.51	0.12	0.19	0.02	0.01	2.0
Sugar	Total, ton	314518.4	318349.9	317577.0	340348.5	146757.3	120752.4	73908.3	145510.9	46.3
	Per capita, kg	12.98	12.95	12.75	13.50	5.75	4.68	2.83	5.53	42.6
Podded plants	Total, ton	96.9	344.16	348.7	630.3	536.0	1083.7	1175.2	2236.6	23 раз
	Per capita, kg	0.004	0.014	0.014	0.025	0.021	0.042	0.045	0.085	21 раз
Vegetables	Total, ton	605.8	24.6	24.9	50.4	51.1	283.8	261.2	447.3	73.8
	Per capita, kg	0.025	0.001	0.001	0.002	0.002	0.011	0.01	0.017	68.0
Fruits	Total, ton	484.6	10079.0	22417.2	14874.5	32669.4	19351.5	35517.8	29207.4	60.3 раз
	Per capita, kg	0.02	0.41	0.90	0.59	1.28	0.75	1.36	1.11	55.5 раз
Animal fats	Total, ton	48.5	7.37	398.5	1285.7	1352.7	1083.7	2037.1	1105.2	22.8 раз
	Per capita, kg	0.002	0.0003	0.016	0.051	0.053	0.042	0.078	0.042	21 раз
Eggs*)	Total, thous.pcs.	1429.6	98.3	2989.0	1966.5	969.8	1186.9	1593.1	1999.8	139.9
	Per capita, kg	0.059	0.004	0.12	0.078	0.038	0.046	0.061	0.076	128.8
Tea	Total, ton	12357.8	18437.3	20424.6	29244.8	23225.9	26318.0	26377.2	25260.5	204.4
	Per capita, kg	0.51	0.75	0.82	1.16	0.91	1.02	1.01	0.96	188.2
Plant oil	Total, ton	23504.1	18437.3	27896.9	18151.9	22715.5	14965.2	27683.0	18682.2	79.5
	Per capita, kg	0.97	0.75	1.12	0.72	0.89	0.58	1.06	0.71	73.2
Fish and fish products	Total, ton	484.6	491.66	209476.3	252.1	765.7	774.1	783.5	789.4	162.9
	Per capita, kg	0.02	0.02	8.41	0.01	0.03	0.03	0.03	0.03	150.0

\*) eggs in pieces

Source: data of State Statistics Committee of the Republic of Uzbekistan

**Table 34: Structure of Consumer Expenditure (in percent of total)**

	2002	2003	2004	2005
Consumer expenditures - total	100.0	100.0	100.0	100.0
Including:				
Expenses on purchase of products for home nutrition	60.5	57.5	58.1	54.4
Out of them on purchase of:				
Bread and grain products	20.8	16.6	18.0	17.8
Potatoes, vegetables, (water-) melon plants and fruits	8.9	9.0	7.7	8.3
Meat and meat products	12.2	12.6	13.3	12.0
Milk and dairy products and eggs	3.8	3.8	4.0	3.6
Plant oil and other fats	7.9	8.0	8.0	6.2
Sugar and confectionery	4.7	4.8	4.7	4.3
Other foodstuff	2.2	2.6	2.4	2.2
Expenses on food outside home	3.2	4.1	3.6	3.2
Expenses on purchase of alcohol	0.6	0.7	0.5	0.5
Expenses on purchase of nonfoods	22.7	23.1	22.4	25.8
Expenses on services payment	13.0	14.6	15.4	16.1

Source: data of State Statistics Committee of the Republic of Uzbekistan

**Table 35: Average Domestic Market Prices for Selected Foods.**

	Market Prices		2001	2002	2003	2004	2005	2006	2007
1	Raw-cotton *	Soum/kg	80.0	126.0	195.0	225.0	255.0	306.0	352.0
2	Wheat*	Soum/kg	54.25	58.36	64.52	69.71	96.0	118.0	143.0
3	Corn	Soum/kg	46	48	51	50	56	80	125
4	Potato	Soum/kg	254	212	289	256	350	400	350
5	Onion	Soum/kg	21	25.3	22.3	26.8	36.4	50.6	150
6	Carrot	Soum/kg	25	25.6	32.0	32.9	33.8	49.5	100
7	Cabbage	Soum/kg	70	80	56	120	50	150	200
8	Melon	Soum/kg	150	180	600	800	500	150	1100
9	Water-melon	Soum/kg	200	150	800	400	200	125	800

\*state procurement price

## IX. INSTITUTIONAL NETWORK OF THE SECTOR

### A. Current Sector Institutions

227. The degree of state control of the agriculture sector means that agricultural institutions in Uzbekistan play a major role in determining the performance of the sector. Sector institutions might conveniently be divided into three broad categories: (i) legislative and administrative institutions, (ii) coordination and implementing institutions and organizations, and (iii) service providers and organizations for procurement/processing of agricultural outputs. Representative examples of each type of agricultural institution are shown below:

- Legislative and Administrative Institutions
  - o Oliy Majlis (Parliament) of Uzbekistan, Committee on Agrarian, Water, and Food Programs.
  - o Department<sup>17</sup> of Presidential Advisory Board in Agricultural and Water Issues
  - o Department<sup>18</sup> of Agriculture and Industry (within Cabinet of Ministers)
- Coordinating and Implementing Institutions and Organizations
  - o Ministry of Agriculture and Water Resources (MAWR)
  - o Ministry of Economy (MOE)
  - o Ministry of Finance (MOF)
  - o State Land Committee (Goskomzem)
  - o Association of Dekhan and Private Farmers
  - o Scientific and Production Center for Agricultural Sector (within MAWR)
  - o Khakimyats
- Service Providers and Organizations for Procurement/Processing of Agricultural Outputs
  - o Input Suppliers
    - UzOil Products (Uzneftmahsulot)
    - Uzchemical Industry (Uzhimprom; fertilizers)
    - Agricultural Machinery Leasing (Uzselhozmashleasing)
  - o Machinery Services
    - Agricultural Machinery Service (Uzagromashservice)
    - Agricultural Machinery Leasing (Uzagromashholding)
  - o Agricultural Finance, Credit, and Insurance
    - Pahta and Galla Banks
    - Fund for the Procurement of Agricultural Production for State Needs (within MOF)
    - Support Fund for Private and Dekhan Farms (within Association of Dekhan and Private Farms)
    - Insurance Company (Uzagroinsurance)

<sup>17</sup> Called a “department” in Russian, but more like an Advisory Board to the President.

<sup>18</sup> Again, the Russian word is “Department”, but this is within the Cabinet of Ministers.

- o Procurement and Processing of Agricultural Outputs
  - Wheat Procurement (Uzdonmahsulot)
  - Uzbekistan Cotton Association (Uzpahtasanoat)
  - Horticulture and Fruit Holding Company (Uzmevasazavotuzumsanoatholding)

How these institutions initiate change or respond to change shapes the development of Uzbek agriculture.

## **B. Reforms Since 2003**

228. Uzbekistan's Welfare Improvement Strategy (WIS)<sup>19</sup>, has become a key national development document, outlining the main areas and measures to accelerate economic growth and enhance living standards through 2010. WIS discusses recent government agricultural policy and reforms and concludes that institutional reforms in the agricultural sector were slow prior to 2003.

WIS states, however, that starting in approximately 2003, the government's agricultural policy shifted, and from 2003-2006 agricultural policy focused on:

- Private farming sector development.
- Setting up market and production infrastructure.
- Improving advance payment system and payments to private farmers.
- Establishment of various forms of cooperatives by the farmers.

229. Uzbekistan has made genuine, if uneven, progress in the past 3-4 years in formulating and implementing agricultural policy reforms and institutional change. There is clearly a slow trend towards liberalization of the market, albeit, in a piecemeal fashion. Agricultural institutions have been a part of this reform process, in both structure and functions. For example, Uzbekistan's wheat and cotton procurement agencies used to be similar in form and function to a government ministry. They are now joint stock companies with shareholders. The Agricultural Machinery Leasing Company is virtually a private sector company now, with no government ownership (but with some government oversight regarding number of employees), and operates virtually as a private company, competing with commercial banks for business.

These are all positive signs that reform in the agriculture sector is still on the agenda. Nevertheless, many would argue that these changes are relatively minor compared to the changes that are needed to achieve major progress in the sector.

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<sup>19</sup> WIS was at least partly based on the Uzbekistan's earlier Living Standards Survey. WIS was developed and finalized with the assistance of the Asian Development Bank (ADB), World Bank, UNDP, and other donors and organizations.

### C. Privatization

230. The government has recently particularly stressed privatization of government corporations. A recent Presidential Resolution (“On Measures for Further Deepening of Privatization Processes and Active Attraction of Foreign Investments in 2007-2010, July 23, 2007”) set in motion the privatization of 994 companies in Uzbekistan. The resolution states that the government will sell all of its shares in 363 companies from leading spheres of the economy, including chemicals, oil, and construction. These newly privatized companies will be exempt for a specified time from the profit tax, and taxes on development of social infrastructure and land improvement.

In practical terms, this privatization initiative means that government will no longer be owners of many agricultural institutions, although the government will still maintain some oversight control<sup>20</sup>.

231. One result of these privatization efforts, coupled with removing some restrictions on lending from commercial banks, is the development of some degree of competition in the agricultural sector. For instance, the Agricultural Machinery Leasing Company is presently competing with Pahta and Galla Banks for leasing and selling agricultural machinery in Uzbekistan. Though the Agricultural Machinery Leasing Company presently controls an estimated 70 percent of the market, they are actively competing with other Uzbek commercial banks for the business of larger, more prosperous farmers<sup>21</sup>.

232. If there is one over-riding principal that the government has adopted for agricultural reforms and institutional change, it is to ensure that change takes place gradually. The evolution of agrarian institutions in Uzbekistan has taken place through a number of different stages, and the process is still evolving. There are three broad stages or phases of agricultural reforms and institutional change in Uzbekistan. The first stage focused on land, and stressed the establishment (if not the development and success) of private farms. The second stage (presently on-going) focuses on services, and privatizing the numerous agricultural services presently provided by the government. The third stage (in the future) will focus on privatizing the outputs of the agricultural production process. In this future third stage, the government

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<sup>20</sup> For instance, the July 23, 2007 Presidential Resolution also states that “golden stock” will be issued for selected industries, including ginning companies, fat and oil industries, and the Tashkent Tractor Plant. The exact nature of these golden shares is unclear, but it is likely related to government maintaining some role and influence in what they perceive to be strategic industries, even if they are not actual stockholders and owners of the company.

<sup>21</sup> A representative of the Agricultural Machinery Leasing Company said that since his company was not a bank, his company had to require a 15 percent down payment on agricultural machinery, and then the remainder of the loan is amortized at 7 percent per year for seven years. This official said commercial banks do not require a down payment, but have a higher interest rate of 18 percent per year to be paid over five years.

would actively promote the final agricultural product and focus on finished products, rather than the raw materials (e.g. cotton).

This process of gradual, phased reforms and institutional restructuring is a conscious, deliberate part of the government agricultural reform process. For a variety of reasons, the government wishes to implement agricultural reforms and institutional change in carefully measured steps.

