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Republic of Uzbekistan: Agricultural Sector Review and Planning

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For Ministry of Economy

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Asian Development Bank

Agriculture Sector Review and Planning

VOLUME I: MAIN REPORT

Current Status and Outlook for the Agricultural Sector

**Prepared for the Asian Development Bank
and the Ministry for Economy of the Republic of Uzbekistan**

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CURRENCY EQUIVALENT

Currency unit	-	Soum
1 Soum	=	\$ 0,00095
1 USD	=	1,071 Soums

ABBREVIATIONS

ADB	Asian Development Bank
WB	World Bank
EBRD	European Bank for Reconstruction and Development
USAID	United States Agency for International Development
TACIS	Technical Assistance for CIS countries
GDP	Gross Domestic Product
IMF	International Monetary Fund
MAWR	Ministry of Agriculture and Water Resources
MF	Ministry of Finance
NBU	National Bank of Uzbekistan
VAT	Value Added Tax
MTR	Material and Technical Resources
MTP	Machine and Tractor Park
DRC	Domestic Resource Cost
WUA	Water Users' Association

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Executive Summary

Introduction

As part of the Asian Development Bank TA support to the Government of Uzbekistan, this report provides an assessment of the current status and outlook for agriculture and rural development in the country.¹ It is a result of an intense participatory process. A previous draft of this report has been reviewed and endorsed by most stakeholders with some dissenting opinions mainly from Government agencies in Tashkent.²

Recent Reforms in Agriculture

Reforms in the agricultural sector proceed at a gradual pace. Since independence, many changes have taken place starting at the Government ministries in Tashkent and ending at the farm.

Many ministries and agencies have been restructured and/or closed and in some cases decentralized. Many changes have taken place in the management of agriculture at the Oblast and Raion level. Kolchozes and sovchozes have been transformed into shirkats and those are gradually broken up into family farms.

Farmers have performed far below their potential. Meanwhile, the national economy is suffering, the costs of macroeconomic distortions keep increasing, and agriculture carries most of the financial burden through low domestic prices of cotton and wheat.

While farm restructuring continues, much of the command and control system has been preserved. Soon, family farms will dominate as the number of shirkats (production cooperatives) fades due to financial losses. However, family farms have done only marginally better financially so far. Only dekhan farms are truly private, vibrant, and vital for the survival of most farm workers. They account for over 60% of the value of agricultural output produced on only 11% of cropped land of the country.

Grown on over 80% of irrigated cropped land, cotton and wheat are the two principal commodities subject to the strictest government mandate. Uzbekistan is the fourth largest cotton producer accounting for 25% of all export (US\$740 million), about 80% exported as raw fiber. Cotton yields have been declining steadily from about 2.7 in the early 1990s to about 2.1t/ha in 2003. Favorable weather conditions improved cotton yields to 2.65 t/ha in 2004. Since the mid-1990s, wheat became the centerpiece of the Government's successful quest for grain self-sufficiency. Still extremely low for irrigated agriculture, wheat yields have increased from about 2.3 in the mid-1990s to about 4.2 t/ha in 2004.

Command and Control Farming

Precedence of Unwritten Laws. Most agricultural laws are geared to cotton/wheat production. Even less suitable are unwritten laws and verbal orders by local government. The protection of private property and written contracts is difficult to enforce. Only in an

¹ This is a TA Project based on a request by the Government of Uzbekistan to Asian Development Bank (ADB) to review the performance and strategy of the agriculture and natural resources sectors.

² In a high level National Seminar on March 2, 2005 in Tashkent, all participants were asked to fill out a questionnaire stating key problems, their causes, and proposed solutions for more prosperous agriculture. Overall, 86% agreed with the definition of problems, 88% with causes, and 94% with proposed solutions. See Annex 1 for matrix listing problems, causes, and solutions. Full account of stakeholders' opinions is provided in Volume III of this report.

extremely rare case would a Court reverse an unjust verdict of a local official. Most serious disputes would never reach the Court.

Land is assigned to farmers in long term leases easily revoked by local officials. In the ongoing farm restructuring process, the khokim divides shirkat's land and assets into family farms. Prospective farmers submit bids but interest is modest. About 7,000 ha remained unclaimed in 2003.

Agricultural tax law has been simplified. Since January 1999, a single land tax has been introduced as the only instrument of direct agricultural taxation. It replaced a complex set of taxes. In addition, since January 2004 wages with other mandatory fees (e.g., pensions) are taxed at a rate of 47% in all sectors including agriculture.

Suppressive Price and Trade Policy. Implicit taxes through suppressed cotton and wheat prices are a major source of budget revenue equivalent to about 10% of GDP or US\$1.0 billion in 2004. It also implies a 57% tax on gross farm income of US\$415 from each hectare planted to cotton/wheat. An additional "tax" on farmers is the inefficiency cost of Government monopolies. This brings the average tax rate on cotton/wheat farmers to about 75% of gross income.

In a classic command and control system, the Government sets ambitious production targets, high delivery quotas and low prices – about 50% of world market equivalents. The cotton target was reached (almost) only once (2004) in the last ten years. The wheat target has been reached in the last three years. Failing to meet targets brings punishment to a farm through the lowest prices and possibly eviction from land.

The Government controls cotton marketing totally, although theoretically the Tashkent commodity exchange is an alternative marketing outlet. Wheat is controlled less, which explains why it is more popular, although it has no real comparative advantage. Farmers must deliver their quota and could sell the rest. Marketing of other products is relatively free, although it could become subject to coercion by local government officials as a condition of doing business.

Deteriorating Irrigation Service. More than 95% of crop production is irrigated with water provided for free by the Government. Service has been deteriorating with irrigation and drainage networks. About 65% of irrigated lands suffer from elevated soil salinity, an increase by 15 percentage points over the last 10 years. Annually, about 20,000 ha fall out of production due to high soil salinity.

In the last few years, maintenance of major irrigation infrastructure covered only 55-66% of requirements. The operation and maintenance (O&M) budget has declined substantially in real terms in the last ten years. Moreover, misappropriation of O&M resources has become a serious issue. About 20% of generated electricity and 70% of MAWR budget for the entire agricultural sector pays for pumping water, crowding out funding for routine maintenance.

Shirkats are responsible for their on-farm water management. New Water User Associations (WUAs) have assumed this responsibility for family farms. However, neither have the incentives nor the resources to improve the quality of service. Cotton/wheat prices would have to nearly double to make the entire irrigation network fully self funded - to cover O&M and capital improvement costs.

Monopolized Farm Inputs and Services. Aimed at cotton/wheat targets, Government agencies ration over 90% of farm inputs through a classic command and control system. The availability of farm machinery keeps declining with the exception of grain harvesters.

Mechanical harvesting of cotton declined from about 60% in 1990 to less than 3% in 2003. Hand picking of cotton offers a rare opportunity to receive a cash payment to a farm worker of Soums, 2,000 per 50kg per day.

Monopolized Farm Output Markets. Restricted cotton and wheat marketing, cost plus pricing, lack of progress in privatization, and suppressed private activities, all deny opportunities to legitimate business, which instead shifts into the informal sector.

Official private agribusiness and other rural business are enveloped in a complex web of formal and informal restrictions that demand special association with local officials. Foreign business is absent, deterred by experience of others who came before and by prevailing opaque business environment. Direct foreign investment is insignificant.

Directed Credit Dominates Commercial Lending. Government financing for cotton and wheat accounts for 90% of all lending to agriculture at 5% interest rate. Credit for inputs cover 50% of the value of production determined by Government norms and itemized by cost category. Unused balances are cancelled. Commercial lending is insignificant.

A new system of financing cotton and wheat has been introduced for family farms. However, despite highly subsidized interest of 5%, only 48% of applicants received credit for growing wheat and 85% for growing cotton. Application procedures are complex. Banks are used as an additional control lever to discipline farmers. In addition to channeling funds for cotton and wheat, banks also collect taxes on behalf of the Government often without farmers' knowledge.

Deteriorating Rural Environment and Living Standards. Forced against principles of rational farming, years of planting cotton and wheat has diminished soil fertility, reduced yields and caused serious environmental problems. Rural communities find themselves in a vicious circle of falling incomes, deteriorating rural infrastructure and services.

Rural poverty is widespread. About 70% of Uzbekistan's poor or 4.5 million people live in rural areas. To escape rural poverty, large numbers of especially young men are leaving rural areas in search of work opportunities abroad. In some areas, women are compelled to take up jobs typically reserved for men because their husbands have left in search of work abroad.

Priorities for Sustainable Rural Development

This report echoes past recommendations: create incentives, settle property rights, enforce contracts, and promote competition. Concerned about a tax revenue shortfall, the Government has been ignoring this advice and instead is trying to reinforce the command and control system. This undermines incentives, economic efficiency, and drives farmers and business into the informal sector. Numerous consultations with stakeholders confirmed a desire for a new market oriented approach.

Vision of a Better Future. International experience suggests that Government should set and enforce overall policy (rules of the game) and abstain from playing the game. In this, Government should recognize and enforce economic rights: (i) for farmers to produce whatever commodities they feel will best profit them; (ii) for farmers to sell their products freely at home and abroad; (iii) for traders to move goods in the expectation of profits unconstrained by uncertainty of government intervention; and (iv) for consumers to buy food at the lowest prices, whether from foreign or domestic sources.

Top Priority to Cut Taxes on Farmers. Unless farmers are allowed to make more money and given more freedom and responsibility for their own decisions, agriculture

and the rest of the Uzbek economy will stagnate. Several options exist. The simplest is to increase farm gate prices for cotton/wheat to about 80% of world market equivalent. A more complex but far superior option is to liberalize prices and use the single land tax appropriately adjusted so it is tax revenue neutral. A transition period would need to be worked out but this change is likely to increase agricultural output by at least 30% over five years.

Other Reform Measures. A number of constraints will have to be overcome for agriculture and rural areas to recover from years of excessive implicit taxation. These are: (i) gross interference of local government into farming; (ii) ambiguous property rights and insecurity of tenure; (iii) suppressed cotton and wheat prices; (iv) rationing of inputs and services financed by directed credit; (v) monopolistic output markets; and (vi) deteriorating irrigation and drainage infrastructure.

Uncertain Prospects for Reform

Development Scenario: Business as Usual. Based on the track record for over the past 10 years, it is prudent to assume the command and control system will remain in place for at least another 3-5 years. While farmers will get increasingly agitated, incomes will continue to stagnate or decline. More farm activities will shift into the informal sector. Rural infrastructure, especially the irrigation and drainage network, will continue to deteriorate. Private business in rural areas will remain marginal, limited largely to the informal sector. Rural unemployment and poverty will remain high and probably still increase.

Development Scenario: Reform through Crisis. Current circumstances suggest that a genuine reform is more likely to follow an acute economic crisis (e.g., balance of payments) with a risk of severe decline of income and increased poverty.

Eventually, the economy will recover over 3-5 years. Private sector initiative will start to dominate. Cotton processing efficiency will improve and cost will decline gradually by as much as 50%. Also, private businesses in rural areas will gradually expand to provide inputs, equipment, warehousing, and other services. Most foreign trade restrictions will be lifted. Foreign investors will become more active. Domestic banks will start benefiting from competition of fully licensed foreign banks. Farming and rural businesses will respond to new opportunities. Rural employment will increase and poverty will decline.

Agricultural Sector Roadmap. Numerous consultations with stakeholders and focus groups have taken place to build a consensus for rural development. Overwhelmingly, these consultations reveal a widespread dissatisfaction with the current reforms and a desire for change in favor of market oriented agriculture. Still, most senior decision makers support the current command and control system at least in public statements, although in private they too are increasingly concerned about its viability.

In a stakeholder consensus seven major topics have been identified for a sector roadmap: (i) institutional environment; (ii) prices, taxes, and subsidies; (iii) farm inputs and services; (iv) markets for agricultural output; (v) financing of agriculture; and (vi) irrigation and drainage infrastructure. Each topic lists the top problems, the top causes, and proposes appropriate reform measures (Annex 1, Main Report). Based on this consensus, a reform package consists of the following seven components:

1. Restricting local government interference into farming by ensuring farmers are required to deliver only a specific cotton/wheat quota and be protected from planting specific cotton/wheat areas;
2. Fostering property rights by improving the security of tenure, making land leases tradable, inheritable, and more difficult to cancel, establish and implement a water right allocation for every piece of land recorded as irrigated;
3. Reducing the level of implicit taxation, fostering producer incentives by increasing farm gate prices to at least 80% of equivalent world market levels;
4. Phasing out rationing and phasing in markets in inputs and services, demonopolize government providers of inputs and services, permit market entry of private suppliers, phase out import restrictions;
5. Supporting market-based solutions to improve access to rural credit while phasing out directed credit for financing of inputs and services;
6. Liberalizing of cotton processing and promotion of competition in output markets, demonopolize Uzhlopkoprom and permit market entry of private ginneries; and
7. Supporting gradual transfer of irrigation and drainage infrastructure to Water User Associations with the objective of it gradually becoming self-financing.

Financial Support of Reform. International financial institutions and private investors need to see clear signals of change for the better to increase their support. Otherwise, foreign investment inflows will remain deeply suboptimal.

I. INTRODUCTION

As part of the Asian Development Bank TA support to the Government of Uzbekistan, this draft main report provides an assessment of the current status and an outlook for agriculture and rural sector performance in the country⁴. It is based on an Interim Report issued on December 15, 2004, several rounds of consultations with stakeholders including 10 regional workshops with local administrators and farmers, roundtable discussions, two day workshop and a National Seminar in Tashkent. In addition, this report reflects comments from stakeholders, ADB and international financial institutions.

Because of its importance, this report focuses mainly on the large efficiency losses caused by the continued Government command and control system applied to cotton and wheat production and marketing, which accounts for over 80% of cropped land in Uzbekistan. The reform of this system is the top economic policy challenge for the Government.

The sector assessment under this TA is an outcome of an intense participatory process. TA activities of the policy team have been facilitated by a Working Group headed by Mr. Salimov, Deputy Minister, Ministry of Economy. The members of the Working Group include senior staff of the Cabinet of Ministers, Ministry of Agriculture and Water Resources, Ministry of Economy, Ministry of Finance, Pakhta Bank, and chair of the Association of Dekhan and Family Farms.

Activities under this TA coincided with the work of a Special Commission on the development of family farms⁵. The terms of reference (TORs) of the Commission were similar to the tasks of the policy team and some members of the Commission were also members of the Working Group. The two activities were coordinated to some extent.

Report Structure. This report is organized in five chapters. Chapter II sets the macroeconomic context and introduces the sector. It highlights the importance of agriculture to the national economy. It features performance indicators such as yield trends, indicators of productivity per farm worker and per unit area, and estimates of a typical return on investment. It concludes with discussion of changes in farm organization. Chapter III reviews the current institutional and business environment starting with laws and regulations, Government agencies, rural infrastructure and services, input and output markets, rural finance, environment and the role of women in rural areas. Chapter IV identifies the priorities for sustainable rural development focusing on price liberalization of cotton and wheat and the rehabilitation of rural infrastructure, especially irrigation and drainage since 90% of arable land depends on irrigation. In conclusion, Chapter V outlines the prospects for reform, the sector roadmap, and the investments needed to the recovery of agriculture.

This is a draft of the final report which, when finalized, will complete the second phase of the ADB TA Project (TAR: UZB 37148). The final report will be issued on March ____, 2005.

II. RECENT REFORMS IN AGRICULTURE

This chapter sets the macroeconomic context and introduces the sector. It highlights the vital importance of agriculture to the national economy. It features performance

⁴ This is a TA Project based on a request by the Government of Uzbekistan to Asian Development Bank (ADB) to review the performance and strategy of the agriculture and natural resources sectors.

⁵ On 4 November 2004, President Karimov issued a Resolution on "Establishing Special Commission for Drafting Proposal on Rapid Development of Farms in 2005-2007."

indicators such as yield trends, indicators of productivity per unit area, and expected return on investment in the sector, all pointing to the massive untapped potential of the sector. It discusses changes in farm organization, specifically the pick up in the formation of family farms and their prospects.

A. Principal Direction of Agricultural Reforms

Agricultural reforms have been gradual, accompanied by many organizational changes. Since independence, the management of the agricultural sector has been restructured from the central government level down to oblast, raion, and farm levels. A number of ministries have been transformed into associations, holding companies, and joint stock companies at the national level. The Ministry for Agriculture merged with the Ministry of Water Economy into the Ministry for Agriculture and Water Resources (MAWR). The State Committee on Land Resources was established and merged with the Principal Administration of Uzgeodezcadastre.

Several ministries and agencies have been disbanded and their functions transferred to the oblast level. Kolchozes and sovchozes were transformed into shirkats (agricultural cooperatives) and family farms. Household plots were transformed into dekhkan farms, which operate as juridical and physical entities.

While farmland remains state property, it is rented by the Government to shirkats and family farms for 30 to 50 years. Land lease is the prevailing legal arrangement and the lease payment is equal to the single land tax. Dekhkan farms receive land for permanent use with inheritance right and are freed from paying a land tax/lease.

The Government is focused on improving the efficiency of agricultural reforms. Uzbekistan became self-sufficient in grain production and has become grain exporter in 2004. Over the years, several major laws, Presidential decrees and resolutions were adopted with the objective to accelerate reforms. Some more recent ones include:

- Decree of the President of the Republic of Uzbekistan # UP-3226 of March 24, 2003 "On the Most Important Directions of Deepening Agricultural Sector Reforms".
- Decree of the Government # 290 of June 28, 2003 "On Improvement of Performance of the Ministry for Agriculture and Water Resources of the Republic of Uzbekistan".
- Decree of the Government # 383 of September 4, 2003 "Arrangements of Contractual Relations Improvement and Raising of the Parties Responsibility for Observance of Liabilities in Agricultural Production".
- Decree of the President of the Republic of Uzbekistan # UP-3342 of October 27, 2003 "Concept of the Family Farms Development for 2004 – 2006".
- Decree of the Government № 476 of October 30, 2003 "Arrangements for Implementation of the Concept of Family Farm Development for 2004 – 2006".
- Decree of the Government # 486 of November 5, 2003 "Arrangements for the Further Development of Leasing".
- Decree of the Government # 607 of December 24, 2004 "Arrangements for Advanced Development of Family Farms in 2005 – 2007".

All of the laws, decrees, and resolutions have a single objective: to create favorable conditions for agriculture development and effective operation of family farms. However, somehow the laws and regulations lack a sufficient force to make a real difference and are often ignored by local officials.

B. Strong Agriculture Vital to Economic Prosperity

Uzbekistan covers about 450,000 square kilometers. From the total population of 25.6 million, about 60% live in rural areas. The climate is arid and continental and rainfall is limited to the winter months. Agriculture uses 28.5 million ha (63% of total area) including 23.4 million ha (52%) of low productive pastures and 4.4 million ha of irrigated land. Irrigation is vital and provided for free by the Government. Main agricultural areas are located in the basins of the Amu Darya and the Syr Darya rivers which supply about 70% of irrigation water. Large expansion of irrigated lands during 1960s to late 1980s resulted in excessive water take-off from these rivers causing drying out of the Aral Sea, increasing soil salinity, and other adverse environmental impacts.

Uzbekistan is a low-income country with Gross National Income (GNI) per person of US\$420 in 2003. Agriculture is the backbone of the economy, accounting for about a third of GDP, over a third of employment (some sources sight 40% or even 44%), and 40% of exports. The two most important crops are cotton and wheat grown on over 80% of irrigated cropped land. Uzbekistan ranks as the world's fourth largest producer of cotton and cotton alone accounts for about 25% of export earnings of about US\$ 740 million annually. More than 80% of cotton is exported as raw fiber. The second most important crop is wheat, which in the mid-1990s became the centerpiece of the Government's successful quest for grain self-sufficiency.

Since independence in 1991, the Government adopted a gradual approach to transition. It relied on import substitution industrial development and a quest for wheat self-sufficiency using instruments familiar from the Soviet past: state planning, foreign exchange restrictions, monopolies in domestic and foreign trade, various other trade restrictions, directed credits and large public investments.

Somehow, for nearly ten years, the gradual approach has succeeded in avoiding the extremes of the economic collapse that has befallen the rest of CIS. However, the cost of macroeconomic distortions kept increasing throughout the 1990s and continues to grow to this day.

During 2000-03, the Government was compelled to undertake a drastic macroeconomic adjustment culminating in late 2003 in liberalizing the foreign exchange rate⁶. Meanwhile, structural adjustments have remained elusive and Government interference in the economy continues to be excessive. Foreign trade has been even further restricted, limits on access to cash has led to dislocations and delays, for example, in salary payments to employees. Privatization of state enterprises has been slow and often subject to opaque procedures.

Unless assured by special favors, the business environment for local and foreign entrepreneurs is discouraging. The level of foreign direct investment is one of the lowest in per capita terms in the CIS and economic growth is far below its potential.⁷ According to official statistics, GDP growth has been steady, at about 4% during 1996–2003.

⁶ In protracted consultations with the International Monetary Fund since the late 1990s, the Government backed out several times from liberalizing the current account.

⁷ Also, many foreign investors already in Uzbekistan think about leaving. For example, the recently opened Sheraton hotel in Tashkent is up for sale because of occupancy rates in the low teens.

However, the International Monetary Fund (IMF) quotes GDP growth rates less than half the Government estimates. In any case, Uzbekistan has been falling increasingly behind most other CIS countries that have opted for more radical macroeconomic and structural adjustments during the 1990s.

Uzbek agriculture has been the principal victim of import substitution industrial development and grains self-sufficiency policies. Despite frequent resolutions targeting agricultural reforms, the state order system remains firmly in place. Farms are mandated to grow cotton and wheat on over 80% of their land. They must sell all cotton and 50% of their wheat to the Government at prices well below fair market value. In addition to many other adverse effects analyzed in this report, this system imposes a large implicit net annual tax on agriculture. In recent years, this tax averaged about one billion US\$ annually.⁸ Draining the agricultural sector of financial resources is undermining production incentives and putting increasing pressure on public services and infrastructure in rural areas.

Draining of resources from agriculture has a direct adverse impact on approximately 15 million people living in rural areas. Rural poverty is widespread. About 70% of Uzbekistan's poor, about 4.5 million people, live in rural areas. The Southern Economic Region (consisting of Kashkadarya and Surkhandarya) and Khorezm are poorer than average and also have a larger than average share of the rural population. To escape this poverty trap, migration abroad particularly among men is gaining momentum. According to unofficial records about 3.5 million mostly young men have migrated abroad in search of employment in recent years.

C. Disappointing Performance Indicators

Agriculture sector performance has fallen far short of its potential. Much of the command and control system of the past has been preserved, leaving the great potential of Uzbek agriculture underutilized, and in the process undercutting the prospects for economic growth not only in agriculture but in the rest of the economy.

Output in agriculture fell by 16% from 1990-1996 but has since grown modestly and is now at levels of about 1990 according to recent analysis by the World Bank.⁹ For the most part, recent growth is limited to dekhkan farms. They account for almost 60% of agricultural output (40% of crop and almost 90% of livestock output). Dekhans' increased share in crop output reflects both more land but also higher yields. At the same time, it reflects greater economic freedom and the ownership of the land with the right to bequest.

The output of the former state and collective farms in crop output declined to about 48% from over 80%, with a more dramatic share drop in their share of livestock output to approximately 10%. Drop in the share of shirkats' crop output reflects both a decline in land but also declining yields. By 2004, new family farms replacing bankrupt shirkats accounted for about 19% of the total value of agricultural output.

The productivity of irrigated land is 1.3 – 1.5 times higher on dekhkan farms than on shirkats and family farms. Shirkats' output is steadily declining for a number of reasons

⁸ Estimates of producer subsidy equivalent made in the late 1990s of the net resource transfer out of agriculture amount to at least US\$830 million annually (4% of GDP) at the then official and more than US\$1.53 billion (8% of GDP) at the unofficial exchange rate. However, it is believed that the net resource transfer has been declining recently with the declining value of cotton and wheat output and liberalization of the exchange rate.

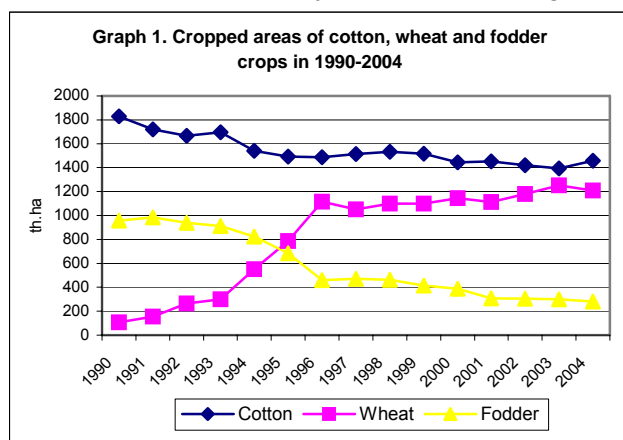
⁹ World Bank Country Economic Memorandum, 2003.

including: (i) difficulty to respond to fast changing conditions; (ii) lack of management and other resources; (iii) lack of incentives and conflicting interests of members; and (iv) frequent management changes. Importantly, livestock production in most shirkats has been liquidated, which grossly aggravated their cash flow. Gradually, it has become obvious that the future of shirkats is in doubt and that family farms have a more promising future.

Crop Production. Uzbekistan used to be the main producer of cotton and one of the largest suppliers of fresh and processed fruits and vegetables to other parts of the former Soviet Union.

Since independence in 1991, the Government quest for wheat self-sufficiency under mandatory state orders has had by far the largest effect on changes in crop production. Winter wheat areas increased from about 4% in 1991 to 37% in 2003 and partly replaced cotton and crowded out maize, fodder crops and vegetables. Fodder areas declined by two thirds between 1991 and 2004.

Detrimental to soil fertility, over 80% of irrigated cropped land is planted by cotton (41%)

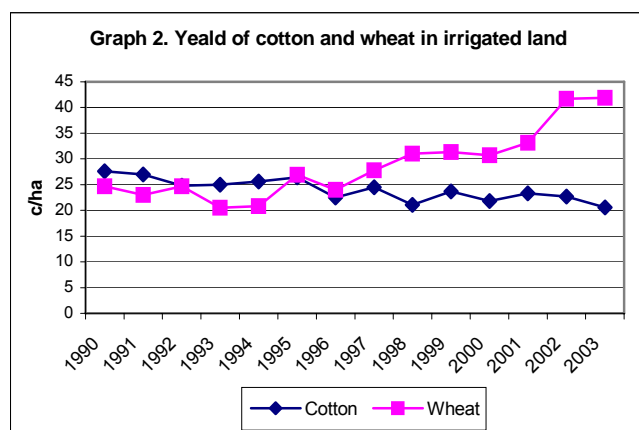


and grains (42%) subject to mandatory production targets. This has caused dramatic reduction of areas planted to potatoes, vegetables, melons and other crops (7%). Moreover, it has resulted in serious land fertility degradation and added to environmental problems. Area planted to fodder declined by two thirds to 9% during 1991 – 2004.

An altogether different crop rotation is needed with a good third of the crop area planted with alfalfa and other fodder crops to replenish

nutrients (especially nitrogen), absorb salt from the soil, and supply feed for livestock.¹⁰

Moreover, the yearly wheat sowing in autumn over the growing cotton without proper



treatment and salt leaching has increased soil salinity and contributed to increased groundwater level.

The average yields of cotton and wheat are low and the cost of production is high by international standards. Due to good weather cotton yield increased to 2.65 t/ha in 2004. However, cotton yields have been declining steadily from about 2.7 t/ha in 1991 to about 2.1 t/ha in 2003. While cotton yields declined by 23% during this period, the cost

¹⁰ Cotton is sown in the spring and winter wheat in the fall after cotton harvesting. In many cases wheat is sown into standing cotton without proper plowing and soil tillage.

of production increased by 23%. Still, extremely low for irrigated agriculture, wheat yields increased from about 2.3 t/ha to about 4.2 t/ha.

Dominated by the lack of producer incentives, the main constraints to improved cotton and wheat yields and profitability include difficulty of properly timing farm operations, lack of equipment, poor quality seed, lack and chemical imbalance of fertilizers, and lack of other resources.

Unrestrained by state orders, yields of other crops including fruit and vegetables are expanding at a healthy pace. They are grown mainly by dekhan farms and are a vital source of food and cash income for collective farm workers and their families. Yields obtained by dekhan farms exceed those of shirkats and family farms by a factor of 1.5-2 for cereals and fodder and a factor of three for fruits, vegetables, and other crops.

Also, dekhan farms engage much more in multiple cropping than family farms or shirkats. Typically, about half of them obtain two or more harvests in a year. Also, crop diversity is incomparably greater than on family and shirkat farms.

Livestock Production. Since independence, nearly all livestock has shifted to dekhan farms that account for over 90% of the value of livestock production. This includes 90% of cattle, 72% of sheep and goats, 64% of poultry (2003).

Poor diet with low fodder supply and only 40-45% of requirements of feed concentrate limits development of livestock production. The quality of feed concentrate is poor and it comes at a high price. Cattle productivity – milk yield (1,684 kg) and fertility per 100 cows (45), as well as the daily gain in weight (421 g) are low.

Marketing has been unsettled as producers must sell to monopsonistic buyers with all its adverse consequences. Some producers try to avoid processing and sell directly to consumers in a variety of ways potentially causing other problems (e.g., ignoring food safety standards). Veterinarian services in the private sector are of a poor quality, and pedigree cattle provision is insufficient.

Egg yield significantly declined during the years of reforming and counts 70% compared to the level of 1993.

Astrakhan sheep flocks are concentrated in shirkats. Over the long-term, these loss-making livestock farms are supposed to be transformed into family farms. The main indicators of livestock production are summarized below.

Table 1. Livestock Production for All Farms (1991 – 2004)

Item	1991	1995	2000	2001	2002	2003	2004	% of 1991
Cattle and poultry heads (million)								
Cattle	5.1	5.2	5.4	5.4	5.5	5.9	6.2	122
Sheep and goats	10.1	9.3	8.9	9.0	9.2	9.9	10.5	104
Poultry	35.2	13.4	14.5	14.8	15.4	17.7	18.7	53
Productivity (million tons)								
Meat (slaughter weight)	0.49	0.51	0.50	0.51	0.51	0.56	0.59	120
Milk	3.3	3.6	3.6	3.7	3.7	4.0	4.3	130
Eggs (billion pieces)	2.35	1.23	1.25	1.29	1.37	1.63	1.86	79
Milk yield per one cow								
(kg)	1,758	1,611	1,582	1,573	1,583	1,684	1,674	95

Source: State Statistical Committee of the Republic of Uzbekistan.

D. Farm Restructuring Continues

This section discusses evolving features of shirkats, and family and dekhkan farms. In conclusion, it attempts to assess and compare the financial performance of shirkats and family farms.

Regardless of their status, all farms remain subject to periodic meddling into their internal affairs by local administrators. Direct involvement by local government officials includes appointing (and replacing) shirkat management, appointing or evicting farmers from their land, setting production goals, rationing inputs, rationing services, claiming most of the output, and directly controlling farmers' bank accounts.

The persistent interference by local government officials continues despite the fact that by law all farms are either private or cooperative. Household plots also called dekhkan farms are an additional control lever in an overwhelming command and control system. They are the principal means of survival for farm workers. If a worker fails to follow orders of the shirkat director, he may have a problem of even retaining his household plot.

1. Consolidating Shirkats

The shortcomings of collective farming have become even more obvious in recent years. After subdividing large kolkhozes and sovchozes in 1991, over ten different farm types were established. Three of them, agricultural cooperatives – shirkats, family farms and dekhkan farms were identified as holding the greatest promise.

However, the performance of shirkats has been disappointing despite substantial financial assistance in the form of debt write offs and debt rescheduling. Instead, Government financial assistance encouraged more debt and the Government decided to break up loss making shirkats into family farms. Over 600 shirkats have been broken up during 1999 – 2004.

Following a Government mandate about 1,740 remaining shirkats produce 62% of cotton and 49% of wheat in 2003. A small number of shirkats, located near large urban areas, is exempted from growing cotton and wheat. They grow grains and other crops and may be involved in some livestock production. Otherwise, livestock on shirkats is an exception. According to Governmental plans, the number of shirkats should stabilize at about 820 in 2007.

Shirkat's assets are held by its members as shares. Members are supposed to get dividends depending on their share and their annual financial results. However, only 42% of shirkat members received a dividend in 2003. Since the cooperative principles remain mostly on paper, members are unlikely to be motivated to gain a profit for their shirkat.

For the most part, a shirkat has the same limited rights and is managed much as the old kolchoz. The shirkat director can be replaced by the Raion khokim without even a consultation with shirkat members. The khokim appoints a new director and shirkat members are expected to unanimously approve. The shirkat director has limited rights. He has one clear task: to fulfill a Government cotton/wheat target. A failure may lead to his dismissal. In some case, the khokim changes the shirkat director every year, in some cases even a couple of times within a year.

Serving at the pleasure of the Raion khokim, the shirkat director is responsible for overall management. He heads a team consisting of an agronomist, economist, an irrigator, a mechanic, an accountant, and other technical staff. With the help of his team, he

subdivides the production plan among farm workers, typically to an extended family, or a group of families used to working together.

Called a brigade in the old kolchoz, this group is now called a pudrat. A pudrat, typically a group of about 3-5 workers, the leader and his extended family, is responsible for about 10 ha of wheat or about 2-3 ha of cotton. The pudrat system has been introduced in nearly all shirkats growing cotton and wheat. The pudrat operates as a semi-detached family farm. There are about 220 pudrats on a 1,000 ha under irrigation in a typical shirkat.

The shirkat director allocates land to pudrats based on two agreements. One is a land lease agreement typically for a term of about five years. The other one is a specific annual production, inputs and funds provision agreement. However, these agreements have a little meaning. Pudrat workers have to follow orders of the shirkat director and his team. They are told what to produce and take the inputs and whatever else is given to them by the director. They can use the allocated land only for the purpose specified by the director and if they fail, they could be evicted very quickly regardless of any agreement they may have.

The allocation of land and production targets opens a bargaining space between the director and the pudrats. The scope for bargaining is large. Some pudrats end up with relatively easier assignments than others. The inputs, labor rates, machinery services, irrigation water, and anything else needed for crop cultivation is based on the MAWR norms, which bare little relation to reality.

Many changes since the early 1990s make the production targets and the input norms unrealistic. For example, the labor input for one hectare of cotton should be about 1,020 man hours. Instead, it routinely reaches 1,970 of man hours. At the end of the crop season, the shirkat accountant subtracts the cost of all the inputs, services, and other payment obligations from the received revenue. The revenue will all depend on whether the shirkat has met its mandatory Government procurement target. If it failed, it will be penalized and it will be lucky if its revenue is sufficient to cover production cost.

All pudrats in that shirkat will suffer regardless whether some have met their target. Thus a pudrat worker may have worked hard all year but will receive nothing for his work. Obviously, as this continues, motivation will suffer. This arrangement is the so called collective responsibility.

Sometimes, collective responsibility extends to the entire Raion or even the entire Oblast. All shirkats and family farms are asked to find extra cotton or deliver wheat from their private reserves to help meet the procurement target. Although this practice is illegal, it tends to go on mostly unchallenged.

If the shirkat met its procurement target and the pudrat met its agreement with the director, its workers will be paid in some combination of cash and in kind. According to 2003 data, shirkat workers received 23% of their salaries in kind. Since most shirkats tend to be loss making or only marginally profitable, the cash income of their workers tends to be very low. Worse, sometime it is withheld for months before it is actually paid out.¹¹ In principle, farm workers receive cash payment only for harvesting cotton. Assuming a worker picks 50 kg, he receives Soums 40 per kg or Soums 2,000 per day or about US\$2.0 per day, according to a Government set norm.

¹¹ For example, about US\$6.0 million in farm workers wages has been held up from 2004. Assuming an annual wage of US\$300, the US\$6.0 million is equivalent to annual wages of 20,000 farm workers.

Because of no or low cash income, shirkat workers are compensated by many informal arrangements such permission to use extra land (e.g., second crop after wheat harvest), diversion of inputs, fuel, and services to their household plots, grazing their livestock on shirkat lands, etc.¹² These arrangements happen with or without the knowledge of the shirkat director. In part, it explains the relatively high and increasing cost of production of shirkats.

Sometimes, shirkat workers compensate themselves by diverting cotton and wheat for cash to neighboring shirkats or family farms. In some cases, farm workers sell raw cotton across the national border. In part, this may explain low and declining revenue of shirkats. Also, it may explain lower recorded yields along the national border compared to identical agroclimatic areas situated deeper inland.

All in all, it is becoming increasingly difficult and costly to monitor shirkat workers, some of whom are already planning and lobbying with influential friends and family to split their shirkat into family farms.

2. Expanding Family Farms

Farm restructuring continues. The increasing difficulty of policing cotton and wheat production is the main reason for a vigorous Government initiative of breaking up loss making shirkats into family farms. It appears the Government has overcome earlier reluctance and ideological opposition to individual farms.

Family farms will soon dominate Uzbek agriculture. Their numbers are increasing rapidly from about 23,000 in 1998 to more than 100,000 in 2004. They cultivate about 1.6 million ha, or 47% of irrigated cropped land. Already in some raions, all shirkats have been converted to family farms (e.g., Ak Altin Region Syr Darya Oblast, Yazyavan Region Fergana Oblast, Romitan Region Bukhara Oblast). Most family farms are small, with an average size of 25 hectares but some are as large as 150-250 ha. By Law, the minimum size of a family farm is 10 ha. Land tenure rights are based on 30 to 50 year leases, which under proposed legislation should become inheritable.

Just like the old shirkats, most family farms grow cotton and wheat on over 85% of their land. They account for about 38% of cotton and 52% of wheat production, subject to the same system as the old shirkats. The Raion khokim forces farmers to plant a specific area of cotton and wheat, typically covering over 80% of their land. Farmers are rationed seeds, inputs, machinery services and are supposed to deliver all of their cotton and 50% of their wheat to the Government. In reality, they are farm workers, not farmers. All production decisions are made for them by the Government.

Only about 14% of family farms are exempt from cotton and wheat production. Some of these farms specialize in livestock, others in growing fruits and vegetables. Most of them are located near urban centers. Sometimes even these farms are given plans by the Raion khokim to produce certain crops or livestock products and deliver them to a particular client.

The Raion khokim with his deputies allocates cotton and wheat production targets among farms. He does it in a bargaining process similar to the one with the old shirkats, except now it is much more complicated since instead of dealing with 10-12 shirkats, he is dealing with hundreds of farmers.

¹² The latter practice has induced the Government to make repeated decrees forbidding farmers to damage crops by grazing cattle. See: Ilkhamov, "Divided Economy," p.10.

Just as on the old shirkat, some farms end up with relatively easier assignments than the others. The inputs, labor rates, farm machinery services, irrigation water, and anything else needed for crop cultivation is based on old MAWR norms.

Just as with the old shirkat, farmers receive credit (called an advance) in tranches to finance their inputs, farm machinery services, and anything else the farm needs for cultivation. These credits cover only 50% of estimated cost for cotton and 25% of cost for wheat production. The procedure of the advance allocation is centralized and complicated.

Some farmers receive credit through commercial banks in two categories: (i) for cotton and wheat mandate at 5% interest; (ii) all other purposes at 9-24% interest. This system was put into use in 2003 in Bukhara, Khorezm, Namangan and Fergana Oblasts, and in 2004 expanded to cover also Andijan, Djizak, Navoi and Surkhandarya Oblasts. The application procedures are complex and credit approval subject to opaque procedures.

For the most part, the flow of funds and services is provided through the old shirkat infrastructure and channels, which has been repackaged as a service enterprise. Also, the Association of Dekhan and Family Farms is involved in this process. And just as with the old shirkat, the production targets and the input norms are often unrealistic, particularly for those who fared poorly in the bargaining process.

The main difference with the old shirkat is that a family farm has a little more freedom over what to produce on the remaining 10-15% or so of its land. This freedom gives it a little more flexibility in crop selection, input choices, and more choices as to where and how to sell the extra output. Some proportion of this extra output may generate cash income. However, in some cases local authorities force farmers to cultivate cotton and wheat even on the remaining 10-15% of their lands.

Most of the cotton and wheat production tends to be loss making or only marginally profitable. This is why every farm has to be extremely careful to meet its cotton and wheat procurement target. Otherwise, the owner may be evicted by the Raion khokim without recourse. In 2004, 21% of the family farms failed to meet their procurement raw cotton target, 14% their wheat target, and 2,552 farmers were evicted.

If a farm meets its procurement target, it is paid just like the old shirkat, sometime waiting for months. Meanwhile, it may be paying penalties for unpaid taxes and past due bills. By the time it receives payment from Uzchlopkoprom or other such agency, it may owe more in back taxes and penalty interest charges on its loans than it receives in payment for delivery of its cotton and wheat.

Unlike the old shirkat, a family farm has a much smaller scope for crafting informal arrangements with local administrators. While it may gain access to an unused land parcel with the help of a local official, it no longer benefits from the diversion of inputs, fuel, and services to a household plot. In part, this may explain the lower cost of production on family farms compared to the old shirkats. Some estimates suggest the production cost on family farms is 20% or even 30% less than on shirkats. Probably this is also the main reason why the Government is so enthusiastic about this latest phase of shirkat restructuring.

To ensure the Government retains its command and control over family farms, the Ministry of Justice and the State Prosecutor have become more involved in helping the Raion khokim manage his more complex relationship with farmers.

The State Prosecutor has established several divisions at its headquarters in Tashkent and strengthened its Oblast offices, all exclusively devoted to monitoring family farms.

The work of the State Prosecutor is made more difficult by the absence of hard statistics for family farms. Currently, family farms submit quarterly report "1 Farmer." However, financial and economic data on the production of cotton and wheat on these farms are collected only in an ad-hoc manner and only for official purposes without the benefit of the collected information to the farming community. This makes the evaluation of financial and economic performance of these farms less than objective.

The State Prosecutor control land plots allocation, plots targeted utilization, and contract enforcement.

3. Dekhan Farms Vital for Survival of Farm Workers

Dekhan farms are the only dynamic segment of Uzbek agriculture. They average about 0.17 ha and are limited by law to less than 0.35 ha each. They account for about 60% of total agricultural output¹³ and nearly 90% of the livestock output, produced on only about 11% of agricultural land. Since independence in 1991, the number of these farms increased from 2.3 to 4.3 million. Only a small number is registered as a business.

Dekhan farms are the only truly private segment of Uzbek agriculture on which most of the rural population depends for their livelihood and most of the urban population for their food supply. It is these tiny farms that restored output in agricultural and livestock sub-sectors to early 1990s levels.

Dekhan farmers have full freedom to grow whatever they want. They receive their plots for permanent use with the right to bequest. Since their shirkat income is small or non-existent, for most of them this is the only way to survive and hopefully generate some cash income. In addition, they compensate for the low income they receive from their shirkat by diverting inputs, fuel, and other services to their plots.

For the most part to enjoy the use of his plot, dekhani farmer must be a shirkat member. If for some reason, he decides to challenge his supervisor, he may lose his plot or he may be allocated a different lot in a less suitable location.

The parasitic relationship of dekhani farms on the shirkats is the strongest indicator that Uzbek agriculture remains deep in the Soviet mold. This relationship creates a set of perverse incentives and leads to large efficiency losses. Also, it makes it very difficult to measure the true economic and financial performance of these plots. Assuming about 20% of resources directed to shirkats is diverted to private plots, this is equivalent to 33 billion Soums or 78,000 Soums for every dekhani hectare in Uzbekistan.

Dekhan farms could expand further. More land could be allocated especially to members of broken up shirkats who failed in their bid for a family farm. Dekhans would also benefit from assistance with marketing, better access to inputs, services, and credit. Also, a latent demand of these farms for small scale farm equipment is stifled by prohibitive import tariffs and a void in the domestic manufacturing base.

¹³ Statistical Bulletin of the Republic of Uzbekistan. The gross agricultural output value is calculated on the basis of actual sales prices which can differ across different farm categories. Prices received by dekhani farms as compared to those received by shirkats on the average of last five years are 2.3 times higher for cereals, 1.5 times higher for animal meat and poultry; and 10% to 18% higher for eggs, wool and karakul pelts. Prices received by family farms are marginally higher compared to those of shirkats.

4. Poor Financial Performance of Farms

Cotton/wheat shirkats and family farms tend to be either loss making or only marginally profitable. According to MOF data, aggregate financial losses of shirkats amounted to Soums 47.9 billion 2002. Mainly because of favorable weather, they declined to Soums 6.7 billion Soums in 2003. In any case, shirkats debt to suppliers remains at about Soums 300 billion.¹⁴

To gain a better understanding of the figures for 2003 provided by MOF and MAWR, aggregate data were converted on a per hectare basis into hypothetical shirkat and family farm models. Quite clearly, the models demonstrate the weak financial results of these farms, which account for over 80% of irrigated cropped land.

As indicated in Table 2, an average shirkat lost Soums 4,000 for every hectare planted to cotton and wheat. The income of an average family farms was only Soums 8,000/ha in 2003.

Table 2: Poor Financial Results of Shirkats and Family Farms in 2003 (Soums '000 per ha)

Item	Gross Revenue	Total Cost	Gain/(Loss)
Cotton/Wheat Shirkat	202	206	(4)
Cotton/Wheat Family Farm	210	202	8

Initial sensitivity tests of the farm models show that cotton/wheat prices would need to increase by at least 30% to ensure a very modest farm income of about Soums 80,000 per ha.

III. COMMAND AND CONTROL FARMING

This section describes the repressive business environment facing farmers as they try to comply with existing laws, deal with local government, try to secure irrigation water, seek inputs and services, deliver their crops, as they finance their operations, and what is left for them after they finish their daily hard work.

Each and every step in the daily struggle to survive is a major challenge. Unless it is their little dekhan plot, most farmers and farm workers in shirkats and family farms growing cotton and wheat are likely to end up with a loss or if they are lucky just break even.