233. Perhaps the primary obstacle to effective change in agricultural institutions has been the difficulty in developing the appropriate roles and functions of Uzbek agricultural institutions. The roles of public sector agricultural institutions are not yet aligned with the needs and realities of a modern global market-based agricultural economy. Many of these institutions still focus on their roles in central planning and production, rather than on creating a facilitative and enabling environment for market-based agriculture. This approach reflects the general tenor of the Government's agriculture sector policy.

Although some agricultural institutions have demonstrated a genuine appetite for and inclination to support a market-based agricultural economy (e.g. the Agricultural Machinery Leasing Company), very few agricultural institutions are forward looking. For instance, while it is true that the cotton and wheat procurement agencies are joint stock companies<sup>22</sup> and undergoing gradual structural change the government still defines all issues of cotton and wheat purchasing and processing.

Likewise, the agricultural fuel and chemical institutions are also joint stock companies gradually undergoing privatization, but the distribution of these resources are still controlled by the state. These organizations cannot freely sell their products on the open markets. The government also still controls the pricing of these inputs.

234. Institutional reform in the agricultural sector, therefore, is difficult to assess. While genuine change is taking place in some agencies (e.g. machinery leasing), most other government agencies are genuinely afraid of the agricultural reform movement and resist change<sup>23</sup>. As Uzbekistan has a centralized distribution system of resources, some government officials have their prestige and power base directly linked to their control of the resource distribution system. These officials and their corresponding institutions do not support reform because then there would be private suppliers and competition, while at present they enjoy a virtual monopoly. Some of these agricultural institutions have been "a state within a state" for years, where all inputs, outputs, and services were provided by and controlled by the state,

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<sup>22</sup> Strictly speaking, for the cotton procurement institution, it is the cotton ginneries in the field, attached to their 13 branch offices, which are joint stock companies. The cotton procurement institution in Tashkent is actually an "association".

<sup>23</sup> After leaving an interview with an input supplier, an Uzbek consultant remarked simply, "They're scared."

and accountability was totally lacking. With market-based reforms gradually being introduced, these institutions are resisting change, due to fear of the unknown, and a desire to maintain the status quo.

235. There is no doubt that increased agricultural productivity and sector growth are constrained by state procurements systems for cotton and wheat, which also require direct intervention in inputs, outputs, financing, and marketing. Under this system farmers' freedom to maximize output is restricted and, as noted previously, there are few, if any, incentives to increase productivity<sup>24</sup>. While transforming the shirkats into private farms has certainly helped to create a more expectant and motivated farming community, the state procurement institutions and policies remain a major impediment to growth and to any significant improvement in rural incomes.

236. The focus of the agricultural reforms and the objective of an enabling environment should be to make the new private farmers more independent of, and less dependent on, the government and its programs. To do this, agricultural institutions should be transformed from central planning and production roles, to regulations and facilitation roles<sup>25</sup>. In their new roles as facilitators, government agricultural institutions should clearly define the private sector's roles and functions, and the public sector's roles and functions.

#### **D. Capacity Building**

237. In their new roles, agricultural institutions will also need targeted capacity building programs, to ensure that they have the knowledge, skills, and attitudes to carry out the new reforms<sup>26</sup>. A key element of this capacity building should be the multiple levels where such programs are implemented. Local agricultural officials at the oblast, raion, and even mahalla levels should be included in these programs, indeed, should probably be the first to receive capacity building. It is not only the subjects and content of the capacity building program that should be considered, but the targeted administrative areas also, and it is clear that any capacity building program should reach far down to the field level.

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<sup>24</sup> While individual incentives for the private farmer are important to consider and analyze, institutional incentives for government agencies, corporations, and associations are also important. Institutional incentives at all levels are focused more on meeting production targets and quotas, rather than on farmer welfare and incomes. In this sense, many governmental agricultural institutions are behaving rationally, as their welfare and well-being are based on a different set of incentives compared to farmers' welfare and well-being. Uzbekistan's institutional incentive structure is a subject that deserves further study.

<sup>25</sup> Hakimiats, as one of the most powerful rural institutions, should also undergo this transformation. The role of the Hakimiya should be transformed from enforcer of the state procurement system to facilitator of diversified rural production systems.

<sup>26</sup> WIS (2006) also calls for concurrent capacity building for national and local executive authorities in formulation and implementation of sectoral (including agriculture) development programs.

238. In addition to educational programs regarding the new reforms, capacity-building programs could also train local agricultural officials about results-based management, civil society, monitoring and evaluation, performance-based budget planning, and other modern management techniques. If one of the elements of agricultural institutional reform is to ensure that local agricultural officials and institutions can push local reforms up the chain, then it is important that these local officials know how to write policy recommendations and reports, using modern management techniques<sup>27</sup>.

The precise capacity building requirements will be determined by the institutional changes which in turn will be a function of the phased reform program. It is expected that the reform program will require changes in a range of institutions from selected ministries to farmer organisations. The exact training needs will be determined in collaboration with the concerned agencies during the next phase of the TAs program.

## **E. Gender Issues**

239. Agriculture sector reforms have had a mixed impact on the role of women in the sector. There are more than 17000 female headed farms but the number of women involved in sector organizations or institutions has declined significantly. With the purpose of increasing women's involvement in the development of the agriculture sector in the context of conducted reforms, the following initiatives are proposed following the recommendations of the Women's Forum held in June 2008:

- **Develop a credit mechanism specifically aimed at female headed farms;** especially for purchase of agriculture machinery. Existing system of provision of credits provides few opportunities for development of women farming. Due to the lack of collateral women-farmers are not able to provide sufficient pledges. The proposed credit line could be developed as a micro-financing fund using collective guarantees organized by women's business groups.
- **Provide assistance for the development of initiatives from "bottom"** on establishment of Associations (cooperatives) of Women Farmers on raion level, which would allow women-farmers to jointly solve the problems related to the improvement of effectiveness of their activities.

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<sup>27</sup> CER reports on a very effective capacity building program for local officials they conducted in 2002, funded by UNICEF. The program targeted lower-level officials for targeted training programs, and future evaluations showed that these officials had been promoted and were using the new management techniques at the local level, instituting local policy changes.

- **Organize special trainings for women-farmers on the following topics:**
  1. on establishment of cooperatives, unions;
  2. legal literacy; specific types of management of leasehold farms-taxes, credits, bases of legislation on development of farming;
  3. increasing of agriculture knowledge;
  4. business-management;
  5. insurance system;
  6. bases of business and its development;
  7. business planning

Courses should be implemented at the raion level through the Business Women's Association and should include both dekhani and leasehold women-farmers.
- **Implement current legislation on the right of farmers to freely market part of their output;** Non execution of this regulation, provided in legislation brings negative consequences, which also break the conditions of conducted reforms;
- **Review the mechanism of direct crediting of production;** This mechanism has resulted in high discrepancy between procurement prices and the real expenditures of farmers for production of government quotas. The system should be made more cash orientated.
- **Enforce the right of farmers to use part of their land for production of crops of their choice.** Breach of this right has resulted in a worsening of social problems like increase of unemployment and an increase of migration, which have a negative impact on the condition of rural women.
- **Establish permanent forum of women-farmers for identification of problems of development of women-farming** It is proposed to establish a permanent Forum of Women-Farmers-jointly with Women's Committee of Republic of Uzbekistan, regional business women associations, and involve respective structures established to provide assistance to development of farming in the context of conducted reforms. Main goal is to get feedback and flexibility in performing the tasks of reforming of agriculture sector and increasing of status of women.

## **X. SUMMARY ASSESSMENT OF REFORMS**

### **A. Technical Assessment**

240. The key issue in assessing the reform process in the agriculture sector is the final objective. What is the expected result of the reform process? Although various pieces of legislation refer to the need to develop a more market oriented and competitive agriculture sector, and the WIS provides certain policy directions there is no Government document which sets out a clear sector strategy with identifiable outcomes within a prescribed timeframe. Without a clear vision of what the agriculture sector might look like in five to ten years time it is difficult to make judgements on the degree of progress.

241. On the basis of government endorsement of the Welfare Improvement Strategy (2006) it is assumed that Government is committed to less intervention over the coming years and to a more market based agriculture economy. This is certainly the hope of the vast majority of new leasehold farmers. But, the degree of freedom that farmers will be allowed to enjoy has not yet been elaborated. A more specific commitment by the Government, without necessarily providing a timeframe, would itself be a significant incentive to rural communities and give a signal to institutions that they must expect and prepare for change. An outline strategy document would also provide a sound basis upon which the international community could extend its support.

242. The current sector regime of state quotas and procurement has a number of dimensions. Although many Uzbek and external critics of the system focus on the rural welfare and poverty implications of the system, the dimension that tends to create most discussion and concern amongst national experts is the physical impact of the quotas. It is quite clear that the cotton and wheat quotas are being implemented in a way that is highly detrimental to the quality of land and water resources. The deterioration of natural resources is, in fact, a very serious problem. Unless something is done fairly quickly, Uzbek agriculture will soon reach a point at which crops giving reasonable yields cannot be grown anywhere without the need for substantial leaching of soils which, in turn, will require huge quantities of water that will probably not be available. This situation has been reached in some raions already and the number will continue to grow unless changes are made. Financial support to farmers in what are now low quality lands is not the answer; this is treating the symptom not the underlying cause.

243. The change to a more technically and environmentally sound agriculture does not even need much of a change in policy. It would be possible to implement a state quota and procurement regime for cotton, which was at least environmentally neutral, if the farm quotas were determined within the context of sound crop rotations. It is quite likely that it is unnecessary to have a wheat quota. Farmers would grow wheat in sufficient quantities without state intervention because it would be profitable under normal market conditions and it allows a second crop to be grown in the same year assuming irrigation water management

is effective. Unless farming in Uzbekistan is allowed to revert to a sound technical rotation, it is highly likely that agriculture sector growth will become increasingly constrained by declining land quality and poor water management.

244. The pursuit of a more technically sound agriculture has two dimensions. At the farm level, there is a need to design crop rotations that allow more room for alternatives to cotton and wheat. Production technologies should be employed that would allow the area of cotton and wheat to be reduced without any significant reduction in total output. Given the current relatively low productivity levels this approach should be feasible. Secondly, it is widely recognised that there are areas of low quality soils in most oblasts that are still growing cotton and wheat even though yields are poor. These areas should be taken out of cotton and wheat production over two or three years and a strategy developed for promoting alternative crops as part of a land improvement package. Initiatives are being taken in this direction, but are not being implemented as part of a definable strategy.

Alternatives to cotton, such as oilseeds, essential oils and fruit production, should be promoted. Establishment of fruit agrofirms can be seen as a first step in this direction. However, the main producers of fruit are the dehkan farms; so promotion requires the establishment of producer cooperatives for the marketing of fruit production. By modest estimates, with this solution, future exports of fruit could reach 2.5-3.0 bln USD in the medium term, and later 5-6 bln USD. This is a higher potential than cotton. Also, Uzbekistan is not self sufficient in vegetable oils. Crops such as sunflowers, groundnuts, sesame and soyabean offer potential, but need investment in post-harvest processing facilities.

## **B. Financial and Economic Assessment**

245. The financial and economic consequences of the current regime are complex and need detailed analysis at different levels. At the farm level, current cotton and wheat production regimes mean that only high yielding farms make a profit. Although cotton accounts for 60% of leasehold farm revenues it contributes only 8% of farm profits. Procurement prices are well below export parity levels. The methodology for determining such prices is too simplistic and narrowly focused on operational costs. Moreover, farmers are not rewarded for seed cotton by-products.

At the raion level, it seems likely that a number of raions are loss-making as cotton producers. This means that the combination of state and farm costs is not fully recovered from the sale of cotton lint. Identification of these raions, or parts thereof would guide the restructuring of the quotas to allow more diverse cropping patterns and improve the productivity of the sector. It is very evident that the performance of the sector would benefit from supporting cotton growing in areas of higher productivity and diversifying crop rotations where cotton performs poorly.

More information is needed to reach conclusions relating to the impact of the current regime on the state budget. It would appear that the Fund used to finance state production quotas and subsequent procurement is not self financing. The Fund does not recover its annual outlay on cotton and wheat production and procurement. Consequently, it seems that replenishment from the budget is usually necessary. A reduction in the dependency of cotton and wheat industries on government budgetary support should be an explicit objective.

246. The agriculture sector receives significant subsidies especially to support the irrigation and drainage infrastructure, and in the form of below market price inputs for fertilizer and fuel. However, the sector is even more heavily taxed by both implicit and explicit taxes. The result is that there is a net transfer of resources out of the sector. A rebalancing of subsidies and taxes is needed to reduce net transfers whilst maintaining adequate fiscal revenues.

Currently, the Government is attempting to balance farm profitability with fiscal revenues and foreign exchange earnings. The evidence suggests that a balance is not being achieved and that farm profitability is too low to achieve any significant increase in rural incomes. Agriculture policy should be adjusted to provide more support for the incomes of farmers rather than support for state revenues. There is not necessarily a conflict; farm incomes could be improved and thereby increase state revenues given the appropriate policy mix.

247. The socio-economic impacts of agriculture sector reforms are still evolving. The restructuring of the shirkats has the potential to create a two tier social structure; those farm households with land and those with only a small plot. It is inevitable that such a structure should arise since there is not enough land for every household. But, it should be possible for families to aspire to larger holdings if they are successful farmers. At the moment it is extremely difficult for a family to acquire additional land. The current system needs to become more flexible in its attitude to asset management, especially land transfers, if rural poverty is to decline significantly. A more flexible land management system would also help create employment in rural areas and thereby mitigate the impact on families with very little land.

### **C. Land Tenure**

248. The current leasehold right is very weak, and farmers cannot freely use their land. There are no incentives to improve land fertility or sanctions for decreasing fertility. The inheritance of leasehold farms is not protected and the size of dekhan farms is limited by legislation to a very small plot.

By law a farmer has a right to lease land from 30 to 50 years, but in case of non-fulfilment of state procurement quota the lease can be rescinded. This fact is a disincentive to make investment into farming which leads to the degradation of soils. Lease rights do not allow farmers the free use of the land, and tenure rights are not sufficiently protected.

Policies providing greater protection would stimulate farmers to make further investments into their lands and make land more creditworthy as collateral.

#### **D. Irrigation and Drainage**

249. The amount of water available for irrigation is declining and water salinity levels are increasing. A large amount of water is wasted or is used to flush salts out of the soil. The cost of maintaining expensive pump irrigation systems is not matched by the return from agriculture crops. Much more efficient water delivery methods and management techniques are needed. The legal and institutional basis of water management in Uzbekistan lacks clarity and should be reviewed. Water User Associations are weak; they have no clear status, there is no WUA law and they lack resources. The issue of water pricing has not been pursued. Policies are needed which make water users accountable and which recognise the economically high cost of water in Uzbekistan.

#### **E. Input Supplies**

250. Input suppliers are monopolies; to date, there has been very little need for agencies providing agricultural support services to change. The Government has begun to divest itself of its shareholding in these agencies, but change will not come without changes in policy to create competition. Farmers complain about fertilizer ratios that are not correct and weights that are sub-optimal. Sometimes deliveries are delayed. There is a shortage of serviceable farm machinery and the provision of spare parts for farm equipment is not well developed. Leasing terms are too short. All of these issues would be resolved by introducing a degree of competition into the input supply businesses.

#### **F. Agriculture Credit**

251. The directed credit mechanism restricts the ability of farmers to make farming decisions and deprives the whole rural community of cash. Thus liquidity in the rural economy is stifled. Often, the mechanism does not allow farmers to access their own funds. Commercial credit is expensive and its availability is restricted because farmers do not have an asset base that can be used as collateral.

It is necessary to ensure easier access to both working capital and long term credit for agriculture enterprises, and for industries which provide technical supplies to agriculture sector. It is necessary to implement alternative credit mechanisms such as warehouse receipts where the crop is used as collateral and to evolve the directed credit mechanism into a more commercially orientated mechanism using guarantee and refinancing instruments.

#### **G. Marketing of Commodities**

252. There are no alternative marketing outlets for cotton producers; seed cotton processing facilities are effective monopolies. Farmers receive no benefit for the by-products

of processed seed cotton. There is very little incentive to ensure quality since farmers cotton is not treated individually but as part of a larger batch.

There is a strong need for liberalization of marketing outlets. Purchase of seed cotton should be allowed by private enterprises. Farmers should have the opportunity to choose their buyer. Competition has to be established in order to improve the quality of production as well as to ensure timely payments. Gradually, the processing efficiency of fiber has to increase to 38 % (at present it is 32.7%) as in other countries.

During the years of independence there were built and modernized around 200 textile enterprises. But, without private sector investment and management skills it is difficult to make them successful. Taking this into consideration it is necessary to develop and liberalize the internal cotton market, and to allow the private sector to build textile and sewing enterprises, provide them with credits, and attract foreign investments.

High losses of agricultural products during production, transportation and processing are evident; the loss of wheat in the marketing chain is 15-20 % and loss of vegetables and fruits 35-40 %. More attention should be given to this situation rather than pursuing cotton producers.

## **H. Institutional Needs**

253. It is important to develop information systems which would allow the estimation of better forecasts. Also, taking into consideration attempts by Uzbekistan to join the WTO, assistance of international agencies on technical support in forecasting of impacts of different future measures on welfare and poverty reduction should be obtained.

The greatest institutional change that has to take place is the need for more accountability. The monopoly status of many state agencies has promoted a culture in which they place their own interests above those of the clients and communities they are supposed to serve. Competition is required to create a more service orientated culture. Likewise, the government should place more trust in local communities to help solve their specific problems and develop bottom-up planning processes rather than imposing top-down targets.

In rural areas the non-agriculture sector is underdeveloped. There is a need to develop this direction. In the republic there are some farms, where more than half of farm income is based on non-agriculture activity. So it is very important to develop this direction, which would result in improvement of financial conditions of farmer. Also there is a need to adopt governmental resolution "On measures for expansion of fields of use of labor in rural areas, and ensuring employment of people which are not any more involved into agriculture sector".



## **XI. PRIORITIES FOR FURTHER REFORM**

### **A. Outline Reform Strategy**

254. The previous analysis has illustrated that the agriculture sector reform process is a complex mixture of interdependent factors. Moving the process forward requires a sector roadmap that takes account of this interdependence and recognizes the need to move forward on several fronts within the same timeframe. Change needs to be phased and multi-faceted.

The TA team has taken the WIS objectives as its starting point for the development of a detailed strategy (roadmap) which would result in most of the WIS objectives being achieved within five to six years.

The proposed strategic reform framework is based upon pursuing five key themes which are embedded in the WIS objectives, namely:

- 1. Sustainability** – A sustainable natural resource base (land, water) is essential. Without a sustainable natural resource base, no other agricultural sector reforms will improve sector productivity and rural incomes over the longer term.
- 2. Balanced Economic Objectives** – Uzbek agricultural reforms must explicitly recognize the importance of appropriately balancing different financial and economic objectives, such as: (i) farm profitability, (ii) fiscal revenues, and (iii) foreign exchange earnings. More profitable farming is the key to rural poverty alleviation and increased investment in agriculture.
- 3. Competition/Incentives** – Competition in the agricultural economy will foster efficiency, keep costs down, and provide producers with a choice of input and output services.
- 4. Redefinition of Public Sector Role** – To achieve an effective reform agenda, the state sector must become more of an enabler and facilitator, rather than an enforcer. Bottom-up agricultural production targets should be established and institutionalised. Government should aim to reduce its budgetary commitments to the sector, especially for working capital.
- 5. Food Security and Poverty Alleviation** – The government's commitment to food self-sufficiency is understood, but it must be recognized that such a policy has its limits. At the moment, too much wheat is being produced, sometimes of poor quality, while other deficit food commodities (e.g. oilseeds) are being neglected. The definition of food security needs further elaboration/clarification.

255. The detailed elements of the proposed strategic framework are as follows:

- (i) a gradual adjustment of irrigated land use to achieve technically sound crop rotations;
- (ii) adjustments to agricultural prices, taxes, and subsidies to reduce net transfers from the sector and improve farm profitability;
- (iii) the creation of a competitive farm inputs and machinery services industry;
- (iv) the opening up of commodity markets for agricultural outputs and a more competitive commodity trading regime;
- (v) a reduction in directed credit and dependency on state funding in conjunction with the expansion of more commercially orientated agricultural credit mechanisms;
- (vi) the creation of sustainable irrigation and drainage infrastructure, O&M systems and water management regimes
- (vii) institutional restructuring and capacity building, including substantial training programs and the wider application of proven technologies.

257. More specifically, it is anticipated that an orderly transition leading to the reduction and eventual termination of state quotas for cotton and wheat will require the following operational actions:

- a review of soil fertility ratings and identification of poor quality land;
- a review of procurement price formulation methods during the phase out period;
- a revision of the method of calculating the costs of ginning cotton and the sharing of these costs;
- substantial investment in irrigation systems infrastructure, especially on-farm water management;
- establishment of the use of meaningful water charges for irrigation and their implementation over time;
- establishment of clear responsibility for irrigation and drainage networks and their funding;
- adjustments to a range of taxes currently applied to agriculture sector enterprises;
- adjustments to the scope and level of subsidies applied to farms;
- adjustment to cotton and wheat commodity prices to parity with international markets;
- gradual adjustments to interest rates to reduce subsidies on directed credit and align them with commercial rates;

- implementation of alternative credit mechanisms such as warehouse receipts, guarantee and refinancing instruments;
- amendments to trade regimes for both inputs and commodity outputs;
- licensing of private investment in cotton ginning to create a more competitive processing environment and reduce ginning costs;
- licensing of private traders to supply farm inputs;
- strengthening of land tenure rights;
- strengthening of specific legislation, such as leasehold rights and the law on pledging;
- a change in the relationship of farmers and local hukumats regarding land use decisions. Farmers and hukumats should be allowed to develop their land use plans and then submit them to central agencies rather than have unrealistic quotas imposed on them.

257. The above list makes clear the scope of the reform process leading to a reduction in state regulation over the major commodities, cotton and wheat. The key to successful transition will be in the phasing of the various elements. It will be necessary to ensure that changes to this wide range of variables are consistent and mutually supportive of the final objective over a period of perhaps six years.