A. Precedence of Unwritten Laws

Most legal statutes applying to agriculture are geared to enforcement of the cotton/wheat mandate.¹⁵ Highly restrictive and unsuitable for modern agriculture, even less suitable is the application of unwritten laws or rather orders issued often on an *ad hoc* basis by local government officials, specifically the Oblast and Raion khokims.

During the preparation of this report, the policy team has received a number of reports with examples of meddling into farm activities by local administration officials. These

¹⁴ Data provided by the Ministry of Finance. As of October 10, 2004, the debt of shirkat to their suppliers was Soums 335.1 billion, an amount which appears to change little in real terms from year to year.

¹⁵ For example, a farmer can be evicted if he farms other crops than cotton and wheat.

reports range from confiscation of farmers' private wheat reserves with the assistance of local police, to intimidations and beatings, to forceful eviction from land.¹⁶

Although in a few cases a local Court of Justice has agreed with a farmer and reversed an unjust verdict of the khokim, such instance is rare. Typically, farmers have little chance of appealing khokim's decision, which is the unwritten law. Worse, in many cases an attempt to oppose the khokim makes the predicament of a farmer even more difficult and the punishment more severe.

The precedence of unwritten laws together with the near absence of protection under the Laws of the Republic of Uzbekistan has created a culture of despair and resignation. It has become obvious that hard and honest work generally does not pay off.

1. Securing Private Property Rights

Private property and written contracts are difficult to enforce, which has a devastating impact on economic incentives of farmers and rural business.¹⁷ Land use rights and the security of tenure remain ambiguous and the transition to autonomous cooperative or genuine private farming remains elusive. This is a critical element of any national development strategy without which little progress could be accomplished.

Interviews with farmers confirm that they are unsure about their land tenure despite lease agreements for up to 50 years. Farmers are equally unsure about keeping a fair share of the products of their hard work. Too often, they have learned that hard work does not pay off.

Shirkats are subject to periodic meddling by the Raion khokim and his deputies. Such meddling covers all aspects of shirkat activity with the appointment of the director, setting production goals, rationing inputs, deciding on water distribution, claiming most of the output, and directly inspecting shirkat bank account.¹⁸ Once this meddling brings the shirkat to bankruptcy, the khokim subdivides it into family farms. His task becomes more complex but the meddling on all levels continues. In any case, it pays to be on good terms with the Raion khokim.

2. Selecting Future Farmers

The demise of the old style collective farming has been resisted for a long time. Meanwhile, collective property has continued to encourage irresponsibility and losses. By now, it has become clear that the latest mode of collective farming – the shirkat – is difficult to sustain especially with the increasing numbers of family farms spreading in the vicinity. A consensus is emerging that most shirkats should be subdivided into family farms over the next few years.¹⁹

The Government is accelerating the process of setting up family farms. Selecting future farmers is sensitive to the long term prospects for agriculture and rural life. It is imperative that the process is perceived as fair. This will help to make it more acceptable and the conditions for farming more suitable. This is especially important since many

¹⁶ The President of Uzbekistan, Mr. Islam Karimov, has repeatedly exhorted local officials to stop meddling in farmers affairs.

¹⁷ See for example: "The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else" by Hernando De Soto.

¹⁸ Once it becomes clear a farmer has met his wheat target, a khokim may divert the combine harvester to another farm leaving an unhappy farmer with part of his wheat still standing.

¹⁹ See details in a policy note: "The Process of Selecting Family Farms."

farm workers will remain just as farm workers with only their dehkan plot and seasonal jobs on the farms of their more successful neighbors.

Family Farm Selection Process. In a top down approach just as in any serious business with all its characteristics, the Government through the Raion khokim is the main organizer of future farmers. By law,²⁰ selection is based on bids from qualified contenders and follows five main administrative steps: (i) khokim's decision on the allocation of land plots for family farms, (ii) publicizing land subdivision within 30 days of the bid deadline; (iii) submission and selection of winning bids to a commission headed by the khokim of the Raion; (iv) confirmation of the winning bids by the khokim of the Oblast; and (v) signing of land lease agreement between the khokim of Raion and the head of the family farm.

The selection is final without the possibility of formal appeal. However, there are a couple of options to reverse the decision. There is a remote possibility of appeal to the Oblast khokim. The other is turning to the Courts which is too costly for most. In any case, through various means about 10% of appellants in the Ferghana Oblast were successful in their appeals. The overall number of appeals is unavailable but is believed to be very small. The Chief Prosecutor has identified 475 cases of over 20,000 ha of illegally allocated farmland.²¹

The selection process takes much longer than the legal deadline of two months. Even six months after the commencement of the process, over 60% of shirkats failed to complete the sale of its property (other than land, which remains the property of the Government). The process of resolving and assuming shirkat debt to agricultural service services (e.g., MTP) and others by the new farms is unclear and subject to arbitrary verdicts. In principle, Government debt is written off and private debt (e.g., a private contractor's services) is assumed by the new farms.

Unrealistic deadlines tend to lead to gross mistakes in the reorganization process and diminish its effectiveness. The members of the selection commission are taken away from their main responsibilities for extended periods of time. The pattern of meddling into the work of the commission is widespread and abuse difficult to prevent.²²

In 2004, the process has been further complicated by involvement of senior officials from Government ministries in Tashkent, various Government agencies, and commercial banks, who have been sent out all over the country to help for long periods of time. In any case, it is often difficult to sort out issues involved in the break up of a shirkat because of poor supervision of its property, incomplete inventory, unclear or incomplete record of assets and liabilities in accounting books.

Typically, the list of shirkats slated for breakup is prepared at the end of August or beginning of September. The actual selection takes place much later. At that time some khokims are relieved from their duties because they failed to meet their cotton/wheat targets. This often leads to reopening of earlier decisions by newly appointed khokims and leads to additional arguments and delays.

The repressive conditions for farming under the cotton/wheat mandate and the top down approach in reorganizing shirkats into family farms often leaves members as mere

²⁰ Resolution No. 476 of the Cabinet of Ministers of October 30, 2003 on "Measures on the Implementation of the Development of Family Farm for Years 2004-2006."

²¹ Agriculture: Debt and Responsibility, All Are Equal Under the Law," *Narodnoje Slovo*, February, 15, 2005. The full text of this article is included in Volume II of this report.

²² In many cases, the director of a shirkat and his team, who brought it to bankruptcy, emerge from the liquidation process as future family farmers.

observers. This may also explain the small number of bids. For example, in 2003, on average only about two bids were typically submitted for a prospective farm. In 2004, the number of bids has improved on average to 2.4. However, the number remains small and in some Oblasts less than two bids per farm.

Interestingly, some land remains unclaimed in the process of reorganization. For example, over 7,000 ha remained unclaimed in 2003. This land is typically of poor quality, with unreliable irrigation supply, etc. Perhaps, it would have been desirable from a social point of view to give this land away at no cost with complete freedom to farm to whoever is interested. This would have started an interesting pilot project: establishment of 100 completely free family farms – private farms - each of 70 ha or – if socially desirable - a proportionately larger number of smaller farms.

About 3,500 family farms lost money and 870 of them were liquidated in 2003, or about 4% from the total. Also, about 1,000 farms defaulted on their leases. The largest number of defaults has taken place in Djizak Oblast, over 50% of all defaults in the country. This suggests that the selection process in Djizak has been suspect. In 2004, about 13,000 farms failed to meet their cotton target and those of them unable to settle their debt may lose their land lease.

An altogether different approach to farm shirkat restructuring is reported from a researcher studying the role of women in rural areas.²³ In her research she reports the following:

“The existing demarcations of land lots of the old shirkat were kept intact. The land parcels were allocated to prospective farmers by lottery. One of the women interviewed described the process as follows: The head of the shirkat put all our names in his doppa (hat), and every time a land lot was called out he dipped into his hat to draw out a name. Otherwise, you see, there would have been terrible fights since all the plots are not of the same size or quality. Indeed, the parcels range from a maximum of 97.7 hectares to one hectare. Moreover, the new farms are not homogenous entities. They range from single household operations (as in the case of 11 households cultivating orchards) to groups of family leaseholders cultivating the same parcel. On larger tracts of cotton and rice land there may be anything up to 15 or more family leaseholders.”

Certainly, such cases may be exceptional but they do exist.

3. Experimenting with Tax Reform

The system of agricultural taxation carried on from the Soviet time until 1999. The main taxes included a profit tax, value added tax, environmental tax, water tax, property tax, land tax, tax for the development of social infrastructure, and other local taxes and fees. Despite their worsening finances during the 1990s, agricultural enterprises paid about 23% tax on their gross income, and 18% tax on their production cost. The number, the complexity, the time required to complete more than 30 different documents, and the unclear economic impact of many of these taxes called for a major overhaul of agricultural taxation.

²³ Agrarian Reform, Gender and Land Rights in Uzbekistan, Deniz Kandiyoti, Social Policy and Development Programme, Paper Number 11 June 2002, United Nations Research Institute for Social Development.

Effective January 1999, the Government has decided to introduce a single land tax as the only instrument of direct agricultural taxation.²⁴ The new tax unified and simplified taxation of agriculture. Also, the new land tax is indexed for inflation. Except for dehkan farms, all agricultural producers pay the new unified land tax. Dehkan farms pay land tax, and also water tax and property tax.

A family farm is exempt from land tax for a two year period after its establishment. This is also the main reason why the share of family farms in the land tax revenue collected has been so far only about 13%. Overall, the share of land tax in total Government tax revenue is also very small: only 2.2% in 1999 and 1.8% in 2002.

However, the land tax should in no way be understood as unimportant. Among others, it stimulates land use. Also, it could become a major source of revenue in case of liberalization of cotton/wheat production. Using the land tax as the main source of revenue from the agricultural sector would be a much superior policy direction to the current method of cotton/wheat price repression.

On experimental basis, the Government has modified the single land tax in Tashkent and Samarkand Oblasts. Using a new methodology, land value is appraised and a 2% tax is assessed. This change has increased the tax due 2-4 times and even higher. If in Tashkent Oblast the land tax revenue was Soum 5.1 billion in 2003, it has reached 12 billion in 2004.

The reason for the above experiment is telling. Although relatively small, the introduction of the single land tax turned out to be grossly unfair in some cases. A Raion exempt from the cotton/wheat mandate, farming fruits and vegetables for Tashkent was treated better than a bordering Raion under a cotton/wheat mandate. The attempted increase of the single land tax by trying to take an account of the crops produced undermines the basic concept of the single land tax reform.

Until 1999, the agricultural enterprises had been contributing in a major way for the Government's off-budget obligations (social security, retirement, unemployment insurance, professional association fees, etc.). These contributions came from about a 40% tax on wages. In 2003, this amount declined to 37%, in 2004 a single social payment transfer declined to 33%, and in 2005 it is to decline to 31%.

With other mandatory fees, the overall tax rate on wages is 47%. Penalties for late payments of taxes and fees aggravate the financial of many agricultural enterprises. The tax liabilities of broken up shirkats are most often cancelled.

In addition, agriculture is exempt from the value added tax. Otherwise, agricultural enterprises would have to pay about Soums 7 billion more in taxes for fertilizers and overall about additional Soums 20 billion for various inputs and services. Agricultural exports pay customs duties at a rate of 0.1% (for preparation of documents). Agricultural imports are taxed on average at 30%.

In conclusion, since the introduction of the land tax, the overall direct tax burden of agriculture has declined from 23% in 1999 to 15% in 2003. However, these are only direct taxes. The much more important and much larger tax on agriculture is implicit through repressed prices of cotton and wheat. This issue is discussed in the next section.

²⁴ Presidential Decree No. UP-2086 "On implementation of a single land tax for agricultural producers" dated October 10, 1998. Also, Resolution of the Cabinet of Ministers No. 538 "On confirmation of basic rates of a single land tax for agricultural producers" dated December 26, 1998.

B. Repressive Agricultural Price and Trade Policy

Prices set by Government for cotton and wheat is a major instrument of net indirect taxation of agriculture and an important source of budget revenue. The tight Government budget leaves little room for an alternative. Moreover, the price of cotton is projected to decline over the next three years, which will reduce Government budget revenue by about 8% annually. However, increasing current taxes even more is most likely to reduce tax revenue. It is also likely to increase the already high cost of tax enforcement and therefore cut further available budget resources.

1. Cotton and Wheat Procurement

For years, the Government sets cotton and wheat well below equivalent world market level.

Cotton Procurement. Before cotton planting, the Government sets a national production target, 3.6 million tons in 2004, and just before harvest sets the mandatory procurement price, Soums 225,000 per ton (US\$225). In the last ten years, 2004 is the only year when the national target was nearly reached. The 2004 estimated production is 3.5 million tons, or 100,000 tons less than the national target. In all other years actual production was short of the target.

Those farmers exceeding their national target share should receive 20% premium for cotton delivered over the target. However, they hardly ever receive the 20% premium. In any case, farmers must sell all their cotton to the Government controlled ginneries. Nominally, 50% stays in farmers' ownership and 50% in the ownership of the Government. However, there is no known case of a farmer or shirkat actually taking physical possession and trying to sell on its own account, although a Government Decree makes it theoretically possible. Cotton marketing is rigidly controlled by Government. There are no alternative marketing channels, although theoretically the Tashkent commodity exchange could be used.

Farmers get only 80% of the value of the cotton (priced at the low procurement price). They are supposed to get the remaining 20% after the cotton is processed and sold. However, farmers are sometimes denied the 20% or have to wait several months before actually getting paid, a bad predicament especially in years of high inflation.

Price analysis shows that cotton procurement prices have remained basically unchanged in real terms for the last few years. The only change has been the adjustment for inflation. Cotton prices remained well below equivalent world market level, particularly considering the overvalued exchange rate. With liberalization of the exchange rate in October 2003, major adverse price distortions for cotton and wheat have been eliminated and international price comparisons somewhat simplified.

Wheat Procurement. The procurement system is similar for wheat. Before planting, the Government sets a national production target, 4.671 million tons for 2004, and just before harvest sets the wheat procurement price. Wheat production has been increasing and has exceeded the national target in the last three years. About 600, 000 of wheat has even been exported in 2004.

Meanwhile, Government procurement has been declining from about 72% of total production in 1998 to about 50% in 2004. The Government pays Soums 75,100 per ton for a mandatory delivery for 50% of the production target. If a farmer delivers more than

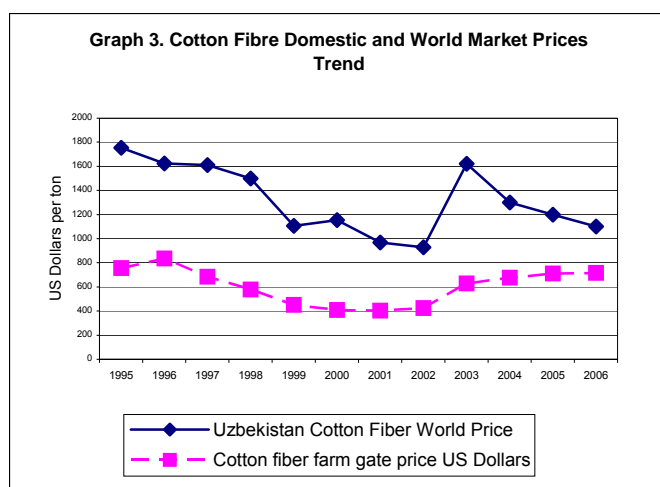
his share of the national target, he receives 20% better price.²⁵ The rest he can sell at the bazaar at a free market price, on average about Soums 82,800 per ton in 2004.

Government wheat procurement has been very effective in stimulating production.²⁶ The rapid increase in production from about 3,000 million tons in 1998 to nearly 4.7 million tons in 2004 is probably due to relatively lower production cost and easier marketing of the retained share. The next section reviews the extent of indirect taxation of agriculture caused mainly by the persisting difference between world market and domestic prices for cotton and wheat.

Other Farm Products. Rice is the only other farm commodity subject to mandated government procurement. Other products are exempt, although prices and marketing of agricultural products are often subject to coercion by local government officials, who on behalf of the producer(s) may negotiate prices and suggest the buyer. Often, this is the main condition of doing business. Moreover, monopsonistic markets prevail for most other farm products with all their adverse consequences for producers, domestic consumers and exports.

2. Estimates of Implicit Taxation

Suppressed Government prices for cotton and wheat serve as an instrument of implicit taxation and a major source of budget revenue. For 2004, the first year of liberalized exchange rate, the net implicit tax was about US\$1.04 billion or about US\$350 per ha for cotton/wheat farmed on over 80% of cropped land. For years, the net implicit taxation of agriculture oscillates at around 10% of the GDP. The annual average net implicit tax over 2002-04 is US\$1.13 billion.



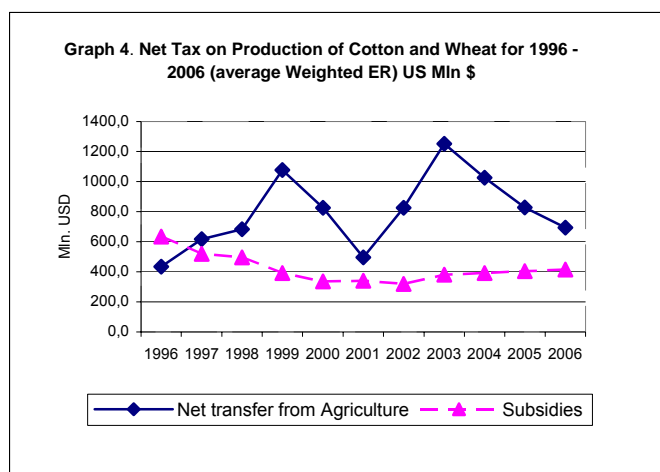
A large implicit tax on agriculture has been the overvalued exchange rate used to convert domestic prices into world market equivalents. The difference between the official and the black market rate peaked at 412% in 1999. The liberalization of the exchange rate in October 2003 has provided some relief. As a minimum, it makes the continued implicit taxation somewhat more transparent.

Due to the overvalued exchange rate, farmers received less for

²⁵ This better price is often called *negotiated price* (in Russian: *dogovornaja cena*), although there are no negotiations as this price is fixed by the Government just like the price for mandatory delivery. Until 1998, this better price used to be 50% higher than the mandatory price. Since 1998, it is only 20% higher than the mandatory delivery price.

²⁶ However, the opportunity cost of increased wheat production is high. Every hectare of cotton switched to wheat results in an "economic loss" of about US\$500. Moreover, other crops (e.g., soy, corn, peanuts) are likely to respond better to irrigation. Clearly, irrigated wheat of 4.2 ton/ha cannot compete with rainfed wheat with similar yields.

their cotton than they would have if they could sell it directly abroad.²⁷ Farmers also received less for their wheat. The Government benefits by saving foreign exchange not importing foreign wheat. It simply forces Uzbek farmers to produce it and pays them a low price. Trends of implicit cotton/wheat taxation are shown in Graph 4. :



The chart shows the trend in implicit cotton and wheat taxation caused by the difference between the world market and domestic prices. As is obvious from the term implicit net taxation, the estimate is a net balance of all taxes and subsidies applicable to agriculture. In 2004, such subsidies included US\$184 million for machinery services, US\$31 million for fuel and lubricants (i.e. VAT exemption), US\$261 for irrigation, officially US\$ zero for credit subsidies, US\$110 for

electricity, and US\$22 million for fertilizers.

Government subsidies to agriculture have a distinctly declining trend from US\$840 million valued in 1996 to US\$283 million in 2004. Shrouded in secrecy, a peculiar subsidy is the annual debt write off, a reflection of the unrealistic terms-of-trade for farming. Such subsidies tend to promote financial irresponsibility rather than farm output. The total amount of credit subsidies including debt write off is estimated at US\$554 million in 2000.²⁸ More current amounts are kept secret by the Ministry of Finance.

Assuming no changes in current policy of Government cotton procurement, the forecasted decline of world market price for cotton by about 15-25% over the next three years will reduce Government budget revenue by about 8% annually. In part, this reduction may be compensated by further cuts in agricultural subsidies or further expenditure cuts, for example for irrigation O&M. The following chart shows the trend in domestic and equivalent world market prices for cotton and wheat to 2006.

3. Restrictive Foreign Trade Regime

Import substitution policy has been less than effective in helping to diversify exports away from primary commodities. Exports have stagnated at US\$3-3.2 billion since 1998, down from US\$ 4 billion during the mid-1990s. Just two commodities - gold and cotton fiber - account for about 60% of merchandise exports, and together with energy and other primary commodities for close to 80% of merchandise exports. This makes Uzbekistan vulnerable to, for example, decline in the price of cotton fiber. Exports of fruits and vegetables could potentially surpass cotton in terms of export revenue but major changes in agricultural and trade policy would be needed first.

Imports have remained flat at about US\$3 billion since 1998. The share of agriculture imports has declined from 16% to 10% of total imports between 1998 and 2003.

²⁷ Smuggling of cotton especially from Raions bordering on Kazakhstan has been a sore issue. Strengthening border patrols has failed to stop this activity. For a number of reasons, it is preferable to pay farmers a better price than to strengthen policing of their activities.

²⁸ Uzbekistan: Living Standard Assessment, World Bank Report, No. 25923, May 2003, page 72.

Unfortunately, no precise data could be located for import of farm machinery. Agriculture suffers from excessive import tariffs on input and equipment supply. Through a number of administrative measures, domestic input and equipment producers maintain substantial advantage over imports.

New trade barriers were imposed with the liberalization of the exchange rate in late 2003. Border closures with neighboring countries on commercial activities and additional restrictions against private sector have prevented a positive supply response to the exchange rate adjustment. Foreign direct investment flows are the lowest of all transition economies on a per capita basis, and the economy remains generally closed to competition, with a high degree of direct state involvement and control.²⁹

4. Estimates of Comparative Advantage

Uzbek agriculture is a powerful sleeping giant. If given proper incentives, farmers with their land and water resources could within a few years recover from the current seemingly hopeless circumstances.

Estimating Uzbek comparative advantage for various farm products is challenging. Domestic input and output prices are severely distorted by the command and control system. Over 80% of the areas planted are mandated by the Government. Data for many crops (e.g., soybeans) that should do well in Uzbek agro-climatic conditions are simply unavailable and farming experience with them is limited at best.

For these and other reasons, attempts to estimate comparative advantage for a range of crops have come out inconclusive. Details of the research are provided in Policy Note 7, Volume II.

C. Deteriorating Irrigation Service

Water resources in Central Asia are under stress.³⁰ All water requirements are covered by water resources of the Syr Darya and the Amu Darya river basins. Only 20% of river water flow originates from sources within the country. The agreed water volume allocated to Uzbekistan amounts to 71.1 km³, the actual water intake during five recent years was 53 billion m³, 92% of which is used to irrigate about 4.3 million ha of farmland.

Irrigation is vital and agriculture depends heavily on good water management since more than 95% of crop production comes from irrigated fields. About 20% of all electricity generated in Uzbekistan and 70% of MAWR budget for the entire agricultural sector pays for pumping irrigation water.

As responsibility of MAWR, national water resources management has been reorganized from administrative-territorial to 10 basin-based water management entities in 2003. Financed from the Government budget, these ten entities are responsible for O&M of the irrigation and drainage infrastructure above the shirkat level.

Shirkats have been responsible for on farm water management on their territories. More recently, on a tenuous basis, Water User Associations (WUAs) have assumed that responsibility in areas dominated by family farms. As in other matters, local authorities tend to interfere at the farm level when they see fit. According to the 1993 law "On Water

²⁹ Strategy for Uzbekistan, EBRD Report, March 4, 2003.

³⁰ While demand for water keeps increasing, availability keeps declining. The available volume of water per capita was about 5,000 m³ in 1960, it declined by more than half by 2000 and is expected to decline further to about 1,440 m³ by 2050.

Use” sale and trade of water rights is strictly forbidden. Shirkats or WUAs are responsible for financing of on farm O&M and water management.

Adopted in 1993, the Law “On Water” has failed to anticipate the substantial changes in reorganization of water management and farm restructuring. The ambiguous legal status of water rights and their close link to land has added to the already high level of uncertainty and often leads to abuse.

The quality of irrigation service has been deteriorating with irrigation and drainage networks. Water delivery is wasteful in part because it is provided by the Government for free. On average at least 50% of water is lost between the water source and the fields.³¹

According to MAWR, over the last ten years, the use of irrigation water during the vegetation period has declined on average from about 11,000 m³/ha to 9,600 m³/ha. For example, in Karakalpakstan it is about 15,500 m³/ha. According to other sources, water use ranges about 12,400 to 14,000 m³/ha. In any case, Uzbekistan compares unfavorably with 9,000-10,000m³/ha in India, Pakistan, and Egypt and lags far behind 5,600m³/ha in Israel, the benchmark of efficient water use.³²

Groundwater levels and water mineralization has been increasing rather sharply contributing to soil salinity. About 65% of the irrigated lands suffer from some degree of elevated soil salinity, an increase by 15 percentage points over the last five years. Annually about 20,000 ha fall out of production due to high soil salinity.³³ Over 2000-2003 period, land salinity has increasing by one to 2.5% in some areas (e.g., Djizak). The water quality in Syr Darya and Amu Darya Rivers is dramatically deteriorating; water mineralization up-stream increased by 0.2 – 0.3 g/l, mid-stream by 0.5 – 0.7 g/l, and down-stream by 1.0 – 1.5 g/l.

The remainder of this section reviews the physical infrastructure, the cost and cost recovery of providing irrigation services, the initial experience with WUAs, and lastly estimates the ability to pay for irrigation services assuming at some point market principles in the use of irrigation water will be introduced as envisaged in MAWR program.³⁴

1. Assessment of Physical Infrastructure

The deterioration of irrigation and drainage infrastructure continues. Compounded by poor quality of construction, regular maintenance has been neglected, especially within farms (e.g., leveling of farm fields has been suspended for the past 10 years). According to various estimates in the early 1990, irrigation infrastructure above the farm level supplying more than two million hectares needed capital repairs. Obviously, even more repairs are need in 2005.

MAWR estimates indicate increasing liabilities for deferred maintenance of major irrigation canals, drainage collectors, and pumping stations. During 2002-2003, maintenance works of major irrigation works covered only 55-66% of actual needs due

³¹ Estimates range from 40% (MAWR) to over 60% (TACIS). The latter figure is based upon an in-depth study of farms in Uzbekistan. See: TACIS, *Improving the Productivity of Water in Central Asia*: (Tashkent: TACIS, 2000). Also, about 15% is lost in major networks, 48% on farm out of which 29% due to poor management.

³² Republic of Uzbekistan Irrigation and Drainage Sector Study vol. 1 (Tashkent: World Bank, 2000), pp. 6-7.

³³ Irrigation in Central Asia, Social, Economic and Environmental Considerations, World Bank, February 2003.

³⁴ Draft Government Proposal for the Introduction of Market Principles into Water Management.

to a limited budget. The funding major works has suffered from similar shortages already prior to 2000.

Recently, substantial financial irregularities have been identified by the State Prosecutor. These include diversion of funds, payments for fictitious O&M works, serious irregularities in public procurement and other issues, which further limit the availability of disposable funds for repair and maintenance.

Over 60% of farmland depends to some extent on water pumping either for irrigation or drainage or both. MAWR norms specify ten year amortization period for pumping stations. However, from the 5,100 stations only 18% are within the norm and over 46% of them exceed the norm by at least 10, some even by 30-40 years. Overall, over 80% of major, 50% of medium, and 30% of small pumping stations need reconstruction.

According to MAWR, the status on farm irrigation networks is even worse. This is in part because of restructuring of shirkats into family farms, changing farm boundaries and yet to be clarified responsibilities of water users. In an embryonic stage, WUAs are supposed to take full responsibility for maintenance of on farm water irrigation and drainage infrastructure. In most cases, they don't have the necessary resources, the training, or even the support of the farmers.

2. Cost and Cost Recovery for Irrigation Services

Reduced MAWR budget leads to cuts, postponements, and reduced capital expenditures on rehabilitation and major water works. During 2000-2003, these expenditures declined in real terms from 191 to 184 billion Soums. Based on MAWR report, the following table illustrates the real impact of reduced expenditures.

Table 3: Impact of Cuts in Capital Expenditures on Irrigation Infrastructure

Item	2001	2003	2003 in % of 2001
Rehabilitated area (ha)	12,000	711	6
New irrigated lands (ha)	1,850	44	2
Drainage improvements (ha)	18,400	1,810	10
Major collectors reconstruction (km)	114	35	31

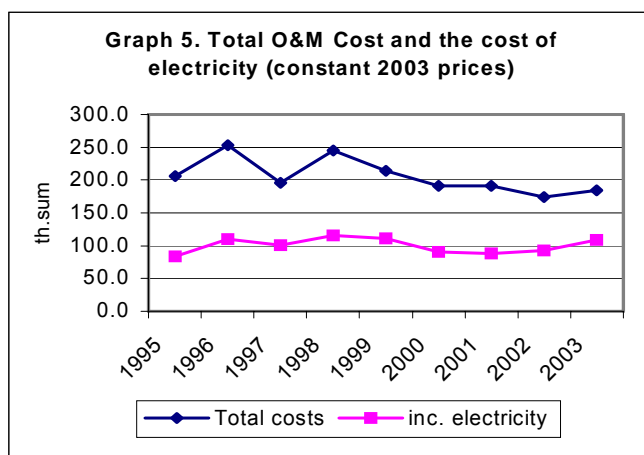
Over the last few years, the Government has issued a number of directives aimed at developing small hydro energy projects, improving the efficiency of strategic waterworks, improving the quality of irrigation and drainage, and improving the security of water supply. However, these initiatives remain in formative stages due to limited Government investment budget and the lack of other sources of funding (e.g., World Bank, ADB, etc.).

Also, reduced MAWR budget leads to growing deferred maintenance liability. Annual expenditures for operation and maintenance (O&M) of major irrigation and drainage networks (above shirkat/farm level) have declined in real terms by 6,000 Soum per ha from 1995 to 2003.

At the Raion level, remaining MAWR irrigation staff has very low salaries, tiny operational budgets, and very little equipment. Moreover, large numbers of professional staff have left or retired.

The funding of O&M expenditures for on-farm irrigation works has suffered from the uncertainties of farm restructuring, unclear responsibilities, and paucity of funds. No official record of current expenditures is available. O&M works take place on an ad hoc basis mainly responding to emergencies. Systematic maintenance work at the farm level is rare these days.

According to detailed estimates,³⁵ on farm O&M budget should be about Soums 7,650/ha in the new irrigated lands and Soums 9,000/ha in the old ones. Shirkat in financial stress or newly established farms simply don't have such resources. Moreover,



farmers are uncertain of their tenant status and are likely to invest their own labor and funds only with security of tenure. Currently, the risk of eviction is just too high.

The state pays for almost all of the cost of irrigation services. This cost, which accounts for almost all explicit budgetary outlays for agriculture, amounts to some US\$258 million per year (2004). Charges for irrigation water, introduced in 1997, are negligible (US\$0.012 per m³), so water is

almost free.³⁶

Irrigation O&M expenditures declined in real terms (expressed in 2003 constant prices) by 11% between 1995 and 2003. Irrigation O&M expenditures per hectare of irrigated lands have declined from Soums 49,000 to 43,000 during the same period. The share of irrigation in the Government budget declined from 10% in 1996 to 8% in 2003. About 70% of the irrigation budget pays for electricity to power irrigation and drainage pumping stations.

The Government more than recovers the cost of irrigation services through repressed prices of cotton and wheat. However, instead of using these funds mainly to maintain and to improve the quality of irrigation and drainage, most of these funds are diverted for other purposes. The net result is deteriorating irrigation service, declining farm output, growing environmental problems, and because water is provided for free - the lack of interest to use water efficiently. There is simply no incentive to use water efficiently - water - the most precious resource in Uzbek agriculture.

It is becoming increasingly obvious that providing water for free and recovering the cost by artificially low prices for cotton and wheat is out of steps with the demands of modern economy. The Government has tried but several past attempts to introduce a meaningful system of cost recovery have failed.

A new initiative to introduce payments for irrigation service is in a formative stage. Several pilot areas should be established in 2005 and 2006 for testing payment

³⁵ Cost estimates for O&M works under the responsibility of WUAs. See Policy Note 9, Volume II.

³⁶ Since 1999 water charges have been calculated as part of the land tax.

methods. These pilot areas should be evaluated and in the Q1 of 2007 a proposal should introduced to implement market principles in irrigation services.³⁷

3. Experimenting with Water User Associations

The increasing number and smaller size of family farms has led to changes in on farm water management. Previously the responsibility of shirkat irrigators, the Government has adopted the WUA concept taking note of its successful experience in many parts of the world.³⁸

The highest potential for improving the efficiency of water use is right on the farm. Overall, WUAs are already responsible for 1.7 million ha. However, their effectiveness is limited by the unsettled status of the farm sector. WUAs have a difficult start. Unclear legal status is often mentioned as a problem. However, it's more of an excuse since the laws of Uzbekistan envisages free association of legal entities (family farms) into associations for the purpose of coordinating their activities³⁹. A number of other legal statues appear more than sufficient for WUA activities.

In any case, the Government has transferred to WUAs free of charge all irrigation and drainage infrastructure of dismembered shirkats. WUAs are now responsible for about 70,000 km of irrigation and 50,000 km of drainage networks. Typical area covered by a WUA ranges from 1,500 to 3,000 ha. However, they often lack qualified staff, have a weak organizational set up and only about 30% have some equipment inherited from shirkats. Whatever equipment they have is typically way past their useful life.

Due to their staff and equipment constraints, WUAs limit their activities to on farm delivery and distribution of water. The water tariffs charged by WUAs range from Soums 321 to 3,723 per ha, well short of charges needed to sustain or improve on farm water efficiency. Moreover, actual payments of farmers are less than 10% of the tariff assessment of Soums 5.1 billion for the first nine months of 2004. Clearly, farmers need to be convinced of WUA benefits. While farmers are being asked to pay more, the irrigation service continues to deteriorate.

4. Ability to Pay for Irrigation Service

Cotton/wheat prices need to almost double to make the entire irrigation network fully self funded - to cover O&M and capital improvement costs estimated at US\$ 150 per ha per year.⁴⁰ Currently, it should be noted, the irrigation system is grossly under-funded. On farm O&M is left to newly created WUAs often without any funds. The O&M of major networks are covered barely to 60% of requirements and the rehabilitation (e.g., replacement of major pumping stations) and other modernization cost is funded barely to 50%. In addition, serious leakage of public funds allocated for O&M has been identified.

The weak financial performance of most shirkats and family farms makes the introduction of payments for irrigation service an academic exercise. The introduction of

³⁷ Draft Program of Measures to Introduce Market Principles in the Utilization of Irrigation Water, Cabinet of Ministers, 2004.

³⁸ For example: Participatory Irrigation Management (PIM) in Turkey: A Case Study in the Lower Seyhan Irrigation Project, Atilla Yazar, World Bank, Undated. Many other instructive studies are available on this subject.

³⁹ See: Civil Code of the Republic of Uzbekistan, Section 77.

⁴⁰ Estimates of US\$150 per ha is based on similar conditions in other countries. The estimate itself is taken from "Irrigation in Central Asia", World Bank Report.

a meaningful payment for irrigation service could succeed only if it brings a commensurate improvement in service and efficiency of water use.

Clearly, farmers will have to have the income to afford irrigation service and be willing to actually pay for it. Currently because of repressed cotton/wheat prices, additional payments would only increase farm debt and help to discredit this vital concept once more.⁴¹

Farm models were used to estimate the ability to pay for irrigation service. Modeling farm financial flows for shirkats and family farms, the price of cotton and wheat would have to increase by about 35% to cover on farm O&M estimated at Soums 7,650/ha in the new irrigated lands and by about 40% to cover on farm O&M of Soums 9,000/ha in the old irrigated areas. Cotton/wheat prices will have to increase by additional 45% to cover O&M of major irrigation works including the cost of pumping.

Capital investment is required to rehabilitate and modernize the irrigation network. This investment is estimated at about US\$150 per ha for works from head to tail of the network. Assuming a loan at 10% interest over 20 years, equivalent to additional annual repayment cost of US\$16 per ha, cotton/wheat prices will need to increase by additional 3% to repay this loan.

Implicitly, farmers contribute already more than their fair share but the funds for sustaining the network are diverted for other purposes. Clearly, the current system of Government financing of irrigation services is insufficient, inefficient and ultimately unsustainable.

In order to succeed, the Government's commendable intent to introduce market principles in providing irrigation services requires substantial increases in cotton/wheat prices paid to farmers. As the experience by other countries suggests, normal farm profits (in the parlance of economics) will soon be reflected in heightened interest in farming, in the value of land, and in the care farmers devote to rural infrastructure, including as a matter of priority - improvement of the irrigation and drainage infrastructure. As it stands now, this care is nearly absent and the irrigation and drainage network clearly reflects it.

D. Limited Access to Farm Inputs and Services

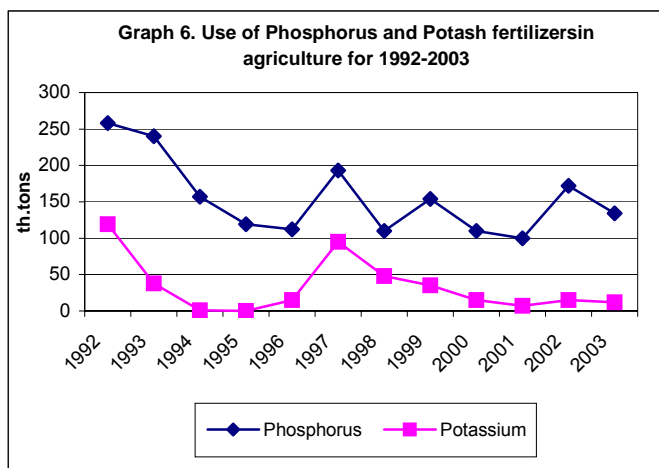
The current system of rationing inputs and services is out of step with demands of modern agriculture. The adverse side effects of rationing include inefficiency, waste, poor quality, take it or leave it attitude, and a thriving black market. What may have changed in the last few years perhaps are expectations that the current system is unlikely to survive for much longer. Experience from other countries suggests that in the short term such expectations lead to increasing cost and declining quality of service as those in control of the system are planning their new future.

1. Rationing of Inputs According to Government Norms

Tightly aimed at cotton/wheat targets, Government agencies and banks are responsible for rationing most input supplies, services and their financing. With little substantive change from the failed Soviet system, inputs for cotton/wheat are rationed according to production plans.

⁴¹ As is well known, several attempts to introduce irrigation service charges have failed.

Input quantities are based on MAWR norms calculated for planned cotton/wheat production areas.⁴² Although Government distributors are forbidden to sell outside of specified contracts, this practice goes on and is becoming more difficult to prevent as it is becoming more common.



In any case, the use of inputs and especially of chemical fertilizers rationed by the Government has declined and the balance of nutrients supplied has become unbalanced. Since 1991, the production of nitrate fertilizers declined 1.6 times, phosphate 5.7 times and the import of K₂O declined by a factor of 10.

Inputs are rationed through Government agencies such as Uzkhimyata'minat, which ration fertilizers and agro-chemicals, and

Uzpakhtasanaat and Uzmanmahsulat, which are involved in the supply as well as in the purchasing of seed. Recently, serious irregularities were uncovered as technical cotton seed was distributed as certified seed. Prices for fertilizers, agrochemicals, fuel and lubricants, and spare parts are near world market levels.

With all its adverse side effects, inputs are rationed to all shirkat and family farms under the cotton/wheat mandate. Some family farmers find it advantageous to pay for inputs directly with their own funds. Also, informally they may get inputs for crops other than cotton/wheat through their contacts at the Government supply agencies and/or shirkats. Paying cash offers many advantages and often brings lower prices.

Within shirkats, inputs are rationed among pudrats. Although numbers of family farms are spreading quickly, still many depend on shirkats or the Associations of Dekhan and Family Farmers for ordering of inputs, their storage and transportation. Genuine private farm supply outlets are non-existent since they would be unable to compete with Government monopolies and/or sustain surveillance by local officials and still be profitable.

Family farms appear to be using as much as 30% less inputs than shirkats for the same level of cotton/wheat production according to some sources.⁴³ This seems merely to confirm the obvious. Family farms cannot benefit from diverting inputs to their household plots or to their neighbors. Also, confirming the obvious, family farms use about 30% less labor per hectare in sowing than pudrats, and this difference is even larger in cultivation, harvesting, and preparing fields for the next season. Among others, this points out to serious issues with MAWR cotton/wheat norms.

⁴² Norms are often calculated using outdated information. For example, in Marhamat District, limits for mineral fertilizer are set according to a land use map of the Raion, which is ratified only once every 5 years Agriculture in Uzbekistan: Private, Dekhan, and Shirkat Farms in the Pilot Districts of the Rural Enterprise Project, World Bank.

⁴³ Agriculture in Uzbekistan: Private, Dekhan, and Shirkat Farms in the Pilot Districts of the Rural Enterprise Project, World Bank.

2. Limited Access to Farm Machinery

The availability of farm machinery and equipment keeps declining despite a number of Government decrees on measures issued on this topic. Since 1991, with the exception of grain harvesters, equipment endowment has declined sharply. The actual rate of replacement of farm machinery is well behind a desirable standard of about 8-10% annually.

The decline has been particularly sharp in cotton harvesting. The mechanical harvesting of cotton declined from about 60% in 1990 to less than 3% in 2003. At harvest, rural schools and businesses are drafted to pick cotton. Simple economic analysis suggests that mechanical harvesting is cheaper than hand picking, which fails to take account of the true cost of the drafted pickers such transportation, room and board, and the opportunity cost of their regular work or study. These costs are disregarded. Meanwhile, one cotton harvester can replace 450-500 persons a day.

Many rural residents welcome the opportunity to pick cotton for which they receive a cash payment of Soums 2,000 per 50kg, a typical daily norm, at the end of the working day. Meanwhile, new cotton harvesters produced by UzCaseMach⁴⁴ are idling in the sheds of the Machine and Tractor Parks (MTP). It is unclear who is covering the loss of their inaction.

Most shirkats and family farms either use their own equipment or MTP services. Often, farmers pool their equipment and some farmers provide machinery services for others as a business. This is especially popular and profitable for combine harvesting of wheat.

Machinery services are provided by a network of Government controlled MTPs: Uzagromachservice, a national monopoly. Its services are expensive and often substandard. Every year, Uzagromachservice MTPs are required to submit a proposed price list for their services, which has to be approved by the Oblast Khokim, the Oblast MTP Directorate, and MAWR.

Using the "cost plus" principle, service fees are set based on the annual calculation of wages, leasing payments, maintenance and servicing as well as profit margins. One of the reasons of the high services cost are high mandatory depreciation rates. Often, Uzagromachservice fails to collect fees for services rendered. The amount of uncollected fees from shirkats and family farms was 14.8 billion Soums in 2003.

In some cases, alternative MTPs have been set up by spinning off machinery services from shirkats. Typically, they use old equipment, have no direct access to Government supplies of diesel fuel and lubricants and therefore are a weak competitor to Uzagromachservice. However, their services are about 30% cheaper.

Leasing of farm equipment has become popular in recent years. Uzsechozmachleasing dominates this activity. The company supplied 5,835 tractors of various brands during last three years (2001-2003). This includes eight heavy tractors for deep plowing, 4,639 lighter tractors, and 1,188 transport tractors. Moreover, during these years 303 cotton harvesters and 1,271 various pieces of farm equipment were leased.

The share of leasing services for shirkats and farms is growing steadily from year to year. Leasing as a share in total equipment cost of shirkats increased from 39% in 2001 to 49% in 2003. Leasing as a share in total equipment cost of family farms increased from tiny 3% in 2001 to 16% in 2003.

⁴⁴ Uzbek-American joint venture UzCaseMach produced about 200 cotton harvesters in 2000 but because of the lack of demand, it produced none in 2003. Most of these harvesters are unsold.

However, leasing regulations reflect a strong bias in favor of domestic manufacturers. Decree #424 by the Cabinet of Ministers of the Republic of Uzbekistan of November 2, 2004 stipulates that leasing of farm equipment is restricted to locally manufactured equipment and joint ventures of “Uzselkhoz mashholding”. Clearly, such restriction increases the cost and reduces the choice available to farmers.

Also, in purchasing farm equipment on credit, farmers are under heavy pressure to purchase Uzbek products. Uzbek farm equipment manufacturers benefit from substantial protection from foreign competition. Moreover, latent demand by dehqan farms for small scale farm equipment is stifled by prohibitive import tariffs and a void in the domestic manufacturing base.

E. Monopolized Farm Output Markets

Restricted marketing of farm output at repressed prices by the Government, lack of progress in privatization in processing (e.g., cotton ginneries), and suppressed private marketing and processing activities, all are increasing the cost and the risk of doing business.⁴⁵

1. Restricted Output Marketing

Rigid Government control is limited largely to cotton/wheat marketing. All cotton and 60% of wheat is acquired by Government. Most other farm products are marketed by dehqan farms, which account for about 60% of total agricultural output⁴⁶ and nearly all livestock output, produced on only about 11% of irrigated land.

Family farms are also becoming the important players in marketing agricultural products other than cotton/wheat. Limited market intermediation exists but remains repressed. However, the persistent interference of local officials is part and parcel of selling farm output. Unless connected to local officials, private buyers such as wholesalers of fresh produce may have difficulties.

Shirkats and family farms deliver their cotton and wheat target quotas to local purchasing centers of Uzpakhtasanaatsatish and Uzdanhahsulat. These are nominally “joint stock companies,” under the full control of the Government. A commission comprised of representatives of the khokimiat, the Prosecutor’s office, the State Inspectorate of Purchasing, and laboratory specialists inspect and sort the crop into grades.