258 It is envisaged that the complete termination of state quotas will be the final act, not the first. To abolish existing quotas immediately would create more problems than it solved. Broadly, the first two to three years of the reform program should be focused upon implementing adjustments to the current regime which make it more attractive to farmers. These would include:

- adjustments to the way in which procurement prices are calculated to increase farm profitability;
- adjustments to the manner in which the costs of the cotton processing industry impact on the procurement price;
- changes to the directed credit mechanism which provide farmers with access to more cash;
- preparation of a set of legal amendments and drafting of new legislation;
- tax and subsidy adjustments but with the emphasis on reduced taxation;
- changes to soil fertility ratings and land use specification;
- introduction of realistic water charges where farmers can control their water use;
- the design of alternative agriculture credit mechanisms to replace directed credit;
- a reduction in cotton quotas to a standard agreed quantity per farm;
- a reduction of the state quota for wheat to 20% of total farm wheat output.

Years 3 and 4 would be concerned with structural changes to the basic framework of the current procurement regime. They would include:

- changes to land tenure relationships designed to provide enhanced security to farmers;
- implementation of legislation to allow competition in the input supply and cotton processing industry;
- introduction of commercially orientated credit instruments such as warehouse receipts, guarantee and refinancing mechanism;
- further reduction of taxes and complete elimination of subsidies on input supplies.

The final two years would be concerned with the transformation of service providers into competing organisations with the necessary skills to function effectively in a competitive market. The actions would include:

- the removal of all state procurement quotas to be replaced by farm/raion based crop regimes;
- a program of measures to support institutional change in agricultural service providers;
- a capacity building program across all levels of the agriculture sector.

## **B. Proposed Reform Program**

259. The detailed proposed reform agenda has been divided into ten key components, each of which is discussed separately before coming to the important question of the coordinated phasing of reforms.

### **1. Physical Framework of the Agriculture Sector**

260. This component is concerned with the creation of a sound technical natural resource base, which will ensure the sustainability of soil and water resources. Our proposal is to aim for an irrigated land use pattern of roughly one third cotton, one third wheat and one third other crops. This is a sustainable pattern of irrigated land use which can be achieved over a period of six years. The creation of this physical agriculture sector framework is critical to the sector's future and should not be compromised.

**Table 36: Proposed Future Direction of Agriculture Sector Irrigated Land Use**

CROP	Present Situation (2007)			Five Years After Proposed Reforms		
	AREA (million ha)	YIELD (mt/ha)	OUTPUT (million mt)	AREA (million ha)	YIELD (million mt)	OUTPUT (million mt)
Seed Cotton	1.45	2.65	3.84	1.10	3.20	3.52
Wheat*	1.60	4.15	6.64	1.20	5.20	6.24
Sub-Total	3.05			2.30		
Alternative Crops	0.40			1.15		
Grand Total	3.45			3.45		

Table 36 is intended to be indicative. The numbers are designed to illustrate the required direction of the strategy and possible future scenario compared to the present. The numbers should not be regarded as precise estimates.

261. To achieve the above cropping pattern two measures are proposed. Firstly, all wheat and cotton contracts should be tonnage based. The estimated tonnage should be based upon an ecological benchmark. At the moment the average leasehold farm has 50% of its irrigated land under cotton. Over six years this figure would be reduced to a more ecologically sustainable 36% and then ideally to 33%. In the case of wheat the area reduction would be from an average of 38% to 33% of a farm's irrigated land. These targets would allow the individual farm crop rotation to become sustainable. The precise period over which the reduction could take place would depend upon the rate of improvement in productivity levels but should not exceed six years.

The objective should be for the tonnage targets to be agreed at the raion level between the farmer and raion officials. The ecological benchmark (ie. the proportion of cotton or wheat grown at the farm level) would act as a guideline but the farmer would be free to agree a tonnage figure with raion officials consistent with expected productivity levels. In effect this approach would create a trade off between area cultivated and productivity levels. Contrary to the current approach the farmer would have an incentive to increase productivity of cotton and wheat in order to make space for alternative cash crops.

In order not to reduce cotton output significantly, the average productivity level would have to be increased, to international levels of 3.2tons /ha. By removing cotton from low productivity areas and wider use of modern production technology the projected improvement in productivity should be easily achieved. Higher productivity levels are needed in any event to allow Uzbekistan to compete in international cotton markets.

262. On an oblast level, Government is committed to phasing out cotton from low productivity areas. These areas would be targeted and become the subject of specific land improvement and alternative farming systems projects. As cotton is phased out farmers would be supported by programs piloting alternative crops. The scope of existing

Government programs could be widened to include the promotion of alternative farming systems in areas which require rehabilitation of the natural resources. Such programs would require initial investment but would result in:

- the upgrading of low yielding areas and maintenance of the irrigated area;
- the diversification of cropping patterns;
- increased agriculture output, rural incomes and fiscal revenues;
- increased food–self sufficiency.

263. Table 36 indicates that over a period of five years the aim should be to convert 350,000ha of cotton land and 400,000ha of wheat land to other crops. This change in land use would place the agriculture sector on a sustainable physical basis. A broader range of crops could be grown whilst still maintaining cotton output and wheat self-sufficiency. If improvements in irrigation water management can be achieved at the same time then it would be possible to grow a second crop after wheat in some parts of the country and thereby increase the total irrigated area.

**The key policy initiative would be the adoption of tonnage based procurement quotas and adjustment of these quotas over six years to achieve the necessary change in land use.**

## **2. Financial Framework**

264. The future financial framework of the agriculture sector should reflect two broad fiscal objectives. Firstly, the government is committed to reducing its expenditure to 22% of GDP from a current 30% by 2010. This commitment should enable the government to reduce taxation levels, especially in the agriculture sector. Secondly, a reduction in state expenditure should encourage a reduction in state support to the cotton and wheat industries. Both of these desirable trends are reflected in the following proposals for reform.

265. In addition to adjusting the physical framework, assistance is needed to improve the incentive structure for producers to achieve the required productivity levels for cotton and wheat.

Procurement prices over the past three years have moved closer to international prices but export parity levels have not been achieved. Our calculations indicate that in 2006, the cotton procurement price was close to the export parity level but if account is taken of the fact that farmers receive no benefit for seed cotton by-products then the parity ratio declines to about 73%. The methodology used to assess procurement prices is clear, but the quality of the data and assumptions underlying the calculation of specific items would benefit from greater clarity. Moreover, there is a need to develop a price forecasting capability.

**The basic reform proposal is that the base producer procurement price for raw cotton should be set at 80% of the forecast export parity price during September to November of the current season. This is assuming that farmers are rewarded for selling seed cotton by-products to the state, or alternatively, the by-product (cottonseed) is returned to the farmer. This price should be applied to the first 25% of the tonnage contract. The remaining 75% of the tonnage contract should attract a 5% premium above the base price. Any tonnage provided above the contracted amount would attract a 10% premium.**

**This incentive structure would stimulate cotton growers to achieve high productivity levels knowing that good yields would be rewarded. It is estimated that this incentive structure would return about \$70million annually to cotton growers. The cost to the government in implicit tax could become part of the general reduction in agriculture sector taxation or could be recovered through the complete elimination of input subsidies.**

It is expected that this incentive structure would keep cotton output at around the current level even though the cotton area would be declining. Therefore, these changes would not threaten foreign exchange earnings derived from cotton exports.

266. Internationally competitive procurement prices would reduce implicit taxation of the sector. Our calculations indicate that taxation of the agriculture sector, implicit and explicit, exceeds the level of subsidy by a considerable margin. Implicit taxation includes the loss of soil fertility and losses attributable to low ginning efficiency. Both these sources of loss are addressed by this strategy. Explicit taxation remains very significant at the farm and enterprise levels. At the farm level, our survey data indicates that taxation is about 37% of net income. This is a high level by international standards. Productivity gains at the farm and enterprise levels would allow taxation levels to be reduced while allowing total revenues to be maintained.

### **3. Credit Mechanisms**

267. In the short term, reform of the directed credit mechanism should address the cash flow problem within the agriculture economy. This means increasing the cash component of the total directed credit. This would help rural communities in general and farms in particular with their cash flow. A cash component of 30% instead of the current 15% would be a significant benefit. An improved cash flow or cash component would have no effect on the overall level of subsidy. However, it could reduce the total amount of directed credit if farmers were allowed to determine their own input requirements.

The development of farms as businesses would be greatly facilitated by improving their access to free money. This could be achieved by simplifying the schedule of tax collection to make it consistent with farm cash flows.

268. In the medium term the intention should be to significantly reduce and eventually replace the directed credit mechanism in order to release state budgetary funds for other pressing needs, for example, infrastructure rehabilitation and land improvement/ crop diversification programs.

It is proposed to replace the directed credit for wheat within two to three years with a warehouse receipt program. This program would allow the wheat crop to be used as collateral for credit. The transition from directed credit to warehouse receipt could be accomplished in several ways but it would be important not to have a rapid increase in the cost of funds for growing wheat.

The wheat program could be converted into a grain program which would allow legumes to be grown as well as other cereals. The maximum procurement quota that has to be sold to the state should be 25% of total output. There is really no need for an enforced wheat or grain program; farmers will grow these crops without Government pressure.

269. The possibility of replacing directed credit for cotton is more difficult. Two actions might be considered. One would be to privatize the ginning industry and use its assets as collateral for ginneries to at least make loans to a core group of their cotton growers. This is a limited option since even private ginneries would not have the assets to cover all cotton funding needs, but it is one way of reducing the total dependence on directed credit.

Secondly, the directed credit scheme, over a period of years, could be reduced if not replaced by a refinancing mechanism. More information on this idea is contained in the credit report.

Briefly, this would allow banks to make loans directly to cotton growers on the understanding that subject to certain conditions their funds would be protected. They would be refinanced from a central fund. This idea is in fact an evolution of the directed credit mechanism which would gradually transfer cotton crediting to the banking sector from the budget. The proposal needs detailed elaboration but there are models available in other parts of the world which could be drawn upon.

In order to set up a warehouse receipt scheme or a refinancing mechanism it is advised that the government should seek international expertise. The EBRD has considerable experience of establishing warehouse receipts programs in Eastern Europe and functioning refinancing schemes may be studied in several countries.

270. Over a period of five to six years the intention should be to close the gap between state subsidised and commercial interest rates. The subsidy on the directed credit interest rate should be reduced and commercial rates are expected to decline as perceived risks are reduced. Within five years the expectation might be that subsidized credit could still be necessary but that the subsidized rate could be nearer to 7% compared to a commercial rate of perhaps 10- 12%. This would considerably reduce the overall level of subsidy to the sector.

There is plenty of evidence from farm surveys that farmers can accept annual interest rates of 7-9% provided that their farms are profitable.

#### **4. Input Supply Services**

271. To be consistent with the gradual reduction in cotton and wheat procurement quotas and the proposal to pay more of the directed credit in cash it would be appropriate to give farmers greater freedom to assess their own input requirements. Also, the gradual removal of state subsidies would mean that input prices would become aligned with market prices further undermining the need to retain monopolistic state agencies.

The process of privatizing input suppliers could be accelerated and alternative structures considered. The restructuring of existing input suppliers could take several forms beginning with retail outlets. Initially, retail outlets could be privatized while the state agencies retained control of importing and wholesaling. Retail outlets could take the form of a franchise network. In addition, the licensing of private traders to create a competitive supply service could be considered.

The reform agenda envisages a competitive input supply industry offering farmers a choice of supplier and of product within three to four years. A competitive input supply industry would be no burden to the state budget and would offer the prospect of competitive prices to the farmer. Such developments would be consistent with giving farmers more control over their inputs.

A key input which is vital to achieving the necessary productivity gains is improved seed, especially for cotton. The provision of quality seed across the country in conjunction with precision planters would transform cotton productivity levels.

#### **5. Commodity Marketing and Processing**

272. State control of the two main commodities, cotton and wheat, has a particularly debilitating effect upon their overall performance. The marketing and processing of primary commodities offers an opportunity to add significant value to rural economies and provide employment in rural areas. The monopolistic status of cotton and wheat processing means that major inefficiencies are widespread and are simply passed back to the farmer in the form of lower procurement prices. Investment is the role of the state which means widespread underinvestment and a very low operating profit. Processing efficiency is low and there is no incentive to improve performance. The proposed reform agenda is based upon the need to inject capital and management expertise into the industries. There is also a need to rationalise the taxation of the cotton processing industries. At the moment, the tax burden on cotton processing industries is far too high.

273. In the case of the wheat storage and milling industries accelerating the current privatization program leaving no residual state share in elevator enterprises, would be desirable.

The proposed warehouse receipt scheme would normally require privatized storage facilities, or private elevator enterprises. This is because the banks financing the scheme prefer to work with enterprises which have a vested interest in its success. State enterprises would not necessarily be similarly motivated. Therefore, the adoption of a warehouse receipt scheme for wheat would normally imply private storage enterprises. If the Government retained concerns about food security then a state grain reserve could be established.

274. In the case of cotton, privatization of the ginneries has a number of advantages. Firstly, investment in the ginneries would no longer be a state cost. Secondly, modernised ginneries would provide an additional \$140 million a year in revenue through improved processing efficiencies. Thirdly, the operational costs of ginneries would no longer be a state cost and competing ginneries would be motivated to keep operating costs down. The current privatisation program could be accelerated and alternative private investment in ginneries allowed.

For these main reasons it is proposed that private capital including foreign private capital be allowed to invest in ginning facilities. The benefits would be:

- the ability of private ginneries to attract bank loans which can be on-lent to growers, thereby reducing dependence on state credit;
- more efficient ginning generating higher export earnings through better quality cotton lint;
- a reduction in budgetary outlays to the cotton processors;
- better quality cottonseed using modern delinting methods;

275. The ability to attract private investment, either domestic or foreign, into cotton processing will be partly determined by the tax regime. At present the ginning industry pays about \$46 million annually of its own tax and cotton fibre is also subject to VAT which costs the industry some \$212 million annually. Since the VAT is not reimbursed it becomes an export tax on exported fibre. To encourage private investment in cotton processing it will be necessary to make adjustments to this tax regime. The simplest solution would be to implement a system that repaid VAT to exporters. This would strengthen considerably the finances of the ginning industry and help to redress the more than \$400 million sector imbalance between taxes and subsidies. Implementing this VAT measure as it was intended will have a budgetary impact, but there are alternative measures that could mitigate the fiscal impact. Over the longer term improved efficiency in the ginning industry will recover almost all the "foregone" VAT. In the short term, a more flexible production regime for cotton would increase the income tax from producers. In addition, it should be possible to increase the interest rate on directed credit to 5% assuming that procurement prices are raised as previously proposed. These measures would help to maintain the cash flow to the budget, but the underlying assumption is that government is committed to a real reduction in agriculture sector taxation as part of its commitment to reducing government expenditure as a percentage of GDP.

276. In addition to the above taxes, the cottonseed crushing industry is also heavily taxed raising some \$134 million annually. In effect, this heavy taxation is only possible because farmers are not paid for the by-products of cotton ginning. The cottonseed crushing industry receives cheap raw material and produces cottonseed oil and cake which are, in part, sold at a discount to market rates. In this manner, cotton growers are subsidising urban consumers of cottonseed oil. A more economically efficient solution would be to sell cottonseed oil at its market price and thereby provide support for investment in other oilseed crops.

## **6. Trade Regime**

277. Diversification of the agriculture sector should be supported by a more liberal trading regime. It is understood that government wishes to maintain a degree of self sufficiency in cereal output but wheat production also needs to be subject to international competition. The current restrictions on the wheat trade divorce it from such competition. The result is a surplus of wheat, much of which is of poor quality. The justification for retaining this restrictive trade regime is weak. It is highly unlikely that Uzbekistan would face a shortage of basic cereals if trade restrictions were lifted or that domestic producers of wheat would be undermined by imports to any serious extent. As an interim measure, a tax on imported wheat could be levied until the trade regime stabilized.

If Uzbekistan wishes to move towards WTO membership it will be necessary to make some adjustments to the trade regime. Import and export tariffs will have to be realigned. More critically it will not be possible for state trading companies to have a monopoly of any commodity export. In anticipation of these changes, the role of a commodity exchange could be developed in collaboration with international cotton trading companies. The existing trading companies would lose their monopoly and could be privatised, possibly forming joint ventures with international trading companies.

## **7. Land Reform**

278. The aim of land reform should be to encourage long term private investment in the agriculture sector and the emergence of vibrant rural communities, including good farmers who are interested in expanding their businesses. Long term investment by farm households strengthens or reflects the motivation to improve farm business performance.

These objectives could be achieved by strengthening security of land tenure. For example, legislation could be amended to make the loss of a land use right a last resort and to resolve the issue of inheritance rights of leasehold farms. These developments would make it easier for banks to accept land as collateral and thereby encourage investment.

The size limit on dekhan farms should be removed to allow them to expand where circumstances permit and so enable progressive farmers to grow their business.

In the medium term land legislation should be drafted to allow land transfers and the creation of a land market. This would allow farm land to acquire a value and make it easier for banks to accept land as collateral.

Unfortunately, government has created a dilemma by granting leasehold rights, unless leaseholders were required to make a contribution to former shirkat debts. This confused situation will have to be resolved by creating a common base for future land transactions. Land transfers may then take place on the assumption that all leaseholds have incurred some form of investment. This status would then make the rescinding of a leasehold right more difficult unless compensation was paid consistent with the fact that the leasehold right had incurred a cost.

## **8. Irrigation and Drainage**

279. Irrigation water management is fundamental to the agriculture sector reform agenda in Uzbekistan. Two fundamentals are evident; reduce the total amount of water used for irrigation and make more effective use of what is used. Unless these objectives are achieved farming will not be placed on a sustainable basis. Too much water will continue to be used resulting in a worsening of the natural resource base. Measurement and control of water use at all levels, especially by farmers, the end users, is essential to achieving the above objectives.

280. In Uzbekistan it will be necessary to invest several billion dollars in irrigation and drainage infrastructure during the next decade. This investment will be mostly public investment due to the scale of the irrigation systems but the effectiveness of the investment will be determined by its impact at the farm level not by how much water can be pumped from a river. If investment is confined to main systems, the impact on the efficiency with which irrigation water is used will be minimal. On-farm water management is the key to improved performance.

Given the appropriate policy framework farmers could make a contribution to better irrigation systems performance through improved on-farm water management. Farmers need a strong organisation, the ability to control water delivery, profitable crop rotations and an ownership stake in the on-farm water delivery systems, plus training programs. This combination of factors enables farmers to have water delivered to their crops in the required quantity in a timely manner and therefore on a sustainable basis. The ability of farmers to control their irrigation supplies through their WUA is the essential platform for introducing water charges. Similarly, affordable water charges and farm profitability are strongly correlated.

Improved on-farm water management would bring huge benefits in Uzbekistan especially to rural areas. It is an integral part of the strategy to revitalise poor quality land, lower water-tables and reduce soil salinity levels. There is also the prospect that more efficient irrigation systems could make water available for more intensive crop rotations.

281. On a policy level the reform agenda has two irrigation management themes. Firstly, legislation is needed to support the development of WUAs and to strengthen the river basin concept of water management. This legislation should clarify the status and respective roles of WUAs and river basin authorities (BISAs). The second theme relates to the need to make room for the high level of future investment and the high cost of maintaining pump irrigation systems. Both these requirements will place a heavy burden on the budget, either as a direct budget item or in the form of interest payments on investment loans.

To minimize the budgetary impact government should seek ways in which to share the financial burden with rural communities who are the main but not sole beneficiaries. Irrigation water delivery charges are an obvious way of cost recovery. Another possibility is to require communities or WUAs to contribute to the cost of investment by for example leasing an irrigation system to a WUA. However, the success of these cost recovery mechanisms is closely correlated to the profitability of farming and the ability of farm households to control their water usage. Neither of these preconditions is in place at the moment. To convince farmers to contribute substantially to the cost of water delivery will require a complete reversal of the current policy of extracting tax revenues far in excess of any subsidies.

Pilot projects have shown that substantial water savings can be achieved under the present regime and that salinity levels can be reduced for relatively small investment if farmers work together. This is encouraging but the broader financial status of irrigation water delivery will remain an issue as long as current policies restrict farm profitability.

## **9. Technologies and Research**

282. Technologies capable of providing the improvements in productivity previously mentioned are available and in some cases are being used on a small scale in Uzbekistan. But, the application of improved technology is hindered by i) limited state funding for investment, and ii) lack of private sector incentives to invest in the long term. The uptake of improved technologies would be much faster if private investors were convinced that they could achieve an appropriate return, assuming that private investment is allowed.

For example, acid delinting of cotton seed produces a much better product with a higher germination rate. The use of improved seed across the country would increase yields by 20% and reduce seed rates by 60%. The lack of such technology in ginneries is largely a function of inadequate state investment.

There are a small number of precision planters in Uzbekistan; they reduce cotton seed rates from an average of 50kg/ha to less than 20kg/ha. Private investment is needed to increase the scope of this technology but neither individual farms nor machinery parks have the necessary funds. Cotton production is simply not profitable enough.

Uzbekistan is highly dependent on external sources of water; it is therefore essential that water is used more efficiently. It is possible to reduce the amount of water used for irrigation by at least a third and still maintain yields at current levels, if not increase them. Again, the application of appropriate technologies, such as drip irrigation systems, is constrained by policies which deny farmers ownership of the systems and the ability to contribute to their operation and maintenance.

## 10. Institutions

283. The cost of maintaining state institutions associated with the cotton industry is substantial. A conservative estimate puts the administrative cost at \$2.0million annually. This cost is borne by cotton growers and is paid for by taxation of the agriculture sector. In order for the reforms to be successful, institutions should look for opportunities to take advantage of the changes, not for reasons to oppose reforms, which are essentially self-serving;

The reform process should place much more emphasis on the provision of training programs, especially of farmers and other technicians/ administrators in the agriculture sector.

### C. Policy Options and the Level of Net Transfers

284. One of the key objectives of the proposed reform agenda is to maintain a balance between farm profitability, fiscal revenues and foreign exchange earnings. The core issue is to define where that balance might lie. The reform agenda foresees very little change in the composition of core agricultural output, namely cotton and wheat production. But, it is hoped that diversifying agricultural output will open up trading opportunities. Therefore, the proposed agenda is expected to have a positive effect on agricultural export earnings. It is expected that the quality of cotton fibre exports will improve and that regional trade in selected fruit and vegetables will expand. Therefore, the conclusion is that the proposed reforms will certainly not reduce foreign exchange earnings and are much more likely to increase the value of export earnings.

285. The important relationship is that between farm profitability and fiscal revenues. It has been concluded that farm profitability is too low and therefore a higher proportion of sector revenues should remain at the farm level. It is also assumed that government will reduce its expenditure as a percentage of GDP and this will ease the demands on the budget. It is therefore assumed that the reform agenda does not necessarily need to be fiscally neutral although major negative impacts on the budget should be avoided.