Farms pay for the transport of cotton and wheat to the centers, for which they get reimbursed later. After the crop is delivered and inspected, farms are paid in account transfers via the local branches of Pakhtabank and Ghallabank.

Farmers are paid only 80% of the sold raw-cotton cost, the remaining 20% are paid after the cotton processing and marketing by the plant, i.e. in 5-6 months. This complicates farmer’s finances, and burdens him with the additional cost of inflation. In some cases payments for delivered wheat are late too.

⁴⁵ “Business Environment in Uzbekistan as Seen by Medium and Small Enterprises” 2003 survey results conducted by the International Financial Corporation.

⁴⁶ Statistical Bulletin of the Republic of Uzbekistan. The gross agricultural output value is calculated on the basis of actual sales prices which can differ across different farm categories. Prices received by dehqan farms as compared to those received by shirkats on the average of last five years are 2.3 times higher for cereals, 1.5 times higher for animal meat and poultry; and 10% to 18% higher for eggs, wool and karakul pelts. Prices received by family farms are marginally higher compared to those of shirkats.

Sometimes as the end of the harvest approaches, Raion or Oblast Khokim may find himself short of meeting the Government cotton or wheat target. Typically, this sets him on a hunt for additional output using a variety of coercing practices.

For example, the khokim sets up a special taskforce comprised of the police, prosecutor's office, and his deputies to ensure the harvest is gathered and delivered to the cotton and wheat delivery centers. Also, sometime if still short of the target, he may demand a cash payment for the difference or put farmers on notice that they will have to make up the shortfall in the following year. The ultimate penalty for a farmer failing to meet a production target is eviction from the farm. Typically, appeal to higher authorities brings no relief and may even stiffen the penalty in some way.

Cotton marketing is under the strictest Government control. The cotton marketing chain is described in detail in a recent World Bank report.⁴⁷ Under pressure from the IMF⁴⁸ and other international financial organizations, the Government has made a commitment to gradually liberalize cotton marketing. The idea is to develop competition in selling cotton, which should result in better prices for farmers.

By Decree 298, the Government has established a commodities exchange (UzAuctionSavdo, UAS) in Tashkent to develop an auction system for trading cotton among other commodities and goods and to make it possible to export them through the exchange. The Decree stipulates a Government guarantee of goods sold at the exchange. In 2001 UAS had a turnover of US\$7 million, of which 5,000 tons was cotton. In 2002 it sold 20,000 tons of cotton for export. About 124,000 tons of cotton fiber marketed by domestic enterprises for national currency was sold through UAS in 2004 or about 4% of all cotton produced.

Some farm products are sold for cash either directly or through small traders who bring them to the local bazaars. Some farm products are delivered to quasi-state processing companies. Prices are severely depressed because of excess supply and monopsonistic market position of processors, who often pay with a long delay or not at all. Some sporadic private export of fruits and vegetables takes place.

Some informal advance payments are made to ensure quality products for exports such as flowers, onions and melons, which have a good market in Russia. However, export shipments are risky and payments on delivery uncertain. The large discretion left to customs and other officials make successful export transactions costly and risky. Private enforcement of contracts is often required.

2. Lack of Progress in Privatization

Lack of Progress in the Privatization of Cotton Processing. Raw cotton is processed exclusively by enterprises belonging to Uzhlopkoprom, a Government monopoly. According to 2004 statistics, Uzhlopkoprom consists of 182 enterprises: 151 stock companies (83%), 1 private (0.5%), 1 joint venture (0.5%) and 28 other forms of property (16%). The Government share in stock companies is between 25-51%. The government exports about 80% of processed cotton, the rest is used by local textile industry exclusively marketed through "Uzbekengilsanoat" and some independent enterprises, including those belonging to "Mahalliy sanoat."

Cotton seed as a byproduct of cotton processing is used as seed for next year planting and much larger share is used for processing into cotton oil. Cotton seed oil processing

⁴⁷ Uzbekistan Cotton Policy Note, Mark Sadler, February 2003, Draft

⁴⁸ Letter of Intent of the Government of Uzbekistan on Policy Reforms to the IMF dated July 29, 2002.

is an exclusive domain of enterprises belonging to “Maslozhirtabakprom,” a government monopoly.

Cotton used for local textile industry through “Uzbekengilsanoat” consists of 127 enterprises: 66 stock companies (52%), 4 private (3%), 39 joint ventures (31%) and 18 other forms of property (14%). In addition, there are 556 enterprises (including independent enterprises and those which belong to local branches of “Mahalliy sanoat”) dealing with cotton fiber processing: 12 stock companies (the state holds shares in only 11 of them, 2%), 319 private (57%), 64 joint ventures (12%) and 161 other forms of property (29%).

Cotton seed destined for oil processing is called technical cotton seed. Technical cotton seed is processed exclusively by “Maslozhirtabakprom”. According to 2004 statistics, it has 64 enterprises: 22 stock companies (34%), 22 private (34%), 19 joint ventures (30%), one other form of property (2%).

Cotton fiber of domestic producers is sold either directly for hard currency only by Government and enterprises with special permission or for national currency domestically.

Barring a few exceptions, foreign investors are prohibited from market participation. This is the main reason why direct foreign investment participation in the cotton processing and marketing is negligible.

Some Progress in Private Grain Processing. Grain is processed mainly by enterprises of “Uzhleboprodukt”, a government monopoly. According to 2004 statistics, it has 57 enterprises: 45 stock companies (79%), 4 private (7 %), 3 joint ventures (5 %), 5 other forms of property (9%).

According to some estimates, about 50% of flour milling capacity is private, mostly small backyard operations. According to 2004 official statistics, there are 407 private four mills: 4 stock companies (1%), 327 private (80%), 32 joint ventures (8%), and 44 other forms of property (11%). So far wheat is not sold on the Tashkent Commodity Exchange.

Foreign investors are barred from the grain market. This is the main reason why direct foreign investment is negligible.

Canning and Wine Processing Mostly in Government Hands. Canning and wine processing is mainly the domain of “Uzplodoovoshvinprom,” a Government conglomerate. Total number of canning enterprises is 25: 12 stock companies (48%), 3 private (12%), 10 joint ventures (40%).

There are 56 wine processing enterprises: 27 stock companies (48%), 1 private (2%), 15 joint ventures (27%), 13 other forms of properties (23%). In addition seven canning and wine processing belong to the Ministry of Agriculture and Water Resources (MAWR): one joint venture (14%), 6 other forms of property (86%).

Finally, there are 343 small independent enterprises specializing in fruit and vegetable processing including: 219 private (64%), 49 joint ventures (14%), 75 other forms of property (22%).

3. Assessment of Private Sector Development

Private agribusiness is enveloped in a complex web of formal and informal restrictions that demand close special association with local and national government officials.⁴⁹ Foreign agribusiness is deterred by experience of others who came before and by prevailing opaque business environment.

Most agribusiness activities take place in a gray area, undertaken through intricate links among managers of quasi-state enterprises and local officials mostly for their mutual personal benefits. Among others, this has contributed to the slow pace of real privatization that would have jeopardized these arrangements. The system of patronage, the possibility of a newly appointed Khokim of Oblast or Raion to appoint his trusted allies into strategic positions of rural businesses (e.g., cotton ginneries) continues a strong tradition dating back to the Soviet times.⁵⁰

Small rural business in trading, processing, construction, bread baking is generally limited to backyard operations with minimal capital investment. Still about 50% of the flour milling capacity is private. Often these operations benefit from a symbiotic/parasitic relationship with a state enterprise in the same business“.

F. Directed Credit Dominates Commercial Lending

1. Directed Credit for Cotton and Wheat

Directed credit dominates agricultural lending. Government financing for cotton and wheat accounts for about 90% of all lending to agriculture.⁵¹ The Ministry of Finance directs Pakhtabank (cotton) and Ghallabank (wheat) to channel advances to finance inputs for production targets specified in farm contracts with purchasing agencies. Shirkats and family farms are mandated to sign and to honor these contracts, otherwise a shirkat director will be replaced and a farmer will be evicted from his land.

The advance covers 50% of the value of production at Government procurement prices with cost of production determined by Government norms.⁵² The amounts are equivalent to about US\$280/ha for cotton and about US\$65/ha for wheat covering over 80% of all cropped land or 2.7 million ha of irrigated land.

The advance is itemized by the cost category and reallocation between categories is strictly forbidden. Unused balance is frozen and then cancelled. In 2003, the cancelled balance amounted to Soums 37 billion or 8% of all advance financing. Meanwhile, it's unfortunate if a shirkat or a family farm needs additional working capital. Once a balance for a specific cost category is used up, no additional financing is available.

A new system of financing cotton and wheat production has been introduced on an experimental basis in four Oblasts in 2003 with four additional Oblasts phased in 2004 and for the system to be eventually extended countrywide. The main reason for the new system is the growing number of family farms.

⁴⁹ "Business Environment in Uzbekistan as Seen by Medium and Small Enterprises" 2003 survey results conducted by the International Financial Corporation.

⁵⁰ A rich history of doing business in Uzbekistan under the Soviet regime has been subject to several studies. For example, Nancy Lubin's book "Labor and Nationality in Central Asia", Princeton University Press, 1984.

⁵¹ According to data provided by the Ministry of Finance. Also, this figure has been stable over the last several years.

⁵² The advance is provided at an annual interest rate of 5%. The formula for calculating the volume of advances, procurement prices are set at 50% of prices of last year and the cost of inputs at current prices.

The change is that instead of issuing an advance through a purchasing agency, family farms receive credit directly from their bank. All other conditions are the same. However, most family farms have tiny working capital levels and therefore credit financing of 50% of production value tends to cover only about 30% of their production cost.

To overcome the shortage of working capital, the Central Bank instructed banks to extend the repayment period to 1.5 years.⁵³ Subdivided into specific items without the possibility of reallocating, the credit covers wages and social security payments, fertilizer, plant protection chemicals, fuel, plastic sheets for early planting of cotton, spare parts, farm machinery services, equipment leasing, electricity, cleaning of drainage collectors, and land tax.

Family farms have to apply and the credit application is quite complex. It needs to include contracts with purchasing agencies, business plan, a balance sheet certified by the Tax Authority, a record of outstanding debts and credits, and credit history. In addition, the credit must be insured against default.

Despite the low annual interest rate of 5%, the complexity of the credit application has some discouraged farmers. Only 48% received credit for growing wheat and 85% for growing cotton. Other farms financed cotton and wheat from their own or alternative sources. In any case, however, even if farmers use their own resources, they still have to follow the cotton/wheat mandate; otherwise they will be evicted from their land.

Banks are used as an additional control lever to discipline farmers. At the local level, oversight is exerted by the Raion khokim, who often uses a branch director of a bank as his enforcer. Farmers are trapped in a financial system with overwhelming control of their activities. It is only natural that whenever they can, they would rather avoid the banking system altogether.

In addition to channeling funds for cotton and wheat, banks also collect taxes on behalf of the Government. Due taxes are automatically deducted from farm bank accounts, often without their knowledge.

To more effectively control the rapidly growing number of family farms, especially Pakhtabank and Ghallabank are expanding their branch network in rural areas, setting up so called mini-banks. Only in 2004 about 190 of new branches have been set up, with Pakhtabank accounting for 70% of the increase.

Unrealistic targets for cotton and wheat production have become a major source of financial losses of shirkats. Moreover, because of the general understanding and acceptance that production targets are unrealistic, this has become a convenient excuse of some shirkats to further relax their weak financial discipline and run up debt.

Since 1997, large and growing financial losses of shirkats had to be assumed by the Government budget. It has become most obvious that the policy of annual debt write-offs is the best way to generate more debt. The policy outcome is that bankrupt shirkats are broken up into family farms. While annual debt write offs continue, their actual size is kept secret.

2. Little Commercial Lending

Obtaining commercial credit for an agricultural investment is rare. On the one hand, lending to farmers poses high risk stemming from uncertain property rights, poor loan

⁵³ Regulation of the Central Bank of Uzbekistan of April 16, 2004: "Regulation on Financing of Family Farms by Commercial Banks with Future Harvest as Guarantee."

repayment prospects, and limited credit history, all of which constrain access to commercial farm credit.

On the other hand, banks provide low quality service at very high cost. Apart from the cotton/wheat mandate, banks struggle with a general scarcity of funds,⁵⁴ complex procedures, and excessive informal demands of bank executives (such as an additional grace payment to an officer approving a loan). Unless they have a good friend at the bank, most family farms view credit terms as prohibitive, try to use their own resources, borrow from relatives or seek other informal sources.

Several subsidized credit programs use opaque eligibility criteria and mainly reinforce monopolistic market structures.⁵⁵ For example, subsidized credit to a private dairy farmer is available only in conjunction with a fixed price contract for milk delivery to a predetermined dairy plant. The following chart highlights outstanding loans by the Fund of Support of Dekhan and Family Farms.

In addition, some foreign lines of credit are also available either lending directly such as some micro credit schemes or on-lending through Pakhta and other banks. For example, various micro credit lines amount to about US\$35 million. The World Bank, ADB, and others provide financing to agriculture. However, all these sources are a small fraction of what would be expected in a vibrant rural economy the size and importance of Uzbekistan.

G. Deteriorating Rural Living Standards

Agriculture has been under continuous stress to provide for modernization of the country, while at the same time it has received little in return. Forced against basic principles of rational farming, many years of planting of cotton and wheat on over 80% of irrigated cropped lands has diminished soil fertility and caused serious environmental problems. Rural communities find themselves in a vicious circle of falling incomes, deteriorating rural infrastructure and services.

1. Spreading Rural Poverty

Poverty is predominantly a rural phenomenon partly because over 60% of the population lives in rural area.⁵⁶ The incidence of rural poverty is about 31% compared to 23% in urban areas. Poverty risk tends to be especially high for residents of small rural towns dependent on agriculture but without access to land.

Secure access to potable and irrigation water is vital for avoiding poverty and disease. Various opinion surveys of rural residents point overwhelmingly to disruption of water supply, salinization, and waterlogging as the main causes of poverty and disease. With the spreading of family farms, those luckier or those with better connections tend to end up “near the source” while others less fortunate further away. With farm restructuring settling down, the disparity of incomes is gradually coming to light. The plight of tail-

⁵⁴ Even the policy team writing this report experienced the shortage of funds on several occasions in Tashkent, each time simply trying to withdraw a modest amount from a checking account. Preferably one should call the bank in advance to ensure cash is available. Still a 1.5% commission is charged for this kind of service.

⁵⁵ These include the Support Fund of Dekhan and Family Farms, the Fund Supporting Employment, the Business Fund, etc. These funds charged annual interest rates of about 3-5%, well below at least 20% or more for commercial lending rates.

⁵⁶ Republic of Uzbekistan Living Standards Strategy for 2004-2006 and Period up to 2010; Asian Development Bank.

enders will only get worse especially if the efficiency of on farm water management remains as is or even gets worse.

Equally vital in avoiding poverty is access to land. In many cases, household plots of rural residents are the only means of subsistence and survival. The liquidation of shirkats and the formation of family farms reduce the number of employment opportunities for farm workers. Many of them remain unemployed and alternative job opportunities in other sectors are very hard to find, especially in rural areas in places where they tend to live. Moreover, the repressed agricultural sector discourages private business in rural services and industry. This creates a vicious cycle of growing unemployment and poverty in rural areas.

Significantly, the growing incidence of rural poverty is affected by high birth rates in the 1970/80s. This puts additional pressure on the rural labor market, which is failing to keep pace with absorbing Uzbek youth entering the labor market for the first time. The outcome is growing migration abroad. According to unofficial sources, more than 3.5 million mostly young Uzbek men have emigrated in search of casual jobs abroad mainly in Russia.

Uzbek culture is based on close family relations. This is an important factor in helping to cope with poverty. Rural households are relatively large with a sufficient number of income earners deployed in a range of farm and non-farm activities.⁵⁷ Families where most working adults hold good paying jobs or have various supplemental earnings opportunities tend to be relatively well off. Typically, they take care of their less fortunate members at least for some time. Also, patronage through various connections to local administration and state enterprises is a way to create job opportunities for family members and even more distant relatives.

2. Women in Agriculture

Challenges for women and family life in rural areas keep rising. Women account for 50% of entire rural population, of which 36% are under 18 years of age. About 43% of overall rural employees are women. The spreading of family farms, growing rural unemployment, growing migration out of rural areas especially for men have put additional burdens on women.

Mostly still working in shirkats, more and more rural women find themselves working in newly established family farms. In either case they work for little money or just payment in kind. However, the growing number of family farms has adversely affected employment opportunities for women since many families are left out without farms as casual workers or simply unemployed. Those rural women left out often work together in groups as seasonal workers weeding and harvesting cotton, working on their dekhan farms, or are involved in petty trade and services.

Only very few women have careers in the technical or the administrative jobs involving shirkats, seldom advancing to management position, although women bookkeepers, clerks and technicians do exist. Even fewer women are heading new family farms (5%). Extent of the women involvement in the farm leading differs in the oblasts of the Republic, for instance, in Bukhara, Kashkadarya and Syrdarya Oblasts this indicator is 2%, and in Khorezm oblast – 44% because most men left to work abroad. Suitable jobs for women unrelated to agriculture in rural areas are very limited or non-existent.

⁵⁷ Agrarian Reform, Gender and Land Rights in Uzbekistan, Deniz Kandiyoti, Social Policy and Development Programme, Paper Number 11 June 2002, United Nations Research Institute for Social Development.

Traditionally, many rural women have been employed in healthcare, education and other social services. Women workers in rural industries have been particularly hard hit by labor cuts and close downs. Salaries in these jobs have failed to keep pace with inflation and often have been delayed for extended periods of time. Moreover, some of these women have no access to land, which makes them and their families even more vulnerable.

Some women have adjusted well to the changing rural environment. For example, a 400 ha family farm established and headed by a woman since 2000 has done very well. Like most farms, it specializes in cotton/wheat production. Better than most such farms, it reached yields of 6.0 t/ha of wheat and 3.2 t/ha of cotton, exceeding its mandated targets. It employs 50 farm workers and at harvest time additional 50 seasonal workers. Using its own resources, this farm supports a local high school, a College, and a summer recreation camp for children. Other such examples are rare but exist as models of what is possible.

The lack of job opportunities has forced large numbers of men from rural areas abroad in search for casual work. The absence of men has adversely affected family life and increased the responsibility of women. Family men tend to stay abroad for months or even years (because of visa restrictions). In some villages, only old men remain leaving women in charge of farms and families.

3. Environmental Issues

Old-age traditional Uzbek attitude of treasuring land and water resources, diversification of crops, highly productive small plot farming, all will have to be revived and adjusted to satisfy the twin objectives of economically efficient modern irrigated agriculture and environmental sustainability.

Meanwhile, most environmental assessments suggest that the prevailing cropping pattern of irrigated cotton/wheat on over 80% of farmland year after year contradicts the principles of rational farming.⁵⁸ Increasing soil salinity (65% of all irrigated lands), soil erosion, water mineralization, and other symptoms suggest that time is running out.⁵⁹ According to some estimates about 20,000 ha become unsuitable for farming. However, nature itself takes a long time to change, so there may still time. The Aral Sea tragedy should be a sufficient warning and impetus for change.

Water use is a major environmental issue. High water use for irrigation with deteriorating drainage systems causes elevated groundwater levels in rural towns and villages. The entire population living along the Amu Darya and the Syr Darya rivers is adversely affected by a high groundwater table. More than five million people, or 20 % of the total population, live in areas with groundwater at less than 2 meters beneath the surface (1,257.6 thousand hectares).

Many surveys point to the lack of access to safe drinking water. This problem is especially pressing in Karakalpakstan, and in the Khorosm and Bukhara Oblasts, where sources of local fresh water are extremely limited. The municipal water infrastructure needs urgent improvements in the Kashkadarya, Samarkand and Suhandarya Oblasts.

⁵⁸ Uzbekistan: National Environmental Action Plan, Tashkent-Washington, World Bank, June 1999.

⁵⁹ For example, annually on average, water erosion removes about 40-80 tons of top soil (the most fertile segment) from every hectare of irrigated land. Based on information of "National Program Measures against Desertification in Uzbekistan," Tashkent, 1999.

According to World Bank studies, the benefits to improved human health greatly exceed the costs of developing a water supply. For example, in the countries of South-East Asia, these benefits are estimated to be 3-8 times higher than the costs. Also, sanitation in rural areas is almost non-existent.

Many years of planting of cotton and wheat on over 80% of irrigated lands has severely diminished soil fertility and caused other environmental problems. Soil fertility declined over the last ten years by three points (from 58 to 55), in Samarkand and Fergana Oblast it declined by 10 points. The process of increasing land degradation continues and soil fertility keeps declining at an increasing rate.

IV. PRIORITIES FOR SUSTAINABLE RURAL DEVELOPMENT

The previous three chapters assess the current status of the agricultural sector and rural areas. During the five months of this TA engagement, most stakeholders confirmed the poor state of the agricultural sector in a number of venues including 10 regional seminars, followed by a number of roundtables, interviews, and a two day participatory workshop. Also, it is fair to note that some dissenting voices mainly from Government agencies in Tashkent question the assessment as excessively pessimistic.⁶⁰

The following two chapters discuss an outlook for the mid- and long-term. Serious effort is needed to agree on and to implement reforms. Agricultural reform measures have too often remained on paper.⁶¹ The Government keeps issuing laws and regulations often disregarded by local officials. Foreign consultants reiterate their recommendations: create incentives, settle property rights, enforce contracts, and promote competition, all with little effect. With either approach life on the Uzbek farm seems getting worse rather than better.

The Soviet Union collapsed for many reasons 15 years ago – a major one was its hopelessly inefficient and expensive agriculture and the inability of the Soviet Government to reform it. While it is unlikely Uzbekistan will start importing cotton any time soon, the Government will have increasing difficulties if it continues to hold on to its command and control system for agriculture. And as a result, other sectors of the Uzbek economy will suffer with it.

This chapter suggests a more productive and sustainable future. What should happen so farmers have less difficulty in dealing with laws and regulations, how they could defend themselves better against abuses by the Raion Khokim and his deputies, how they get better quality irrigation and become concerned about using water efficiently, how they become real customers in choosing inputs and services suppliers, how they finance their operations, and how they sell their crops. Most stakeholders proposed measures to make these changes possible. However, they lack the decision making power to implement them.

A. International Consensus on Agriculture Policy

A broad international consensus has emerged over the last twenty five years on what constitutes effective agricultural policy. Government should have a “light touch”, refrain

⁶⁰ The full account of stakeholders opinions is provided in Volume III of this report.

⁶¹ The latest in a long series is “Deregulating Farm Management and State Marketing of Cotton and Wheat in Uzbekistan,” Garry Christensen, Consultant, Report prepared for the World Bank, April 2003. Also, innumerable Government special commissions, taskforces, working groups, round tables, conferences and seminars, have convened on agricultural development strategy, all supporting and endorsing transition to market based agriculture.

from direct intervention or excessive regulation of the market and instead focus on setting overall policy (rules of the game), and on enforcing these rules to ensure markets work properly.