286. The current mixture of implicit and explicit taxes and subsidies applicable to the agriculture sector indicates that taxes exceed subsidies by some \$400million and that about 60% of this net transfer is financial rather than economic and is mainly borne by the cotton processing industries not the cotton grower. However, the burden is passed back to the cotton grower in the form of lower procurement prices. Adjusting this imbalance would have a major positive impact on rural incomes and is essential if the agricultural and rural economy is to make any significant progress.

The detailed structure of agricultural taxes and subsidies is shown in Table 18 (para.65). A key feature of this table is the small number of subsidies compared to the long list of taxes. Moreover, the list of subsidies is dominated by items that are highly resistant to change, at least in the short to medium term. For example, irrigation O&M support and subsidized credit cannot be reduced significantly in the medium term. Thus, over a period of five to six years it

is very difficult to see how the level of subsidies might be cut by more than about \$70million. In other words, there is no prospect of a balanced reduction in taxes and subsidies; there is simply not enough of an available subsidy element in the current equation. Consequently, the ability to close the net transfer gap and achieve fiscal neutrality will only be possible if any reduction in taxation levels actually generates additional revenues from other sources. Apart from the ability to offset tax reductions by the stated \$70million any further reduction in net transfers will have to come from productivity gains or the assumption of fiscal neutrality cannot be sustained.

287. In fact, the assumption of higher productivity is a fundamental pillar of the proposed reforms. Without marked improvements in productivity in both crop production and crop processing it is difficult to envisage any substantial improvement in rural welfare standards. In relation to crop production the basic assumption is a 23% increase in yields over six years for cotton and wheat plus the prospect of making at least 500,000ha of agricultural land available for alternative crops. In addition, investments in commodity processing are conservatively expected to generate incremental annual income of \$140million. In total, the proposed reforms would be expected to generate annual incremental net income of the order of \$250million. This would be enough to offset the reimbursement of VAT on cotton fibre exports which would be needed in any event to ensure private investment in cotton ginning.

Similarly, a change of policy relating to the cottonseed crushing industry should aim at reducing the overall tax burden of that industry and placing it on a comparable basis to other internationally significant cotton producers. This means returning a significant part of the seed cotton by product value to producers, making productivity gains and transferring the taxation burden from the cottonseed industry to all stakeholders from producers to consumers.

288. To conclude, the tax burden on the agriculture sector is excessive and is having a detrimental effect on investment and performance levels. Reducing this tax burden should be a priority. It is estimated that up to \$300million of tax reductions could be offset by a small reduction in subsidies and by improvements in productivity. Beyond this level, any further reductions in taxation levels would probably mean lower fiscal revenues. However, Government has indicated that it will reduce its expenditure as a proportion of GDP over the next few years, so it may well be able to accommodate a larger reduction in agricultural taxation levels. Nevertheless, a reduction of \$300million in the tax burden would substantially reduce the net transfer of resources out of the sector; overall, taxes would be only slightly higher than the level of subsidies.

289 Those policy amendments that result in a significant reduction in net transfers out of the agricultural sector are fundamental to ensuring progressive improvement in sector performance but will not be sufficient in themselves. They need to be supported by fundamental changes such as closely matching farming systems to resource endowments and the creation of competitive input supply, credit and marketing outlets. The policies needed to

support these changes, as previously discussed, must be addressed if the agriculture sector is to make a significant contribution to improved rural welfare and economic growth. This makes for a highly complex policy matrix which must be carefully phased.

#### **D. Phasing of the Reform Program**

290. The proposed reform agenda is multi-faceted; successful implementation requires a carefully planned phased approach over a period of years. The following chart illustrates the phasing of the proposed reform agenda over a period of six years. The chart attempts to bring together all the actions needed to achieve the successful implementation of the proposed reform agenda.

## Phasing of Reforms

Reform Agenda	Years 1-2	Years 3-4	Years 5-6
Physical Parameters	Implement a system of tonnage contracts for cotton and wheat procurement quotas; Wheat tonnage contract limited to no more than 25% of estimated output	Eliminate wheat tonnage procurement contract; Production targets based upon raion level estimates agreed with producers.	Wheat freely marketed Establish a contingency grain reserve.
	Formulate environmental benchmarks to gradually reduce the proportion of cotton and wheat in the cropping pattern to 36% and 33% of irrigated area over six years.	Continue to reduce the cotton to irrigated area ratio	Cotton plus wheat area should be no more than 2.3mill. ha;
	Develop area targeted programs to reduce cotton and wheat growing in low soil quality areas	Use targeted area programs to introduce alternative crops such as oilseeds	350,000ha taken out of cotton and 400,00ha out of wheat

Financial Framework	Implement procurement prices, at export parity levels; review price estimation methodology	Remove price controls on wheat or other cereals	
	Maintain base procurement price at 80% of parity; for first 25% of output; then apply 5% premium to remaining quota and 10% premium to above quota.		
	Eliminate any remaining subsidies on input supplies such as fertilizers, pesticides and machinery rental saving about \$70 million.		Government. contribution to the cost of financing the cotton and wheat programs reduced by 40%
	Explicit taxation simplified; farmers not held responsible for tax payments of cotton pickers. Land tax used as main instrument of agricultural taxation ; other taxes consolidated into land tax	Remaining subsidies confined to support of irrigation and drainage O&M and directed credit interest rate;	Total taxation burden of agriculture sector reduced by \$300million

<b>Credit Mechanisms</b>	<b>Increase the cash component of the directed credit to 20% of total credit</b>	<b>Increase the cash component of the directed credit to 30% of total credit</b>	
	<b>Draft a law to enable the introduction of a warehouse receipt program</b>	<b>Implement law on warehouse receipts</b>	
	<b>Request international assistance to design a warehouse receipt program</b>	<b>Introduce a system of credit for wheat/grains using warehouse receipts</b>	
	<b>Introduce a methodology which requires banks to calculate the free money of farmers and place in a usable account;</b>		
	<b>Begin the design of a guarantee/refinancing scheme to improve on the directed credit scheme for cotton.</b>	<b>Introduce the refinancing scheme on a pilot basis</b>	<b>Further extend the refinancing scheme</b>
	<b>Increase the interest rate on directed credit to 4%pa.</b>	<b>Increase the interest rate on directed credit to 5%pa.</b>	<b>Increase the interest rate on directed credit to 7%pa.</b>

<b>Input Supply Services</b>	<b>Allow farmers to determine the quantity of fertilizer they require based on soil analysis; Eliminate centrally determined input quantities.</b>		
	<b>Farmers determine the need for any agro-chemicals; no quotas</b>	<b>Fully privatize the provision of plant protection materials.</b>	
	<b>Accelerate the program of privatization of input suppliers to reduce state share to 20%.</b>	<b>All input suppliers to be fully privatized at the retail level, possibly using a franchise network</b>	<b>Introduce system of licenses for private traders/suppliers of inputs</b>

<b>Commodity Marketing and Processing</b>	<b>Revise the methodology for calculating the financial state contribution to ginning operations to allow for asset replacement</b>	<b>Gradually eliminate state shareholding in ginneries and establish fully privatised ginning industry;</b>	<b>Allow competition between ginneries</b>
	<b>Require ginneries to reach minimum operating standards or face sanctions.</b>	<b>Allow foreign investment in ginneries;</b>	
	<b>Revise the farmer:ginners contract to require ginneries to return 50% of the cottonseed to the farmer;</b>		
	<b>Plan the system to enable VAT on exported fibre to be refunded.</b>	<b>Implement the refunding of VAT on fibre exports</b>	

<b>Trade Regime</b>	<b>Relax the restrictions on wheat imports and exports. Use an import levy as a temporary stabilizer</b>	<b>Liberalize the trade regime towards the requirements of WTO membership. For example, relax the conditions which give state trading companies a monopoly of cotton exports.</b>	
<b>Land Reform</b>	<b>Revise legislation to allow the size of dekhan farms to be increased</b>	<b>Revise legislation to make the pledging of land leases as collateral effective;</b>	
	<b>Revise legislation to give greater protection to leaseholders and resolve the issue of inheritance of leases;</b>	<b>Draft legislation to allow the sale/purchase and transfer of agricultural land</b>	<b>Develop a land registry capacity and relevant databases.</b>
<b>Irrigation and Drainage</b>	<b>Implement a program of legislative revision including a new WUA law and a new Water Code</b>		
	<ul style="list-style-type: none"> <li>• <b>Develop and begin implementation of an improved irrigation water management strategy, focusing on:</b> <ul style="list-style-type: none"> <li>○ <b>Sustaining the natural resource base through the use of less water;</b></li> <li>○ <b>Control &amp; measurement of water delivery at the farm level by water users</b></li> <li>○ <b>The application of improved technologies supported by farmers.</b></li> <li>○ <b>Clarify the roles of WUAs and BISAs</b></li> <li>○ <b>Hydrologically defined water management zones</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>The implementation of cost recovery measures for water delivery</b></li> <li>• <b>The establishment of an organisational structure for maintaining the drainage infrastructure</b></li> </ul>	<b>Replicate projects which show success in improving on-farm water management</b>

<b>Technology and Research</b>	<b>Initiate programs to improve seed quality, especially cotton seed</b>	<b>Develop a program of improved on-farm water management technology in partnership with WUAs.</b>	
	<b>Promote the application of improved technologies such as power harrows and precision planters through leasing</b>		

<b>Institutions</b>	<b>Provide further support and training for farmers and WUAs Develop institutional change programs to enable state associations to adjust to privatization and competition for their services.</b>	<b>Develop market information systems including the use of futures markets to mitigate variations in fiscal revenues and foreign exchange.</b>	
	<b>Develop “bottom-up” approaches to the planning of agriculture sector programs and the determination of appropriate development goals;</b>		

## **XII. MONITORING OF REFORMS**

291. The development of the agriculture sector reform agenda previously discussed has been the core activity of the technical assistance. It will take time for the next phase of reforms to be agreed and implemented, but whatever the nature of those reforms it will be necessary to have them monitored in order to assess progress. In a broader context, Government is also committed to monitoring its own Welfare Improvement Strategy. These monitoring and evaluation tasks involve the coordination of the work of many agencies which are in varying degrees collecting and collating the relevant information. As a precursor to the development of such a coordinated M&E network the technical assistance team undertook a review of what information is currently being collected in the agriculture sector, by whom, and the uses made of such information. This exercise involved the monitoring efforts of several agencies and the coordinating activities of the Ministry of Economy. The study draws a number of conclusions which are relevant to the future monitoring and evaluation of the agriculture sector and its reform agenda.

### **A. Current Status of Monitoring and Evaluation**

292. Prior to 2006, the monitoring of reforms was conducted using a very limited number of indicators across several ministries and agencies. A uniform methodology was not employed. Some unsuccessful Government decisions at this time, such as the establishment of shirkats, have been attributed to a poor understanding of rural conditions arising from inconsistent or inadequate monitoring.

As part of the Welfare Improvement Strategy (WIS) prepared in 2006, the Government developed its own approach to agriculture development over the mid-term period. The WIS lists a set of objectives for the agriculture sector which have been used to formulate the following indicators which were grouped into general indicators and specific sector indicators.

#### **General Sector Indicators**

1. Agriculture sector GDP as a % of total GDP;
2. Total agriculture GDP by raion;
3. Per capita agriculture GDP by raion;
4. Number permanently employed in agriculture;
5. Farm-gate value of agricultural output by commodity by raion;
6. Farm-gate prices received by farmers by commodity;
7. Producer price index;
8. Cost of production estimates for major commodities; according to a standard methodology;
9. Measures of the competitiveness of individual commodities, using an internationally accepted methodology;
10. Itemized list and value of subsidies provided to agriculture sector;

11. Itemized list and value of taxes contributed by agriculture sector;
12. The value of agricultural output, subsidies and taxes by raion;

Of these 12 indicators the Ministry of Economy conducts monitoring of 5 indicators, namely:

- Agriculture sector GDP as a % of total GDP;
- Per capita agriculture GDP by raion (by republic);
- Number permanently employed in agriculture;
- Farm-gate prices received by farmers by commodity;
- Itemized list and value of taxes contributed by agriculture sector.

The Ministry of Agriculture and Water Resources conducts monitoring of 6 general indicators, namely:

- Number permanently employed in agriculture;
- Farm-gate prices received by farmers by commodity;
- Producer price index;
- Cost of production estimates for major commodities; according to a standard methodology;
- Itemized list and value of subsidies provided to agriculture sector;
- Itemized list and value of taxes contributed by agriculture sector.

Ministry of Finance in parallel with Ministry of Agriculture and Water Resources conducts monitoring on cost of production estimates for major commodities. The State Tax Committee conducts monitoring on itemized list and value of taxes contributed by the agriculture sector.

293. Thus, four different ministries or agencies conduct monitoring on general sector indicators. However, the monitoring of three indicators is not being conducted. These include:

- Total agriculture GDP by raion;
- Measures of the competitiveness of individual commodities, using an internationally accepted methodology;
- The value of agricultural output, subsidies and taxes by raion.

Similarly, three indicators are being monitoring in parallel by two ministries and by the State Tax Committee.

294. Ministry of Economy in most cases uses information from the State Tax Committee which is then analyzed by the MOE. In contrast, the Ministry of Agriculture and Water Resources mostly uses field information received from raion and oblast departments of agriculture and the association of Dehkan and Leasehold Farms. Analysis has shown that data collected from the field is not as consistent as data provided by the State Tax Committee. It is

not unusual for similar analyses of the Ministry of Economy and Ministry of Agriculture and Water Resources to show different results. However, consistency is not the same thing as accuracy. It would be helpful to undertake a study to understand why the two ministries obtain different results for the same indicator.

295. Specific sector indicators were developed during the process of reform of the agriculture sector, which include the following:

- Issues related to land tenure and land relations;
- Issues related to extension of area of land plots of dehqan farms;
- Capital investments in rehabilitation of irrigation and drainage systems;
- Improvement of effectiveness of water management;
- Reduction of state procurement quotas for cotton and wheat;
- Introduction of improved methods of settlement of accounts between the state and farmers for procurement of cotton and wheat;
- Promotion of new forms of cooperation between farmers and processing enterprises;
- Improvement of terms of trade for agricultural products through appropriate prices and better access to essential material and technical resources;
- Improvement of private farmers' access to credit resources and financial services;
- State support for breeding improved crop varieties and livestock;
- Lower taxation levels generally and enhance the role of land tax;

On each of listed topics different ministries and government agencies have developed specific indicators, based on which they conduct monitoring.

296. On land tenure and land relations issues were developed specific indicators as follows:

- Number of private leasehold and dehqan farms;
- Number of rescinded leases;
- Levels of farmer investment;
- Number of agricultural land transactions;
- Indices of land quality;
- Area affected by salinity;
- Changes in legislation affecting tenure rights;

The Ministry of Economy monitors two indicators: "Number of private leasehold and dehqan farms", and "Levels of farmer investment". Information on these indicators is being collected from the State Statistical Committee, and the trends analyzed. The Ministry does not base any definite decisions on these indicators.

The Ministry of Agriculture and Water Resources monitors all the above mentioned seven indicators. Information on these indicators is being collected from Goskomzemgeokadastr , and partly from information taken from the field by raion departments of agriculture.

297. On the issue of increasing the size of dekhkan farms the following indicators are relevant:

- Irrigated area cultivated by average dekhkan farm
- Non-irrigated area cultivated by average dekhkan farm
- Physical output of the average dekhkan farm
- Financial value of the average dekhkan farm output
- Changes in legislation relating to dekhkan farm size and scope of activities;

The Ministry of Economy conducts monitoring of four indicators. Monitoring of the financial value of the output of the average dekhkan farm is not being conducted.

298. For the purpose of monitoring the rehabilitation of irrigation and drainage systems the following indicators were developed:

- Level of total actual capital investment in irrigation systems;
- Level of investment in pump irrigation systems;
- Level of irrigation investment made by farmers or WUAs;
- Level of public sector investment in irrigation;
- Level of total capital investment in drainage infrastructure;
- Level of drainage investment made by farmers

Of the listed six indicators, monitoring is being conducted in parallel by the Ministry of Economy and Ministry of Agriculture and Water Resources, and Ministry of Finance conducts monitoring on the level of public sector investment in irrigation.

299. Improving the efficiency of water resources management will include:

- (i) Measuring irrigation water supplies;
- (ii) Establishment of payment system for water;
- (iii) An investment program;
- (iv) Support for Water User Associations and other water management institutions.

In order to conduct the monitoring of the listed problems, there were developed the following indicators:

- Actual amount of irrigation water supplied to farmers/WUAs;
- Actual payments made by farmers/WUAs for irrigation water;
- Number. of registered WUAs;

- actual O&M expenditure on irrigation and drainage systems;

Monitoring of these indicators is being conducted by Ministry of Agriculture and Water Resources.

300. The intention is to reduce the area of cotton cultivation and state procurement especially in low-yielding lands. To monitor the activities in this direction were developed the following indicators:

- Government annual expenditure on cotton and wheat procurement;
- Annual incremental budgetary cost of cotton and wheat procurement;
- Area of cotton achieving yields of less than 2.3 tons /ha;
- Area of wheat achieving yields of less than 4.0tons/ha;
- Actual quantity of seed cotton procured by the state;
- Actual quantity of wheat procured by the state;

Ministry of Finance monitors three of these indicators:

- government annual expenditure on cotton and wheat procurement;
- annual incremental budgetary cost of cotton and wheat procurement;
- actual quantity of wheat procured by the state.

The Ministry of Economy conducts monitoring of four indicators. Ministry of Agriculture and Water Resources annually conducts monitoring on the indicators like «Area of cotton achieving yields of less than 2.3 tons /ha» and «Area of wheat achieving yields of less than 4.0tons/ha»,

301. The introduction of improved methods of settlement of accounts between the state and farmers for procurement of cotton and wheat is monitored by five indicators:

- Proportion of directed credit provided in cash;
- Total amount of directed credit provided by raion;
- Number of farmers with funds in their free accounts;
- Schedule of taxes paid by farmers;
- Schedule of payments made to farmers for cotton and wheat deliveries;

The Central Bank and commercial banks of the country conduct monitoring on two indicators:

- Proportion of directed credits provided in cash;
- Total amount of directed credits provided in raion.

Ministry of Finance conducts monitoring on two indicators:

- Schedule of taxes paid by farmers;
- Schedule of payments made to farmers for cotton and wheat deliveries.

State Tax Committee and Ministry of Economy conduct monitoring on the “Schedule of taxes paid by farmers” indicator. Ministry of Agriculture and Water Resources conduct monitoring only on one indicator– « Schedule of payments made to farmers for cotton and wheat deliveries». On other indicators Ministry of Agriculture and Water Resources does not conduct monitoring. So, on some indicators monitoring is being conducted by four ministries and agencies, and on the indicators (provided below) monitoring is not conducted:

- Proportion of directed credit provided in cash;
- Total amount of directed credit provided by raion;
- Number of farmers with funds in their free accounts.

302. To support and sustain improved terms of trade for agricultural products through appropriate prices and better access to essential material and technical resources the following indicators are monitored:

- The farm-gate export parity price of cotton and wheat using the average international price for September-December of the current year as a benchmark;
- Number of input supply points and quantity of inputs delivered ;
- Comparative international prices of the main inputs with actual farm-gate prices.

On this issue Ministry of Economy conducts monitoring only on one indicator – « Number of input supply points », and does not conduct monitoring on the other indicators. Ministry of Agriculture and Water Resources conduct monitoring on all above mentioned indicators

303. To monitor private farmers’ access to credit resources and financial services the following indicators have been developed:

- Amount of commercial credit provided to the agriculture sector and the terms of lending, by raion;
- Proportion of commercial bank lending to agriculture as percentage of total portfolio.

Monitoring is being conducted by the Ministry of Economy, Central Bank and Commercial Banks. . Ministry of Agriculture and Water Resources of the Republic of Uzbekistan does not conduct monitoring on the above mentioned indicators.

304. The level of state support for breeding improved crop varieties and livestock is monitored by the following indicators:

- Amount of public funds allocated to agriculture sector research;
- State support provided for improvement of crop varieties and livestock breeding;
- List of agricultural research institutes receiving public funds;

The Ministry of Agriculture and Water Resources conducts monitoring on the above mentioned indicators.

305. Taxation levels generally and the role of land tax are monitored by the following indicators:

- Revenue generated from land tax by raion;
- Land tax revenues as a proportion of total agriculture taxes.

These specific issues are being monitored by the Ministry of Finance and by the State Tax Committee.

306. Social indicators include:

- Employment rate;
- Average salary rate,

Monitoring on these indicators is conducted by the Ministry of Labor and Social Protection. Ministry of Agriculture and Water Resources gathers information on rural employment and on average salary of rural employees. However this is only done periodically.

307. To summarize, the monitoring of reforms in the agriculture sector is based upon 61 indicators, among them 12 are general indicators, and the rest are specific indicators. Monitoring on these indicators is being conducted by several ministries and agencies as shown in Table 37.

**Table 37: Monitoring Indicators in the Agriculture Sector.**

Ministries and agencies	Number of indicators	
	Total	General Indicators
Ministry of Agriculture and Water Resources of the Republic of Uzbekistan	41	7
Ministry of Economy of Republic of Uzbekistan	26	5
Ministry of Finance of Republic of Uzbekistan	8	2
Central Bank of Republic of Uzbekistan and commercial banks	4	-
State Tax Committee of the Republic of Uzbekistan	3	1
Ministry of Labor and Social Protection	2	-

*Note: Some indicators are monitored by more than one agency*

308. The ministries and agencies undertaking monitoring use different sources of information: data from State Statistical Committee of the Republic of Uzbekistan, initial data of raion and oblast branches and producers of goods, and also data of servicing organizations.

There is a lack of uniform methodology which results in different outcomes

The Ministry of Economy summarizes yearly reports from a number of ministries, state committees and national associations, like the Ministry of Agriculture and Water Resources, Uzkishlokmashlizing, Agromashservice, Goszemgeokadastr, State Statistical Committee of the Republic of Uzbekistan, Uzagrosugurta, Association of Leasehold and Dehkan Farms.

Based on these yearly reports trends in certain sectors are being analyzed, and proposals and recommendations made to the Government on the improvement of current situation. Based on the provided analyses and proposals Government adopts resolutions and other normative acts.