Government should recognize and enforce economic rights:

- for farmers to produce whatever commodities they feel will best profit them;
- for farmers to sell their products freely at home and abroad;
- for traders to move goods in the expectation of profits unconstrained by uncertainty of government intervention; and
- for consumers to buy food at the lowest prices, whether from foreign or domestic sources.

These four principles should be the guiding light – **the vision of a better future** - for any government trying to make its agriculture more efficient. Clearly, this vision will need to reflect the cultural tradition and historical experience prevailing in Uzbekistan. Uzbek citizens are the best resource to accomplish this most difficult task successfully.

Other approaches have proven much less effective. A large body of examples from history and from economic research is available on the consequences of coercive policies. Such policies tend to force out legitimate business into the informal sector, lead to capital flight, and increased corruption. Ultimately, they lead to increasing social tension, civil strife, economic and financial bankruptcy, and poverty. In no case have such policies resulted in increased production and economic growth.

The following seven sections list key development challenges facing Uzbek agriculture. By far the most important challenge is to create an environment rewarding hard and honest work – enable farmers to make money, so they can improve their lives, invest into their farms, invest into rehabilitation of the irrigation and drainage infrastructure, and buy services that would revitalize rural areas of Uzbekistan.

B. Reforming Taxes in Agriculture

The implicit tax on cotton/wheat production is excessive and its symptoms are in plain view.⁶² Cotton/wheat shirkats and family farms are taxed at an average implicit rate of 57% on their gross income according to 2003 farm data of MAWR mainly through low prices for cotton and wheat. In addition, they pay a 47% tax on wages for contributions to social security, retirement, unemployment insurance, and professional fees. This brings their overall tax rate to 62%.

Moreover, farmers often fall victims to extortion by local officials who confiscate part of their output without compensation. While this is another form of tax, it is difficult to estimate it with any accuracy.

Farmers pay for the inefficiency of processing and marketing, which from their point of view is just like an additional tax. With this “inefficiency tax” estimated at about US\$100 per ha, the overall net implicit tax reaches an overall rate of 75%. With private competitive ginneries the cost of cotton processing should decline by about US\$100 per

⁶² Symptoms of very high levels of agriculture taxation are in plain view – the lack of producer incentives and the high visibility of law enforcement. For example, in some Raions, police officers are accompanying farmers delivering their cotton or wheat to the collection point. Among others, farmers are obliged to provide lunch and other refreshments.

hectare at current average cotton yields. With the cost plus monopoly of Uzhlopkoprom this inefficiency tax will stay.

Excessive taxation has a devastating impact on incentives and in addition raises the cost of compliance. Instead of Government using its tax revenue to improve public infrastructure, healthcare, education, reduce poverty, etc., it needs to allocate more funds to hire more tax inspectors, police, customs, and other law enforcement personnel. This is because with increasing level of taxation, it becomes ever harder to enforce compliance as farmers try to move their activities into the informal sector.

Excessive level of taxation implies that cutting taxes (in this case mainly increasing prices for cotton and wheat) will increase Government budget revenue. While there might be an initial tax revenue shortfall, farmers will eventually respond to improved incentives and also drop some of their tax avoidance strategies. More of the rural economy will move into the formal sector, broaden the tax base, and reduce the cost of compliance.

A tax cut generates a supply response, which eventually generates more tax revenue and more than compensates for a temporary revenue shortfall. For example, in China and Vietnam, improved incentives (e.g., lower taxes) increased the value of agricultural production over 30% over five years.

Using Land Tax as a Superior Tax Instrument. Uzbekistan could do even better to improve farmers' incentives and to increase Government tax revenue by using the land tax as the single tax for agriculture. Switching to the land tax and stopping implicit taxation of cotton and wheat will have a number of large benefits. Also, this switch could be designed as tax revenue neutral.

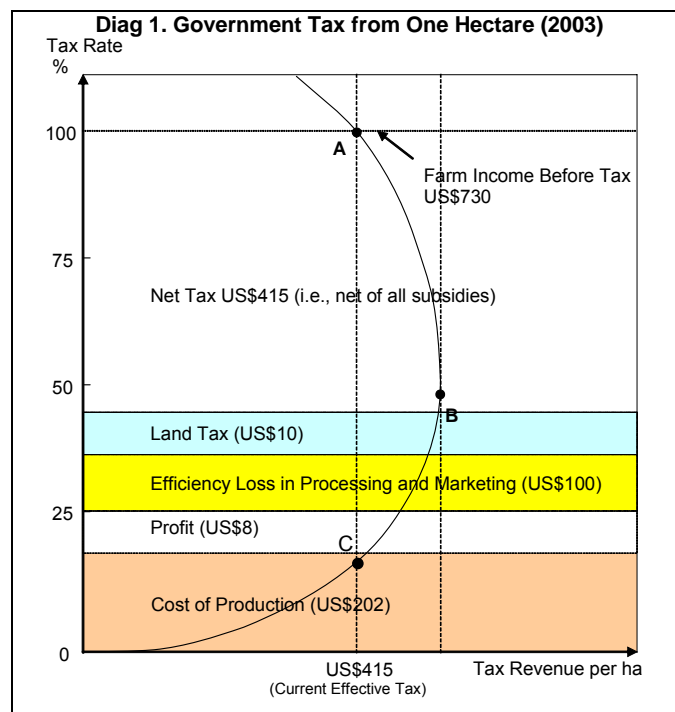
First, from purely economic point of view, the land tax is superior because it does not distort but preserves correct price signals for the economy, which is important for optimal allocation of resources. From this point of view, the current implicit cotton/wheat tax is the worst possible tax.

Second, the land tax will make it unnecessary to continue the practice of cotton/wheat procurement. Most likely, the Government will receive more tax revenue from the land tax than from the implicit cotton/wheat tax. Also, economic efficiency will improve, which will result in more business activity and therefore still more tax revenue.

Third, the police, the Prosecutor's Office and other enforcement agencies will no longer be needed to supervise the fulfillment of national cotton/wheat targets or even monitoring farm activities such as the debt of plowing and other technical details. The opportunity for meddling into the business of farmers will be much reduced. So will be the associated corruption.

Finally, the land tax will broaden the agricultural tax base and make taxation of farmers more equitable. Currently, most farmers are mandated to grow cotton/wheat. Others could grow cucumbers or melons and get higher incomes but pay much lower net tax. A well conceived land tax should capture differences in the market value of farm land.

The following chart illustrates a Government dilemma. It shows the tax burden on an average cotton/wheat hectare using 2003 MAWR figures. Farm income before tax is US\$730 per ha out of which the farmer keeps US\$8, covers his cost of US\$202, about US\$100 is the "inefficiency tax" a consequence of government processing and marketing channels (e.g., Uzhlopkoprom), about US\$10 is for land tax (rent), and about US\$415 goes to the Government budget.



Government Tax Dilemma. The Government tax dilemma is how to set an optimal tax, i.e., a tax preserving strong incentives of producers to be efficient and willing to pay, and at the same time maximize government tax revenue from the agricultural sector. In this hypothetical example, the optimal tax is at point B in the chart. At point C, farmers pay a moderate tax and have little incentive to escape compliance. The cost of compliance is low. At point A, farmers pay an excessively high tax, which they try to avoid by producing less and/or shifting into the informal sector. The cost of compliance is high. This is the case of Uzbekistan.

The most important point in this chart is that the Government collects the same tax revenue with the tax rate at point A (excessive taxation) and at point C (moderate taxation). This is the Government tax dilemma. Obviously, while point B is optimal for the Government, point C is preferable to point A. The curve simply depicts a universal human attitude toward taxes. People are willing to pay freely up to a point (point B) and then try to avoid it.

C. Creating Incentives for Agricultural Producers

Farmers need to be given more freedom to decide their own cropping pattern, prices for cotton and wheat need to be increased substantially, meddling of the Raion khokim and his deputies and now the police and even the Prosecutor's Office needs to be brought under control.

As a minimum, farmers should be protected from the Raion khokims, who force them to plant specific areas of cotton and wheat instead of simple volume quotas. While only production quotas are passed down from Tashkent through Oblast to Raion, Khokims in their concern of failing to meet their delivery target obligations, force farmers to

maximize areas planted to cotton and wheat. This target is the single most important concern of the Khokim. If he fails to deliver, he will most likely be dismissed.

Sooner rather than later, Government should phase out mandatory production of cotton and wheat and instead establish floor prices for these two commodities set at about 80% of forecasted equivalent world market levels. Government guaranteed prices should be announced before planting time. The Tashkent Commodity Exchange could quickly become a focal point for market price formation.

Much higher prices and more freedom are vital. Farmers need to have higher incomes because they need to assume increasing responsibility for the functioning of the irrigation infrastructure, initially on farm through WUAs and gradually take over and ensure the irrigation network is gradually modernized and eventually becomes fully funded.

D. Completing Farm Restructuring

Family farms will soon dominate Uzbek agriculture. The process is well underway. However, all needs to be done to make sure the process is fair. Events such as those recently in Djizak Oblast should be avoided. About 50% of all defaults of first year farmers in the country come from the Djizak Oblast.

When setting up family farms some land remains unclaimed. While this land is typically of poor quality, with unreliable irrigation supply, etc., it should be given away at no cost with complete freedom to farm to whoever is interested with the right of free crop selection.

The Khokim is responsible for the allocation of land plots for family farms. However, it would be desirable if shirkat members were able to initiate the process themselves. Also, it may be desirable to craft land allocations closer to the minimum 10 ha to maximize ownership and minimize future unemployment.

Land leases should become inheritable, tradable and much more difficult to cancel.

E. Promoting Private Business in Inputs and Outputs

Competition boosts economic efficiency – an element sorely missing especially in rural areas. Farmers are vulnerable to monopolies in the input and output markets. With more companies selling inputs and buying outputs, competition will lead to greater choice, better service and fair prices for farmers.

However, no private business can afford to compete with Government backed monopoly. Demonopolization and privatization has made little progress in the areas vital for agriculture, especially in the supply of inputs and services, and in processing. The Uzhlopkoprom monopoly on cotton processing is devastating cotton production.

More domestic and foreign companies will gradually appear when the business environment becomes more hospitable. As it stands, there is no chance it will happen on a sufficient enough scale. Only those with special connections will get an opening which they may later regret.

With more incentives and more competition, farmers will gradually become much more efficient, getting together again where appropriate to establish supply or marketing cooperatives.

F. Promoting Private Business in Rural Areas

Most of private business in rural areas is informal simply because standard private business is unlikely to enter into the prevailing oppressive business environment, particularly in competition with Government sponsored monopolies.

Adding value to locally produced raw cotton seems to be a natural comparative advantage for locating textile industry in rural areas. Many new jobs could be created this way. The experience of how to attract capital for such business is well known but it has been ignored.

Effective rural development would benefit from export orientation rather than import substitution policy pursued so far. This would require elimination of discriminatory barriers against foreign trade, improving conditions for business entry, protecting property rights, and enforcing contracts.

Uzbekistan can do well in fruit and vegetable exports, private business that requires great flexibility, speed and tight sophisticated links with foreign markets (e.g., specialized delivery contracts, pre-selling produce for next season, etc.). Fruit and vegetables could dwarf cotton as the main agricultural export. However, a lot will have to change to make this happen.

Uzbekistan should do much better in attracting direct foreign investment but a lot will have to change for investment to come.

G. Improving Access to Commercial Credit

While directed credit may be justified in the short term, it should gradually be replaced with commercial credit using crops as collateral.

To compensate for the weakness of the banking system in the short to medium term, farmers should have the choice of using the current Government system of input supply and seasonal credit. However, it will have to be simpler to apply and to get approved, and it will have to be made easier to use, i.e., without the current itemization and impossibility of reallocation among items. Also, opaque credit allocation practices should be fought vigorously.

A whole range of relatively sophisticated structural finance packages could be developed for cotton and wheat with foreign commercial banks, which the Government rejected in the past.

Ideally suited for cotton and wheat, a warehouse receipt system should be developed to give farmers greater choice of when to actually sell their crop and to make it easier for them to obtain cash. Warehouse receipt is a financial instrument to facilitate trade and inventory financing through collateralization of commodity inventories. Stored commodities will be pledged as collateral for loans increasing thus the availability of credit for agriculture.

The internal warehousing market should be liberalized to allow foreign operators to open and operate facilities in the country, perhaps mandated to use the warehouse receipts concept. The involvement of foreign operators would enable commodity collateralization in warehouses by farmers. This will ease the financing burden and enable relatively quick creation of international financing for cotton, wheat and possibly other products.

Banking reform needs to accelerate and foreign banks should be allowed to compete with local banks. A major problem for local banks is high cost of service, opaque credit approval procedures, and most importantly reliance on Government funds rather than

deposits from clients. Farmers and small business try to avoid banks altogether. One reason is that banks collect taxes on behalf of the Government.

H. Revitalizing Irrigation and Drainage Infrastructure

The financing of the irrigation and drainage system has to be urgently brought up to a sustainable level. This requires the following:

- substantial increase in the allocation of funds for system rehabilitation and modernization;
- substantial increase of funds for O&M of the main network;
- substantial increase of funds for O&M of the on farm network;
- incentives to use allocated funds efficiently; and
- incentives to use water efficiently.

A new system of water management will have to be developed to accomplish all of the above requirements. Since this will take several years, the most pragmatic initial step is to increase cotton/wheat prices. Farmers will make more money and become more interested in improving the on farm irrigation service. Note that on farm water management has the highest potential for improving water use efficiency and therefore is the optimal starting point.

Eventually, below a certain cut off point, the responsibility for the system should shift completely to WUAs acting on behalf of farmers – users of irrigation services. Obviously, this would be a gradual process but it needs to start sooner rather than later. The draft prepared by the Cabinet of Ministers (2004) *“Program of Measures to Introduce Market Principles in the Utilization of Irrigation Water”* should be elaborated in detail, made available for public comments, finalized and phased in as soon as possible.

Over time, introducing market principles into irrigation water use should substantially improve the quality and efficiency of irrigation service. This initiative should take advantage of international experience with modern concepts of water rights and water markets.

To start with, it may be advisable to establish and to implement an explicit water right allocation (volume/time) for every hectare of irrigated land, allocation that could be traded. Also, this will bring the treatment of land and water issues together, rather than keeping them separate as up to now.

The explicit water right could be established using historical water delivery records. This is an important principle because with deterioration of the network, fields most distant from the canal turnout suffer increasingly from the “tail-ender syndrome.” There must be a strong incentive in the system to ensure water is allocated equitably throughout the command area. Establishing a specific water right will facilitate equitable allocation. However, it will take time to ensure this right could be made fully effective.

Eventually, shifting responsibility for irrigation and drainage to users will ensure sustainability and self-financing, although some areas requiring pumping may continue to rely on a government subsidy, which nevertheless should be explicit.

Increased water use efficiency could create a market for surplus water. Some WUAs may find it advantageous to sell bulk water, for example, to farmers that would like to expand their farms beyond the command area.

V. UNCERTAIN PROSPECTS FOR REFORM

This final chapter outlines two possible development scenarios and a roadmap for reform. In light of past experience, it suggests a minimum package on which further reform steps could be build. It outlines the likely financial support under the two scenarios and the roadmap, and in conclusion suggests improvements in the monitoring and evaluation of agricultural policies.

A. Development Scenario: Business as Usual

Based on the track record for over the past 10 years, it would be prudent to assume that the command and control system will remain in place for at least another 3-5 years. While farmers will get increasingly agitated, incomes will continue to stagnate or decline. More farm activities will shift into the informal sector. Rural infrastructure, especially the irrigation and drainage network, will continue to deteriorate. Private business in rural areas will remain marginal, limited largely to the informal sector. Rural unemployment and poverty will remain high and probably still increase. This scenario is expected to deliver the following results:

	Indicators		
	2005	2007-2010	2015s
Proportion of those employed in agriculture who are poor	50%	55%	60%
Proportion of rural population that is poor	70%	75%	80%
Annual income of cotton/wheat shirkats	(US\$4/ha)	(US\$8/ha)	(US\$12/ha)
Annual income of cotton/wheat family farms	US\$8/ha	US\$4/ha	US\$0/ha
Monthly wages of farm workers	US\$25	US\$25	US\$25
Annual agricultural GDP growth	1.5%	1.5%	1.5%
Annual agricultural productivity growth	stagnant	stagnant	stagnant
Annual cotton production	3.5 million tons	3.0 million tons	2.5 million tons
Annual rural non-agricultural GDP growth	none	none	none
Freedom of farmers to farm	restricted	restricted	restricted
Availability of inputs and services	rationed	rationed	rationed
Status of irrigation and drainage infrastructure	deteriorating	deteriorating	deteriorating
Access to credit financing	restricted	restricted	restricted
Degree of competition in output markets	monopolistic	monopolistic	monopolistic

In this scenario, most sector issues and constraints are traced to the prevailing command and control system. Over 80% of irrigated cropped land continues to be used for cotton/wheat. Excessive implicit taxation keeps cotton/wheat loss making.

Top constraints to agricultural growth and rural development include: (i) persistent gross interference of local government into farming activities; (ii) ambiguous property rights and insecurity of tenure; (iii) excessive level of implicit taxation; (iv) rationing of inputs and services financed by directed credit; (v) monopolistic output markets; and (vi) deteriorating irrigation and drainage infrastructure, which begins to show signs of an

acute crisis in the early 2010s (i.e., further increase in soil salinity and groundwater levels).

Due to slow progress with reform and an inhospitable business environment, already approved investment projects by the ADB and other international financial organizations will continue to experience serious implementation difficulties and new projects, most likely, will remain limited to small strategically important investments such as overhauling agricultural statistics, developing a universal land cadastre system, watershed/land erosion prevention, and reforestation. Also, micro-credit schemes could be useful to help create business opportunities in rural areas. However, such schemes should be structured to bypass local banks and government agencies.

Technical assistance support will focus on human resource development ranging from training of regional staff to internships abroad (e.g., WUA staff training in Turkey), to university scholarships for young professionals. In addition, technical assistance will be useful for exploring new investment opportunities and maintaining sector dialogue with the Government.

B. Development Scenario: Reform Through Crisis

Several events could trigger an acute economic crisis. One could be a balance of payments crisis triggered by poor cotton harvest combined with declining world market price of cotton, possibly further aggravated by declining precious metals prices, another important source of foreign exchange.

At that point, further tightening of the command and control system would become infeasible since it would only further undermine producer incentive and shift economic activity into the informal sector. A new approach will become necessary to avoid an economic collapse.

To respond effectively to a looming crisis, Government should have ready a contingency reform package for the agricultural sector. Timely introduction of such a package could avoid a potential breakdown of law and order and minimize disruptions, which would otherwise lead to further declines in farm production and incomes, and to an increase of rural poverty. However, even with a strong reform package, tangible real improvements in rural life will take at least 3-5 years to become apparent.

This reform package should focus initially on fostering private property rights and reducing implicit taxation. This will generate a supply response, increasing the value of agricultural production by a minimum of 30% over five years. Farm incomes will improve. Modest improvements of the irrigation and drainage network will begin largely with self help initiative by farmers and their WUAs.

Demonopolization and privatization will prove disappointing. However, private sector initiative will start to dominate especially in cotton processing. Cotton processing efficiency will improve dramatically and cost will decline by as much as 50%. Also, private business in rural areas will gradually expand to provide inputs, equipment, warehousing, and other services. Most foreign trade restrictions will be lifted. Foreign investors will become more active. Domestic banks will start benefiting from competition of fully licensed foreign banks. Rural employment will increase and poverty will decline.

C. Agricultural Sector Roadmap

Since commencement of this TA engagement, numerous consultations with stakeholders and focus groups have taken place to build a consensus on the future of agriculture and rural development. Overwhelmingly, these consultations reveal a widespread dissatisfaction with the reform process and a desire for change.

Most farmers, shirkat members and even some local administrators urge a faster shift in favor of market oriented agriculture. Still, most senior official in Government ministries, Oblast and Raion khokims support the command and control system at least in public statements, although in private they are increasingly concerned about the viability of current agricultural policy. The full account of consultations with stakeholders is provided in Part Two of Volume III of this report.

Consultations with stakeholders identified problems, causes, and possible solutions for improving the prospects for agriculture and rural development. A hint for a national consensus was revealed in a National Seminar on March 2, 2005 in Tashkent. The seminar focused on issues summarized in a Problems, Causes, and Solutions Matrix, which emerged gradually over the five months process.

In a modified decision tree analysis, the Matrix lists seven major topics: (i) institutional environment; (ii) prices, taxes, and subsidies; (iii) farm inputs and services; (iv) markets for agricultural output; (v) financing of agriculture; and (vi) irrigation and drainage infrastructure. Each topic lists the top problems, the top causes, and proposes appropriate reform measures (Annex 1, Main Report).

During the National Seminar, participants, all senior Government officials and other high profile stakeholders, were asked to fill out a questionnaire based on the Problems, Causes, and Solutions Matrix. Overall, 86% agreed with the definition of problems, 88% with causes, and 94% with proposed solutions. Based on the consensus revealed in part through the questionnaire, a reform package would consist of the following seven components:

1. Restricting local government interference into farming by ensuring farmers are required to deliver only a specific cotton/wheat quota and not be forced to plant specific areas under these two crops;
2. Fostering property rights by improving the security of tenure, making land leases tradable, inheritable, and more difficult to cancel, establish and implement a water right allocation for every piece of land recorded as irrigated;
3. Reducing the level of implicit taxation, fostering producer incentives by increasing farm gate prices to at least 80% of equivalent world market levels;
4. Phasing out rationing and phasing in markets for inputs and services, demonopolize government providers of inputs and services, permit market entry of private suppliers, phase out import restrictions;
5. Supporting market-based solutions to improve access to rural credit while phasing out directed credit for financing of inputs and

services;

6. Liberalizing of cotton processing and promotion of competition in output markets, demonopolize Uzhlopkoprom and permit market entry of private ginneries; and
7. Supporting gradual transfer of irrigation and drainage infrastructure to Water User Associations with the objective of it gradually becoming self-financing.

A consistent pursuit over time of each of the seven broad reform initiatives will produce the following results:

	Indicators		
	2005t	2007-10	2015
Proportion of those employed in agriculture who are poor	50%	37%	25%
Proportion of rural population that is poor	70%	50%	35%
Annual income of cotton/wheat shirkats	(US\$4/ha)	US\$500/ha	US\$1,000/ha
Annual income of cotton/wheat family farms	US\$8/ha	US\$800/ha	US\$1,600/ha
Monthly wages of farm workers	US\$25	US\$40	US\$70
Agricultural GDP growth	1.5%	5.0%	7.0%
Annual agricultural productivity growth	stagnant	robust	robust
Annual cotton production	3.5 million tons	4.0 million tons	5.0 million tons
Annual rural non-agricultural GDP growth	none	6.0%	8.0%
Freedom of farmers to farm	restricted	free	free
Availability of inputs and services	rationed	expanding choice	wide choice
Status of irrigation and drainage infrastructure	deteriorating	stabilizing	improving
Access to credit financing	restricted	limited	improving
Degree of competition in output markets	monopolistic	competitive	competitive

Although inadvisable at this time because of uncertain commitment to reform, an Agricultural Sector Development Program would be the best instrument to support a robust reform package. Ideally, the World Bank and other donors with additional balance of payments support would make the prospects for success of the reform package even brighter.