The MOE also conducts monitoring of implementation of some of the resolutions of the President and Government. For example, monitoring is being conducted on the implementation of Resolutions of the President of Republic of Uzbekistan №308 from March 24, 2006 on development of livestock and №255 from January 11, 2006 on the deepening of reforms in horticulture, vegetables and grapes production.

309. Monitoring is not conducted by specific units. In the structure of the Ministry of Agriculture and Water Resources there is no single department conducting monitoring of reforms in agriculture sector.

Monitoring of their 41 indicators is conducted by several departments, including:

- Department of economic analysis and forecasting of agriculture sector development;
- Department of reorganization of agriculture enterprises and development of farms;
- Department of improvement of normative-methodological base of economic reforms;
- Management and coordination of development of market infrastructure.

Each of the listed departments in the framework of their functional responsibilities conducts monitoring on specific indicators, organized in the form of collection of statistical data. The result is a lack of uniform concept of conduction of monitoring.

310. On the institutional issues, information on the changes in farming type is being collected, and information on the number of liquidated shirkats and newly established farm and dehkan farms is provided. However the effectiveness of a farming type in relation to technological, economic, social and environmental indicators is not conducted.

### **C. Issues and Recommendations for Monitoring of Reforms in Agriculture Sector**

311. There is no doubt that the Government is concerned to further strengthen reforms in the agriculture sector. This is reflected in the Welfare Improvement Strategy (WIS) (2006).

This strategy contains specific policy objectives for the agriculture sector but does not provide a timeframe. These policy objectives provide the basis of the reform agenda proposed in this report and of the need to develop the necessary monitoring and evaluation of agreed reforms.

Future activities of the government in the agriculture sector should be measured against their relevance to achieving these objectives. Monitoring should also define negative impacts for the defined goals, and allow government to redefine measures which are shown to be worsening rather than improving conditions in the rural economy.

312. Lack of a uniform method of conducting monitoring is a key challenge. This leads to monitoring of the same indicators by several ministries and governmental agencies and greater reliance on official statistics than they sometimes merit. In addition, the use of monitored information may include analysis of statistical data but evaluation of the results is not a well developed skill. The questioning of the reasons for a particular outcome is not studied very well.

313. One of the key issues on conduction of monitoring is the limit of official information and its partiality. Ministries and governmental agencies receive field information from their regional and raion branches. Each ministry and governmental agency conducts monitoring of its own internal interests. There is no independent body which could summarize results of the monitoring conducted by various ministries and agencies. In many cases information received on the same indicator does not correspond to each other, and they also differ from the official statistics. This leads to many difficulties when preparing summary conclusions and recommendations for adoption by the government.

314. In the raions and in agriculture enterprises, including farms, people do not always provide impartial information. This happens for several reasons: firstly on-farm accountancy and reporting systems are very poor. Some services are paid in cash and may not be reflected in the reports; secondly farm activity (which produce cotton and wheat), is evaluated based on the fulfilment of state procurement quotas, and farmers try to fulfil their obligations at any expense. Non-fulfilment of state procurement quota can result in the rescinding of lease agreement; thirdly farmers do not have any capacity to define the level of deterioration of lands (reduction of lands classification grade), which does not allow him to use correct production technology. In addition, the emphasis on top-down procurement quotas promotes a culture of presenting the best possible result by local administrations.

315. At the raion and oblast levels, officials do not have any incentives to conduct impartial monitoring because all decisions on economic, technological, social and environmental aspects of rural development are adopted at the national level. Oblast and raion branches serve as the executors of these decisions. In many cases decisions adopted on the national level do not take into account marked regional differences. A greater degree of bottom-up planning involving collaboration between raion officials and farm households without the threat of sanctions from central government would not only stimulate more

efficient use of natural resources but would also promote more accurate monitoring of outcomes.

316. Central authorities interfere excessively in the production-technological and economic activity of farmers, by regulating agro-technical activity without taking into consideration soil and climate peculiarities of the region. The scope and type of produced output is not defined by farmers themselves, but strictly ordered from the higher level. These orders regulate cropping areas, productivity of agriculture crops, and production volumes. Regulations also cover such issues like inputs supplies, expenditures, and prices, marketing in internal and external markets. All of this top-down decision making complicates and tends to distort monitoring and impartial evaluation of the agriculture sector.

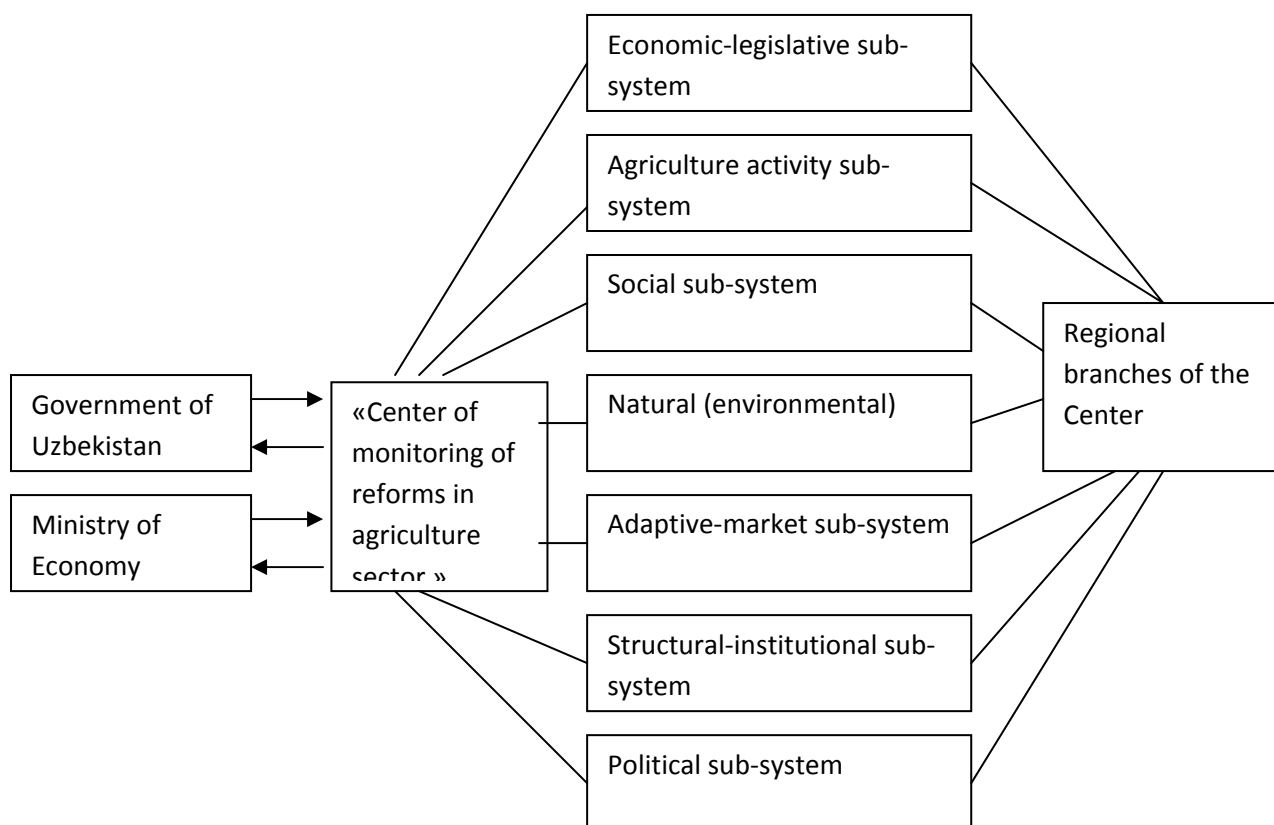
317. The Welfare Improvement Strategy (WIS) developed by the Government in 2006 and the developed indicators for the monitoring of reforms in agriculture sector show that these indicators does not cover all reform issues. These gaps and the weaknesses mentioned require a new methodological approach covering all indicators of reform, as well as a review of reforms on several detailed subjects. In addition, more attention and resources should be devoted to evaluation. It is vital that the rationale for and consequences of particular trends are clearly identified in order to build upon success and dismiss failures. This approach will not only ease the preparation of summary conclusion on all monitoring indicators but will also help central agencies to understand better those policies that are best suited to achieving WIS objectives.

318. It is recommended that monitoring of reforms in the agriculture sector should be undertaken by an independent specific Center for the Monitoring of Reforms in Agriculture Sector. This approach would avoid the narrow ministerial approach to monitoring. The Center should have its own specialists on monitoring of reforms in agriculture sector. The absence of an impartial monitoring body over the past five years has been reflected in several Government decisions which have not been successful.

Exactly where the Center should be established and to whom it should be responsible in the Government is less important than that it should be totally independent of any ministry with a vested interest in agriculture sector performance. The Center should have the authority to have access to any relevant database and should be able to conduct its own verification procedures including independent surveys. Most importantly, the Center should have staff that are capable of statistical analysis and are able to conduct evaluation studies on discernible trends.

319. Below is a draft structure of the proposed «Center of monitoring of reforms in agriculture sector».

**Figure 12: Structure of the Proposed Center for Monitoring of Reforms**



320. The Center could be established under the Cabinet of Ministers or under the Ministry of Economy. As an independent institution it should have regional branches. Regional branches should be established not by the principle of administrative division but taking into consideration soils and climate peculiarities and other peculiarities of the region.

The Center would receive information from appropriate branches of ministries, agencies, statistical authorities of the country, and also from the independent surveys on the separate indicators. Output of the Center will be annual and periodical reports to the Government of Uzbekistan based on the results of the monitoring.

## Appendix 1.

### WUA Membership and Funds, January 1, 2007

#	Regions	Number of WUAs	Serving territory in thousand hectares	WUA members		Collected amount for serving in mln. sums			On average for 1 hectare	
				Total	Farmers	Total	Paid out of total	%	Served in sum	Paid in sum
1	Republic of Karakalpakistan	125	399.7	7739	7491	679.6	438.0	64	1701	1096
2	Andijan region	121	147.0	9135	9135	965.5	594.0	62	6567	4040
3	Bukhara region	121	225.7	9371	9371	1800.5	1213.6	67	7978	5377
4	Djizzakh region	86	261.2	7374	7292	642.7	148.7	23	2460	569
5	Kashkadarya region	166	424.1	22491	21250	1592.9	1084.2	68	3756	2556
6	Navoi region	51	115.2	4000	4000	371.1	218.2	59	3220	1894
7	Namangan region	113	179.0	11084	11031	565.9	254.0	45	3161	1419
8	Samarkand region	33	324.5	15432	15334	1649.3	607.9	37	5083	1874
9	Syrdarya region	85	255.8	7400	7252	147.0	52.8	36	575	206
10	Surkhandarya region	114	230.9	6674	6674	556.0	307.2	55	2408	1330
11	Tashkent region	148	244.7	13472	12844	781.7	415.4	53	3195	1698
12	Fergana region	130	211.0	13790	13790	1041.6	707.4	68	4937	3353
13	Khorezm region	114	250.3	16137	15992	1251.9	830.8	66	5003	3320
<b>Total</b>		<b>1407</b>	<b>3269,1</b>	<b>144096</b>	<b>141456</b>	<b>12046</b>	<b>6872</b>	<b>57</b>	<b>3685</b>	<b>2102</b>