If successful, the Sector Development Program will help to develop a hospitable business environment. Specific investment projects and direct private investment will follow. Financial support of international financial institutions will at least double and, most importantly, provide a signal for substantial increase of direct foreign investment.

D. Financial Support for Reform

This section lists a menu of financial support options for agriculture and rural areas. The choice depends mainly on the Government track record and commitment to reform.

1. Strong Reform Commitment Drives Strong Financial Support

With strong government commitment to reform, it should be possible to tackle key obstacles to agricultural growth by a comprehensive reform package through a Sector Development Program complemented by several investment projects. Although unlikely at this time, this would be the best way of moving forward.

Agriculture Sector Development Program. The aim is to support government effort to improve incentives for agricultural producers by phasing out the command and control system and phasing in competitive markets. The main components will deal with the key sector issues including: (i) persistent gross interference of local government into farming activities; (ii) ambiguous property rights and insecurity of tenure; (iii) excessive level of implicit taxation; (iv) rationing of inputs and services financed by directed credit; (v) monopolistic output markets; and (vi) deteriorating irrigation and drainage infrastructure

The financial package should compensate a temporary tax revenue loss caused by reforming the cotton/wheat production mandate or at least \$200-300 million. It could be a part of a large reform package put together with the participation of the World Bank and the IMF.

Importantly, the news of a strong reform program is likely to reinvigorate interest of foreign investors, which should be the real engine to accelerate rural development. DFI will most likely get involved in improving the links between the farm fields and foreign markets, such as processing, warehousing, logistics, transport and distribution.

A successful start of fundamental reforms under the sector development program should be followed quickly by investments in improving rural infrastructure, especially the irrigation and drainage network coupled with a transfer of responsibility for network management to WUAs.

Water Resources Management Project. The project consists of the following components: (i) transfer of responsibility for irrigation & drainage facilities to Water Users Associations; (ii) rehabilitation and improvement of irrigation and drainage network; (iii) provision of training and technical support to ensure success of WUAs; (iv) monitoring and evaluation through socio-economic and environmental surveys to facilitate replication irrigation & drainage facilities transfer into a countrywide process. The preliminary cost of such a project is about \$500-\$1,000 per ha of irrigated land.

Warehouse Receipts Project. This project would improve farmers' access to cash and credit using cotton, wheat, and other agricultural commodities as collateral. A good commercial instrument facilitating rapid access to collateralized farm credit is the introduction of warehouse receipts.

The scope of the project is to introduce a warehouse receipt - a financial instrument - to facilitate trade and inventory financing through collateralization of commodity inventories. Stored commodities will be pledged as collateral for loans increasing thus the availability of credit for agriculture. The estimated cost of the project is \$20 million.

Investment Program in Agriculture and Food Processing Industry. This project would (i) analyze the investment climate of the country and work out measures for its improvement, (ii) train personnel in every oblast, (iii) elaborate a development strategy

for every oblast, (iv) set up regional investment programs, (v) work out investment profiles for enterprises (vi) prepare promotional material, (vii) approach the investors. This project is designed not as a stand alone activity but as a module to support other project ideas in the area of investments.

Preliminary estimate of project cost is US\$16.5 million. ADB funds will be used by government as its counterpart contribution to leverage foreign investment that might be guaranteed through, for example, the American OPIC, German Hermes, or other foreign investment insurance agencies. A leverage ratio of 85 (foreign investor) to 15 (Government) is foreseen.

Fruit and Vegetable Improvement Project. The high development potential of the fruit and vegetable sector will be improved by (i) a targeted line of credit for on-farm investments; (ii) technical assistance for fruit and vegetable production; (iii) development of quality and packaging standards, improvement in handling and storage, market analysis and information; and (iv) technical and financial assistance for fruit production. Estimated cost is to be determined.

Livestock Improvement Project. The aim of this project is to (i) improve fodder production; (ii) improve the feed industry; (iii) support the National Cattle Breeding Association; (iv) support the National Karakul Breeding Association; and (v) carry out investments in the livestock sector. Estimated cost of the project is US\$40 million.

2. Limited Commitment to Reform Limits Financial Support

Judging by the track record of the past ten years, reforms of the agricultural sector may continue on the gradual path with commitment to reform in doubt in many of the key reform areas, especially the cotton/wheat mandate. Foreign investment inflows will remain deeply suboptimal.

So far, most of foreign financial support to reforms in the agricultural sector has been channeled to a number of pilot projects. The preparation of these projects has consumed a large amount of resources and time. For example, it took about eight years from identification to awarding the first sizable contract under the Ak Altin Agricultural Development Project. Still, there is little visible progress neither in the improvement of physical infrastructure nor in the lives of Ak Altin farmers. At best, pilot projects generate modest benefits. However, it is unclear when the lessons from the pilots will be adopted countrywide.

Judging by the record of the past ten years, financial support will be targeted for smaller pilot infrastructure projects similar to the Ak Altin Agricultural Development Project or projects supporting institutional components of reform such as a Land Cadastre Project or a Land Improvement project, both in PPTA preparation phase.

Agricultural Statistics Project/Agribusiness Information Services. This project will establish a new system of agricultural statistics. It will replace the obsolete system of Annual Reports presented by all shirkats by a modern sample based statistical approach. A stratified sample of shirkats and family farms will be established. Respondents will be trained in taking precise records of their activities. They will be paid and audited to ensure honesty and accuracy of reporting. Estimated cost is about US\$2.6 million.

Registration and Cadastre Project. The objective of the Registration and Cadastre Project is to improve the coverage, completeness, accuracy and responsiveness of the cadastre and real property registration systems and thus contribute to the development

of secure tenure of real property and an efficient real property market. The Cadastre system development component will help the Cadastre Agency to design and implement a unified national cadastre system including office renovations, archives creation, equipment, and technical assistance. The property registration system development component will support capacity building in the district courts and the Ministry of Justice for the implementation of the new real property based registration system. Third component, cadastre and property registration will support mass registration and the joint conversion of parcels in the operation of the new property-based registration and cadastre systems, plus the creation of an effective data link. The component will support the construction and measurement of control points as part of a Geodetic network. The project management and development of a policy and legal framework component will provide partial support for the project implementation unit, training activities, and technical assistance.

Micro-Credit Project. This project will target the rural poor through a standard micro-credit scheme. The project will bypass commercial banks and government agencies.

Watershed/Land Erosion Prevention and Reforestation. This project will focus on minimizing land erosion and improvement of watersheds by reforestation and other measures applying concepts of social forestry design.

Extension Project. A demand-oriented farmer related extension service will be implemented. The project has the following objectives: (i) institutional strengthening of Farmer's Associations, (ii) training of staff in methodology of extension, (iii) operation of extension service on an experimental basis in order to adjust it to local conditions, (iv) production of educational and information materials, (v) coordination with other institutions (research, education). This project is designed not as a stand alone activity but as a module to support other projects. The total cost of a pilot project is US\$2.5 million.

Media Project. This project will utilize TV, printed matter and radio as mass media to produce a series of programs addressing agricultural techniques, development and reform issues in Uzbekistan. The produced programs will transmit information in combination with entertainment. The level of knowledge and skills in managerial, technical, financial and entrepreneurial areas will be raised. Estimated cost is about US\$4.5 million.

The following table summarizes the necessary conditions for success of the proposed menu of investments.

Projects	Preconditions for Success					
	price liberalization	trade liberalization	competition in input/output markets	autonomy of producers and property rights	business environment conducive for privatization	access to credit
1. Agricultural Sector Development Program	will assist in establishing preconditions					
2. Water Resources Management Project	✓	✓	✓	✓	✓	✓
3. Warehouse Receipts Project	✓	✓	✓	✓	✓	✓

4. Agricultural and Food Processing Industry Project		✓	✓	✓	✓	✓
5. Fruits and Vegetable Improvement Project	✓	✓	✓			✓
6. Livestock Improvement Project						
7. Agricultural Statistics Project						
8. Registration and Cadastre Project						
9. Micro Credit Project						
10. Watershed Management Project						
11. Extension Project				✓	✓	
12. Media Project						

E. Performance Monitoring and Evaluation

A reliable system of agricultural statistics – good factual information – is essential for good policy decisions. Developing such a system should be a top policy priority. Different methodology, systems, and skills will be needed with the increasing number of family farms, which have already surpassed 100,000. The old system of Annual Reports submitted by shirkats will no longer work. A new system of performance monitoring of the agricultural sector should gradually take over.

1. Accounting for Performance in a Green Report

In many countries, the Minister of Agriculture comes before Parliament every year with the so called Green Report at the time of budget negotiations. This report provides an overview of Government policy and a comprehensive status of the sector. It includes a macro as well as micro overview of the sector, including calculations such estimates of direct and indirect taxation of the sector. On the basis of this report, the sector receives support from the Government budget.

Ideally, the Green Report should become the key document guiding agricultural policy and ensuring transparency and access to information to all involved. Setting up the process is rather complex but it produces long term benefits in making policies clearer and better understood. Preparing the Green Report is a full time work effort of a core team of five professionals and a large number of collaborators (about 25) working to a very rigorous time schedule.

2. New Reliable System of Agricultural Statistics Needed

Agricultural statistics need substantial improvement. Shirkat methodology is based on evaluating the entire population of farms. Family farms need to be based on statistical sampling methods. The Office of Statistics needs to determine a representative statistical sample of the family farm population and collect information on a systematic basis.

This system needs to be built. This will include training of local agricultural officials and farmers in record keeping, paying selected farmers for this extra work, and auditing them to make sure they don't cheat. This is a policy priority. Solid information is power and

could help change things since facts are difficult to argue about. The current ways of collecting information about family farms is ad-hoc with all its adverse side effects.

Also, solid information about financial performance of farms serves a useful public service function. For example, it serves as a benchmark for other farmers to compare themselves to those in the sample.

SECTOR ROADMAP¹

PROBLEMS, CAUSES AND SOLUTIONS FOR MORE PROSPEROUS UZBEK AGRICULTURE

INSTITUTIONAL ENVIRONMENT

PROBLEMS	CAUSES	NEEDED REFORM MEASURES
<p>Farmers operate under government mandate to produce cotton/wheat and failure to respect it implies eviction from land.</p> <p>Government disregards cooperative principles of shirkats (e.g., imposes a director).</p> <p>Local government officials frequently infringe on already limited rights of shirkats and family farmers.</p>	<ul style="list-style-type: none"> • Much of the command and control system persists with monopolistic input and output markets for cotton and wheat farmed on over 80% of irrigated cropped land. • Most other activities in rural areas are distorted by the command and control system, which in many ways extends beyond cotton/wheat. 	<ul style="list-style-type: none"> • Gradually replace the command and control system by competitive markets. • As a possible first step, change Government cotton/wheat mandate interpreted at farm level as areas planted to simple volume quotas as already successfully tested in six pilot Raions.
<p>Ambiguous land use rights facilitate eviction of farmers from land by local government officials.</p> <p>Prospective farmers bid for land only by their skills and future labor commitment.</p>	<ul style="list-style-type: none"> • Ambiguous land and property rights are an enforcement tool of the prevailing command and control system. • With secure private property rights, the command and control system will break down quickly. 	<ul style="list-style-type: none"> • Establish a regulatory system for the use and protection of land compatible with market principles.
<p>Although physically closely linked, institutionally land and water issues are treated separately.</p>	<ul style="list-style-type: none"> • Poor governance, poor leadership, lack of foresight into the possible consequences of future reduced efficiency of land and water resources. 	<ul style="list-style-type: none"> • Establish and implement water right allocation for every piece of land recorded as irrigated. • As a possible first step, develop rules under which water allocation for a specific piece of land will be applied. A pilot project could be useful.

¹ In a high level National Seminar held on March 2, 2005 in Tashkent, participants were asked to fill out a questionnaire based on this matrix. Overall, 86% agreed with the definition of problems, 88% with causes, and 94% with proposed solutions.

PRICES, TAXES AND SUBSIDIES

PROBLEM	CAUSES	NEEDED REFORM MEASURE
Lack of producer incentives, most shirkats and family farms are either loss making or barely breaking even, a symptom of excessive taxation.	<ul style="list-style-type: none"> Excessive implicit taxation through low prices for cotton and wheat forced on farmers by Government mandate. High prices and poor quality of inputs and services rationed by Government monopolies for the production of cotton and wheat. Abuse of farmers by Government procurement agencies (e.g., Uzhlopkoprom). Foreign trade restrictions. 	<ul style="list-style-type: none"> Support market-based price formation, e.g. use the Tashkent Commodity Exchange as the focal point of price formation for cotton and wheat. Demonopolization, privatization, private sector development is needed to promote competition and market prices. Gradual foreign trade liberalization. As a possible first step to improve incentives, increase cotton/wheat prices by 80% and switch to production volume quotas.
<p>Increasingly, producers try to outwit and/or avoid the formal sector of the economy, a symptom of excessive taxation.</p> <p>More transactions take place through barter, payment in kind, etc., a symptom of excessive taxation.</p>	<ul style="list-style-type: none"> Excessive implicit tax on cotton/wheat (annually US\$1.0 billion). High tax of 47% on agricultural wages for contributions to social security, retirement, unemployment insurance, professional association fees, and other fees. 	<ul style="list-style-type: none"> Shift from implicit taxation of cotton/wheat to direct explicit form of agricultural taxation. One option is to make the single land tax the main instrument of agricultural taxation. A number of other options are available, all superior to the current system.

FARM INPUTS AND SERVICES

PROBLEM	CAUSES	NEEDED REFORM MEASURE
<p>Inputs and services rationed to farmers according to MAWR norms on a cost-plus basis with a take it or leave it attitude.</p> <p>Leakage into the informal sector increases the cost of inputs and services in the formal sector.</p>	<ul style="list-style-type: none"> • Rationing of inputs and services is an integral part of the command and control system. • Private suppliers cannot compete with Government monopolies. • Farmers' limited ability to pay makes providers of alternative supplies and services rare species. 	<ul style="list-style-type: none"> • Demonopolization, privatization, private sector development to promote competition in input and services supply. • Phasing out protection of domestic industries from foreign imports.
<p>Availability of suitable farm equipment keeps declining.</p> <p>Renting farm services is expensive and unreliable.</p> <p>Lack of suitable small scale farm equipment for dekhani farmers.</p>	<ul style="list-style-type: none"> • Farmers cannot afford new equipment because of low incomes. • Machinery services are provided by Uzagromachservice, a national monopoly, on a cost plus basis. They are expensive especially because of high depreciation charges stipulated by Law. • Latent demand by dekhani farmers for light farm equipment is stifled by excessive import tariffs and a void in the domestic manufacturing base. 	<ul style="list-style-type: none"> • Farmers need to make normal profits to be able to buy or rent equipment, or order machinery services. • Review and adjust mandatory depreciation allowances. • Foreign trade liberalization, e.g., permit imports of light farm equipment for dekhani farms.

MARKETS FOR AGRICULTURAL OUTPUT

PROBLEM	CAUSES	NEEDED REFORM MEASURE
<p>All cotton and 50% of wheat is subject to an administrative delivery mechanism which is crowding out competitive markets into the informal sector.</p> <p>Smuggling of raw cotton across national borders is a symptom of excessive taxation.</p> <p>Farmers try to sell directly to consumers to avoid monopsonistic processing industries.</p> <p>Selling to agri-processing enterprises implies low prices and uncertain payment.</p>	<ul style="list-style-type: none"> • The prevailing command and control system is a poor substitute for a market mechanism. • Monopsonistic buyers dominate agri-processing, operating on a cost plus basis, protected from import competition. • Farmers lack market power, there are no marketing cooperatives. Farmers mostly sell individually on an opportunistic basis. 	<ul style="list-style-type: none"> • Demonopolization, privatization, private sector development to promote competition in agricultural output markets. • Promote efficient link between producers and foreign buyers. • Reinvigorate interest of foreign investors in exports of fresh and processed agricultural products. • Promote genuine cooperatives.
<p>Real risk to consumers by difficulty of enforcing food safety standards (e.g., selling milk and meat directly from the farm to consumers).</p>	<ul style="list-style-type: none"> • Selling directly from the farm bypasses food safety checks and causes health risks to the population. 	<ul style="list-style-type: none"> • Promote incentives for farmers to sell through competitive agri-processing businesses.
<p>Exports of farm products other than cotton are difficult to organize on a sufficient scale. Exports of fruits and vegetables are mostly opportunistic rather than systematic.</p>	<ul style="list-style-type: none"> • Weak capital base of exporters, lack of consistent quality standards and volume, poor packaging. • Interference by state holding companies. 	<ul style="list-style-type: none"> • Enhance the competitiveness in agro-industrial sector. • Promote genuine cooperatives in exports of fruits and vegetables. Export revenue from this business could in a few years dwarf cotton exports.

FINANCING AGRICULTURE

PROBLEM	CAUSES	NEEDED REFORM MEASURE
Average shirkat lost Soums 4,000 for every hectare planted to cotton and wheat in 2003. Average family farms made about Soums 8,000/ha planted to cotton and wheat in 2003.	<ul style="list-style-type: none"> The command and control system makes cotton and wheat production loss making and therefore undeserving of commercial credit. 	<ul style="list-style-type: none"> Enable shirkats and farmers to make normal profit, which will make them credit worthy.
A major problem for banks is high cost of service, opaque credit approval procedures, and most importantly reliance on Government funds rather than deposits from clients.	<ul style="list-style-type: none"> Banks are forced into a position of paymaster and an additional element of Government control, e.g., collecting taxes for the Government, often without the knowledge of the account holder. Local banks operate in an oligopolistic environment protected from foreign competition. 	<ul style="list-style-type: none"> Banking reform should accelerate. Foreign banks should be given a license to operate including taking deposits and offer standard commercial services.

IRRIGATION AND DRAINAGE INFRASTRUCTURE

PROBLEM	CAUSES	NEEDED REFORM MEASURE
Although physically linked, land and water issues are treated separately.	<ul style="list-style-type: none"> No concept of a water right associated with a specific plot of farm land exists. Little has been done to apply modern concepts of water rights and markets. 	<ul style="list-style-type: none"> Establish and implement water right allocation for every piece of land recorded as irrigated, possibly using historical water delivery records.
<p>Inefficient water distribution and delivery.</p> <p>Increasing salinity and groundwater levels. About 65% of all irrigated land is saline to some degree, an increase of 15 percentage points over the last few years.</p>	<ul style="list-style-type: none"> Poor technical conditions caused by years of funding O&M only to about 50% of technical engineering requirements. Serious leakage of Government funds targeted for O&M through opaque procurement procedures. 	<ul style="list-style-type: none"> Funding of O&M and rehabilitation of decayed parts of the system need to receive proper funding. Ensuring scarce Government funds are spent efficiently (e.g., honest procurement procedures).
<p>Disinterest in efficient water use.</p> <p>Using Israel as a benchmark of irrigation efficiency, Uzbekistan could more than double its irrigated areas.</p>	<ul style="list-style-type: none"> Irrigation is provided and paid for by the Government. Government not farmers would benefits from more efficient water use. 	<ul style="list-style-type: none"> Payment for irrigation service is essential for improved efficiency of water use. Responsibilities for specific parts of the infrastructure need to be clearly defined and enforced.
<p>Inability of farmers to pay for irrigation services.</p> <p>Irrigation service payment under current circumstances will only increase farmers' debts.</p>	<ul style="list-style-type: none"> The command and control system leaves farmers with no income to pay for irrigation. 	<ul style="list-style-type: none"> Phase out the command and control system in favor of competitive markets. Make farmers interested in improving the irrigation and drainage infrastructure by giving them an opportunity to make money in farming.
The task for on farm water management and O&M is too large for fledgling water user associations (WUAs).	<ul style="list-style-type: none"> WUAs have neither the technical endowment nor the income to do much except help with distributing water. Government promotes WUAs as a solution for on farm water management. 	<ul style="list-style-type: none"> WUAs should gradually take over the irrigation and drainage infrastructure, on farmers' behalf. O&M should become fully funded from farmers' own resources.

VI. Priority Reform Measures and Recommendations Developed by Focus Group in a Two Day Seminar on February 11-12, 2005 in Tashkent

1. Improve legal basis to safeguard farmers from interference into their activities and financial transactions by officials using the command and control system.
2. Provide land plots for lease with the rights to sell/buy leasing rights.
3. Improve price and tax policy.
4. Adopt special decision to develop effective mechanisms of payments for agricultural output.
5. Develop an action plan for government support to alternative service companies in agricultural sector.
6. Provide support to boost markets and export of products.
7. Improve legal basis and economic mechanisms to ensure rational management and use of water resources, land improvement, and prevent degradation. Enhance the status of WUAs.

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Agricultural Sector Review and Planning

VOLUME II: POLICY NOTES AND COMMENTS

**Prepared for the Asian Development Bank and the Ministry of Economy of the
Republic of Uzbekistan**

(TAR: UZB 37148)

March 12, 2005

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Agricultural Sector Review and Planning

A. Policy Notes

Policy Note 1: Results of Agricultural Development Since Independence

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

March 12, 2004, Tashkent

Crop Production

The main sowings of agricultural crops in Republic of Uzbekistan are made on irrigated land annually within the limits of 3.6 million. ha, however in low water years (2001-2002) sowings made 3.3 million ha. Usage of irrigated land under sowings of agricultural crops is from 85 up to 95 percents, depending on water provision of year and usage of not irrigated land.

Table №1. Areas under agricultural crops for 1991-2003r. (000' ha)

Indexes	Years						
	1991	1993	1995	1997	1999	2001	2003
Crops in all types of land	4,200	4,230	4,165	4,141	4,020	3,444	3,790
Including:							
-irrigated	3,557	3,571	3,571	3,589	3,565	3,267	3,400
-rainfed	643	659	594	552	455	177	390
Net weight of sowings in %							
-irrigated	84.7	84.4	85.7	86.7	88.7	94.8	89.7
-rainfed	15.3	15.6	14.3	13.3	11.3	5.2	10.3

Source. State Committee on statistics of Republic of Uzbekistan

The republic of Uzbekistan is characterized by the fact, that 97-98 percents of its all crop production is made on irrigated land, the area of which makes 4.3 million. ha.

Except for irrigated land, rainfed lands are also used in the republic (not irrigated land), located in foothill zone, which are supplied by natural precipitations permitting to grow not moisture-loving agricultural crops.

Till 1996, the sowings of agricultural crops on rainfed land made not less than 600 thousand ha. The subsequent years the sowings on rainfed land started reducing, with allowance for their supply by precipitations, and output of agricultural production from one hectare. Basically, grains and forage crops are cultivated on rainfed land. Rainfed lands are located in 6 areas of republic: Dzhizak, Kashkadarinskai, Samarkand, Tashkent, Navoi, and Surkhan-Darya.

The are of all agricultural crops cultivated on irrigated and rainfed land on areas of republic for 1991-2003 years are shown in the Appendix №1.

Considerable changes took place in structure of sowings of agricultural crops in Uzbekistan during years of independence. Sowings of grain crops, and first of all wheat have increased significantly, at the expense of a decrease of sowings of industrial crops (mainly cotton plant), and in the greater degree at the expense of reduction of sowings of forage crops - more than three times.

Table №2. Structure of sowings of agricultural crops on irrigated land, on all categories of farms for 1991-2003 years, in % of all cropped areas.

Indexes	Years							2003 to 1991 +,-
	1991	1993	1995	1997	1999	2001	2003	
Grain and cereals, total	14.9	19.2	31.8	37.9	38.1	38.4	42.3	+27.4
Including:wheat	4.3	8.4	22.0	29.2	30.9	34.0	36.8	+32.5
Technical crops, total.	49.4	48.4	42.6	42.8	43.9	45.5	42.0	-7.4
including: cotton	48.3	47.5	41.8	42.1	42.6	44.4	41.0	-7.3
Potato, vegetables and melons	8.0	6.9	6.7	6.1	6.4	6.7	6.9	-1.1

Including: potato	1.1	1.2	1.3	1.6	1.4	1.6	1.4	+0.3
Vegetables	4.6	4.3	4.2	3.6	3.9	4.0	4.3	-0.3
Melons, pumpkin	2.1	1.2	1.0	0.8	1.1	1.0	1.1	-1.0
Forage crops	27.7	25.5	19.2	13.1	11.6	9.4	8.8	-18.9
Including: Lucerne	17.2	15.4	11.5	7.5	6.1	5.0	3.8	-13.4

Source. State Committee on Statistics of Republic of Uzbekistan

On rainfed land, about 80-90% make sowings of cereal and grain crops - wheat and barley, the small specific weight is taken by industrial crops (safflower, sesame), and forage crops make within the limits of 10%.

The Structure of sowings of agricultural crops on all categories of farms on irrigated and rainfed land for 1992-2003 years is shown in the Appendix №2.

Grain Production

Table №3. Total harvest of grain crops on all categories of farms for 1991-2003

Indexes	Unit	1991	1995	2000	2003	2003 to 1991	
						+, -	%
Total grain crops	Th.tons	1,908	3,215	3,930	6,103	4,195	319.9
Out of which:	Th.tons						
Cereals	Th.tons	942	2,680	3,620	5,594	4,652	593.8
Including: wheat	Th.tons	610	2,347	3,532	5,437	4,827	891.3
Corn	Th.tons	431	186	131	146	-285	33.9
Rice	Th.tons	515	328	160	334	-181	64.9
Pulses	Th.tons	6	7	9	18	12	300.0
Other	Th.tons	14	14	10	11	-3	78.6
<i>Specific weight of grain crops</i>							
Total grain crops	%	100	100	100	100	0	
Out of which:							
Pulses	%	49.4	83.4	92.1	91.7	42.3	
Including wheat	%	32.0	73.0	89.9	89.1	57.1	
Corn	%	22.6	5.8	3.3	2.4	-20.2	
Rice	%	27.0	10.2	4.1	5.5	-21.5	
Cereals	%	0.3	0.2	0.2	0.3	0.0	
Other grain	%	0.7	0.4	0.3	0.2	-0.6	

Source: State Committee on Statistics of Republic of Uzbekistan

From grain crops in Republic of Uzbekistan they grow wheat, barley, rye, rice, corn and cereals. Program of grain independence and self-maintenance by grain products was also developed in republic in 2000.

In 2003, production of grain crops has reached 5.6 million tons, as contrasted to 1991, the gain has compounded 4.6 million tons, or in 5.9 times more, and on irrigated land in 10 times. Thus the growth of production reaches at the expense of increase of productivity in 2.9 times, from 1.19 ton / ha up to 3.48 ton / ha, and increase of an area under crop in 1.8 times. The appendixes №3-4.

Table №4. Production of grain crops on all categories of farms for 1991-2003 years

Indexes	Unit	1991	1993	1995	1997	1999	2001	2002	2003
Total harvest of cereals	Th.tons	942	1,175	2,680	3,222	3,716	3,825	5,190	5,594
Inc. Irrigated land	Th.tons	523	760	2,345	3,017	3,509	3,788	5,007	5,274
Rainfed	Th.tons	419	415	335	205	207	37	183	320
	Th.tons								
Total wheat harvest	Th.tons	610	876	2347	3,073	3,602	3,690	4,967	5,437
Including irrigated	Th.tons	356	614	2112	2,898	3,422	3,660	4,867	5,200
Rainfed	Th.tons	254	262	235	175	180	30	100	237
<i>Wheat net weight</i>	%	64.8	74.6	87.6	95.4	96.9	96.5	95.7	97.2
Inc. Irrigated	%	68.1	80.8	90.1	96.1	97.5	96.6	97.2	98.6
Rainfed	%	60.6	63.1	70.1	85.4	87.0	81.1	54.6	74.1
Yield of pulses	t/ha	1.19	1.20	1.89	2.06	2.56	3.00	3.70	3.48
Inc. Irrigated land	Th/ha	2.10	1.96	2.62	2.75	3.13	3.27	4.15	4.17
Rainfed	Th/ha	0.78	0.70	0.64	0.44	0.63	0.31	0.94	0.93
Wheat yield	Th/ha	1.25	1.26	2.02	2.11	2.59	3.08	3.91	3.64
Inc. Irrigated land	Th/ha	2.30	2.05	2.69	2.78	3.13	3.31	4.17	4.19
Rainfed	Th/ha	0.76	0.66	0.62	0.42	0.61	0.32	0.96	0.94

Source. State Committee on Statistics of Republic of Uzbekistan

The policy of grain independence, directional on achievement of food security of country has allowed refusing import of a food grain. If in 1991-1992 years the wheat import made annually about 4 million tons, in 1996 it has gone down to 1.8 million tons, in 1998 -0.75 million tons, and the subsequent years practically food wheat was not bought. Small quantity of elite wheat was bought for variety renovation

However, this policy has resulted in following consequences:

- Reduction of the foreign exchange earnings from export of a cotton - fiber, as part of areas under crop used under sowings of a cotton plant were given for wheat cultivation. In 2003 sowings of a cotton plant, as contrasted to 1991 were reduced by 19 percents.
- The negative Structure of sowings of agricultural crops has resulted in a decrease of fertility of soil, and deterioration of ameliorative condition of land. If the sowings of forage crops made 27% in 1991 in structure of sowings on irrigated land, in 2003 it has gone down to 8%, and the sowings of an alfalfa - main crop rotation crop from 17% have decreased up to 4%. It was largely shown in deterioration of fertility of soil, decrease of a land quality of locality from 58 up to 55 (under the data of Goscomzem (Land Committee), and as a consequent to lowering of productivity of a cotton plant, and other agricultural crops.
- Production of rough and juicy forages has considerably decreased.

Some regulated by state rules, negatively impacting rural economics, like targeted and command-distributive policy of former Soviet Union, still remains in an agriculture of republic.

Annually, orders of a Cabinet of Ministers of Republic of Uzbekistan (appended) are given to agricultural firms and farms on the parameters of arrangement of sowings of the main agricultural crops - cotton plant, grain crops and rice, including also production target of crops, yield and volumes of purchases of production, and seeds which have to be provided in state resources. Before crop harvesting, the procurement list prices are established on purchased production, which is frequently much lower than market prices.

Until 2004, the volumes of purchases of grain crops (marketable grain) were established at a rate of 50% from a target of its production. Indeed in the Cab.Min orders of Republic of Uzbekistan, the volumes of purchases in state resources of a marketable grain crops of 1996 and 1997 made 50% from a task on a total harvest. However, with 1998 for 2002 this parameter on republic made 55-56%, and on many areas the merchantability made 60-70%. For 2004, Cab.Min order from October 6, 2003 defines, that the purchases of grain crops should not exceed 50% from an actual volume of production of grain! Remaining with farms volumes of grain can be bought for state needs only with the consent of agricultural firms.

Except for a marketable grain, the state buys a seed grain, in bulk 6-8 percents from a total harvest, under the higher prices.

Table №5. Merchantability of grain crops for 1996-2003.

Indexes	Unit of measurement	1996	1997	1998	1999	2000	2001	2002	2003
Meeting grain production target	%	58	68	78	77	70	77	104	103
Meeting target on delivery of a marketable grain	%	81	105	96	101	89	96	104	99
Merchantability									
Target	%	50	50	57	55	56	55	56	54
Actual	%	70	77	70	71	73	69	55	52

Source: calculation by the author

The actual volume of purchases of a marketable grain from its production was higher than 70% till 2001, with its further decrease by 2003. On many areas, the level of purchases of a grain in state resources made more than 80%, and on separate areas more than 90%. The main causes of which was the fact, that those years there were rather high task on productivity and production of grain crops, when the farms executed task on the average on 70%, but had to execute contracts, defined by agreements of contracting.

The parameters of production of grain crops by agricultural firms and farms on areas of republic for 1998-2003 years are appended in the Appendix №5.

Basically, wheat of mild varieties is cultivated and bought in Uzbekistan at the price of class-3.

Table №6. The prices for wheat crops in 1996-2003 (000' soum per ton)

Indexes	1996	1997	1998	1999	2000	2001	2002	2003
List price								
Class-3 mild wheat		7,140	11,000	15,840	21,810	33,660	52,950	61,000
Actual prices								
Food grain	4,197	8,897	11,789	17,280	23,906	37,989	58,288	66,445

Including:								
List price	3,253	7,167	10,566	15,570	21,485	33,405	52,560	59,022
Contractual	5,271	10,827	13,090	19,101	26,663	42,648	63,331	73,813
Contractual price in % to prev	162.0	151.1	123.9	122.7	124.1	127.70	120.5	125.1
Market price	10,581	22,621	26,440	52,804	77,166	116,032	99,645	92,604
<i>Market price in %</i>								
<i>To average procurement</i>	252.1	254.3	224.3	305.6	322.8	305.4	171.0	139.4
List price	325.3	315.6	250.2	339.1	359.2	347.4	189.6	156.9
Contractual	200.7	208.9	202.0	276.4	289.4	272.1	157.3	125.5

Source: "Uzdonmahsulot"

The payment for a marketable grain prepared for the state at a rate of 50% from a volume of purchases, is paid by fixed list prices depending on its quality. The purchased grain over 50% of volume, and over this volume is paid for a contractual price, which till 1998 was above list price on 50 percents, and from a crop of 1998, and till the present time, on 20 percents.

Till 2002, the mean procurement prices on wheat were in 2.5-3 times below, than prices developing in the markets of republic. The high merchantability of purchases of a grain in state resources, did not allow farms to use this advantage, as grain practically did not remain in their disposal. The procurement prices have considerably approached to market in 2003-2004.

Wheat production for agricultural firms on republic is not unprofitable as a whole, but also not highly profitable. In 2003, the agricultural firms have sold 2,182 thousand tons of wheat, the cost price of 1 ton has compounded 69,270 soum, at a mean selling price 76,398 soum, and the profitability has compounded 10%.

Dehkan farms, which make more than 800 thousand tons of grains crops, as against agricultural firms and farms, do not sell grain to the state, and will use it for own needs, and about 20% sell in the markets.

Alongside with production of grain crops, rice, being one of key products of a feed of the population of country, takes the relevant value in republic' production. The main sowings of rice are concentrated in specialized farms of Republic Karakalpakstan and Khorezm area, the small areas of sowings of rice are in the Tashkent, Syr-Darya and Surkhan-Darya areas. As well as on grains crop, farms are given tasks on allocation of sowings, production and purchases in state resources.

Production of rice, as against other agricultural crops, depends on water-security in vegetation season.

Inset №1. The most arid years in republic were 1995, 1997, 2000, 2001 and 2002, first of all for farms of republic Karakalpakstan and Khorezm area. So, if till 1997 the area under crop of rice in farms of Karakalpakstan made not less than 100 thousand ha, in 2000 it has gone down to 60 thousand ha, in 2001 up to 5 thousand ha, in 2002 up to 24 thousand ha. However, from areas under crop, only 13% of areas were left for harvesting in 2000, and in 2001 –only 20%. These years the majority of farms have received less crops, than they have spent seeds for sowing of rice. In 2002, the harvesting area has compounded 82%. The similar situation was in farms of the Khorezm area.

Rice Production has considerably reduced as a result in republic for the last years. Like more than 500 thousand tons of rice was annually produced in 1991 for 1994, but in 2001-2002 years it has decreased in 2-3 times.

The parameters of areas under crop, productivity and total harvest for 1991-2003 on areas of republic are appended in Appendix № 6.

Corn is the third on the significance grain crop produced in republic, which is mainly used as forage grain, and for making of mixed fodders. The areas under crop under this culture were step-by-step reduced since 1991, and the sowings were reduced by 2003 more than three times. Production of a grain of corn accordingly has gone down from 430 thousand tons in 1991, to 145 thousand tons for the last years.

Industrial Crops.

The cotton plant is traditionally main technical crop in republic, the areas under which make 96-97% from sowing of all industrial crops, Appendix №7.

Table №7. Production of raw cotton for 1990-2003 years

Indexes	Unit of meas.	Years						
		1990	1991	1995	2000	2001	2002	2003
Target								
Cultivated area	Th.ha	1,830	1,650	1,500	1,425	1,435	1,388	1,360
Yield	Ton/ha	2.70	2.70	2.67	2.65	2.65	2.70	2.65
Gross harvest	Th.tons	4,940	4,437	4,000	3,900	3,796	3,750	3,600
Actual								
Cultivated area	Th.ha	1,830	1,731	1,493	1,445	1,452	1,421	1,393
Yield	Ton/ha	2.76	2.70	2.64	2.18	2.33	2.27	2.06
Gross harvest	Th.ton	5,058	4,646	3,934	3,002	3,270	3,165	2,822
Meeting the target	%	102	105	98	77	86	84	78

Source. State Committee on Statistics of Republic of Uzbekistan

Medium fiber variety of a cotton plant is mainly grown in republic. Share of thin-fiber varieties, which are produced in southern regions of republic, make less than 10% from all production of cotton.

The forecasting of cotton production is similar to grain crops, and also set by the orders of Cab.Min; the tasks on its production are annually established. The analysis of forecasting parameters (task) of productivity and total harvest demonstrates, that the productivity is annually established at a level of 2.7 tons from one hectare, which corresponded to actual in 1990-1991 years. The actual productivity for last decade has compounded 2.3 tons / ha.

As it is visible from given parameters(Appendix №8), the actual productivity of a cotton plant has reduced, which is conditioned:

- *By imperfection of an existing system of motivation for cultivation of a cotton plant and production of raw cotton;*
- *By decrease of land fertility (land quality of locality). The low fertility of irrigated land is mainly conditioned by high contents of salts in soil. 48% of irrigated land is not salted, 31% weekly saline, 17% medium saline, and 4% hardly saline.*
- *Not improved ameliorative condition of land. By an estimation of ameliorative condition of irrigated land, lands with good condition make 38%, satisfactory 53% and unsatisfactory -9%;*

- *By incongruous maintenance by material resources-inputs (supply of mineral fertilizers in the optimum norms, delayed security by fuels and lubricants oils, lack of agricultural engineering);*
- *Decrease of a cultivation' mechanization and crop harvesting level;*
- *Disparity of prices for commercial production and agricultural production.*

As a result of above problems, over number of years it's not possible to ensure reaching of foreseen volumes of purchases of raw cotton. Forecast target on production of raw cotton was not met in the republic in the period of 1992 for 2003. (Appendix-9). With the target of 48 million tons of raw cotton, it became possible to produce only 42 million tons, or mean annual percent of a task execution has compounded 87%, and only farms of some areas executed a production target of raw cotton in separate years (Andizhan, Fergana, Samarkand etc.). In 2003, the total harvest has compounded 2.8 million tons, or 61% to a level of 1991.

Till 1994, the cotton was cultivated only in agricultural firms. With development of farms, production of cotton is increasing step-by-step.

Table №8. Production of raw cotton on categories of farms (%)

Parameters	1995 r.	2000 r.	2001 r.	2002 r.	2003 r.
In total on all categories of farms	100	100	100	100	100
Including Agricultural firms	97.4	81.7	78.3	71.0	62.2
Private farms	2.6	18.3	21.7	29.0	37.8

Source. State Committee on statistics of Republic of Uzbekistan

Table №9. The main parameters of raw cotton production on varieties and classes in percentage to a volume of production

Years	Grades of raw cotton (%)			Varieties of raw cotton (%)				
	Grade-1	Grade-II	Grade-III	1-Variety	II Variety	III Variety	IV Variety	V Variety
1996	58.7	27.0	14.3	54.3	17.0	11.9	9.8	7.0
1997	59.4	27.8	12.8	53.5	14.8	11.7	11.0	9.1
1998	61.7	25.4	12.9	57.4	12.8	10.3	10.9	8.6
1999	65.7	23.4	10.9	57.8	14.7	10.8	9.5	7.2
2000	68.9	22.2	8.9	68.7	12.4	7.0	6.1	5.8
2001	73.0	17.7	9.3	67.6	10.8	8.4	6.1	7.1
2002								
2003								

Source. State Committee on Statistics of Republic of Uzbekistan

As a result of policy pursued in the field of allocation of perspective varieties of a cotton plant, and with allowance for requirements of the world market, production of raw cotton of the grade-1 and 1-variety has annually increased in republic, and in 2001 it has compounded 73% -68% from a total harvest, at 58% -54% in 1996. Production of raw cotton of poor quality was accordingly reduced.

The Law of Republic of Uzbekistan «About seed production» adopted in 1996, Cab.Min.order from 19.09.1996 «About policy in area of seed production» and creation in 1998-1999 of 6 private seed production companies with the foreign capital has allowed to considerably improve production of high-quality seeds.

Table №10. The usage of seed on sowing of a cotton plant for 1997-2003

Years	Seed consumption, th.tons							Use of seed per 1 ha. Kg/ha	
	Total	including: by grades							
		Grade-1		Grade-2		Grade-3		For sowing	Secondar y sowing
		Quantity	%	Quant.	%	Quant.	%		
1997	185.1	147	79.4	36.9	19.9	1.2	0.6	92.7	123.0
1998	179.2	123.8	69.1	51.2	28.6	4.2	2.3	92.7	117.5
1999	140.5	130.5	92.9	10	7.1	0	0.0	64.6	92.7
2000	130.8	123.5	94.4	7.3	5.6	0	0.0	72.7	90.5
2001	104.3	97.2	93.2	7.1	6.8	0	0.0	58.3	71.1
2002	123.7	118.7	96.0	5	4.0	0	0.0	66.6	87.0
2003	129.6	118.5	91.4	11.1	8.6	0	0.0	67.2	93.0

Source. The Ministry of Agricultural and Water Management

According to the republican standard Uz 663-96, germinating capacities of 1-grade seeds should make not less than 95%, 2-grade - 90%, 3- grade - 85%. As it is visible from the table, sowing of a cotton plant in republic has lately basically consisted (more than 90%) by 1-grade seeds. In connection with an improvement of the sowing seeds' quality, use of seeds on sowing of a cotton plant has considerably decreased. However, it remains still high and exceeds normative parameters on separate areas in 1.5-2 times, that results in rise in price of product cost.

Delinted seeds have started being used more, but the main sowing seeds are still used of a chemically cleaned type. Orders of a Cabinet of Ministers annually establish a production of cleaned type of a cotton plant. In 1998-1999, the production target of cleaned seed averaged 54 thousand tons (30% from total), in 2000-2003 years -30 thousand tons (20%). Despite of an efficiency of cotton planting by cleaned seeds, the mentality of the specialists and specially cotton growers does not allow to supersede sowing by delinted seed.

The low supply of farms by agricultural engineering does not allow to make prompt agricultural activities in agro-technical terms, that has negative effect for yield, and for production of raw cotton. The tariffs for the engine driven services rendered by joint-stock Machinery-tractor parks and other alternate MTP are much higher, as contrasted to by engineering available in agricultural firms and farms.

Allowing the high rates on the engine driven activities, resulted in the main by expensive import engineering, the state has made a decision since 2001 on partial subsidizing of the indicated services. The discounts were established in 25% from the cost of the engine driven services rendered by machine-tractor parks to Association "Uzagromachservice", and in 2003 the size of the subsidy reduced up to 15%.

Vivid example is the mechanized harvesting of raw cotton. The level of the mechanized harvesting, as it is visible from the table, was annually reduced. Thus, in 2002 at normative seasonal load on 1 cotton-harvesting machine of 133 ha, the effective output has compounded 19 ha.

Table №11. Level of the mechanized cotton harvesting in the republic for 1991-2003.

Indexes	Years							
	1991	1993	1995	1997	1999	2001	2002	2003
Gross harvest (th.tons)	4677	4235	3934	3640	3600	3264	3165	2822
Inc. Machine	2602	1365	512	139	127	66	65	51
Specific weight (%)	56.0	32.2	13.0	3.8	3.5	2.0	2.0	1.8

Source. State Committee on Statistics of Republic of Uzbekistan

One of the causes of low productivity of cotton harvesting engineering is the high rates for services, rendered by joint-stock MTP companies. Other cause, use of hand labor, is connected to the maximum collecting of all cultivated crop lost-free, and payment to cotton pickers every ten days. And also decrease of costs on realization defoliation of a cotton plant, and preparing of fields for machine harvesting of a crop.

Concluding of contracts on agricultural production

Agricultural firms and the farms annually conclude the contracts on sale of agricultural production. For state needs (raw cotton, grain crops and rice), the farms conclude the contracts with processing organizations, in volumes foreseen by Cab.Min orders. On remaining types of production of crops, and completely on production of animal industries, farms, on the voluntary basis, conclude the agreements with storage and processing firms.

The contracts on purchase of cotton are signed with organizations of Uz.Cotton Association in October – December of current year, under a crop of the next year. After concluding the agreements, advancing of farms will start at a rate of 50% installment (monthly) from the cost of volume of purchased production from November of the current year till next September.

Procurement volumes of cotton - fiber for state needs, starting from 1991 (95%), were step-by-step reduced, in 1992 -85%, in 1993 -80%, in 1994 -70%, in 1995 - 50%, in 1996 -40%, from 1997 to 2001 it has compounded 30% from forecasted volume of its production. Compulsory condition over these years (1991-2001) was a task of execution on its production, thus the produced cotton fiber from raw cotton at the command of farms, was realized by them at own discretion, however it was completely bought from farms on list prices.

Since 2002, purchase of a cotton - fiber for state needs are established at a level 50% from a volume of its actual production, fiber produced over a volume of purchases for state needs, will be realized on contractual prices.

Advancing of a crop of agricultural production purchased for state needs

In 1996, cotton growing farms were paid the advance payment on the approved volume of state procurement at a rate of not less than 25% from a procurement price, in 1997 -30%. Starting, since 1998, the advancing began to be made by Fund for calculations for agricultural production purchased for state needs, at the Ministry of Finance Republic of Uzbekistan.

The state, through storage organizations, makes advance payments by the way of operational costs (for the term of up to a harvesting season) at a rate of 50% of the cost of the future crop. Thus, the advance means allocated to farms are strictly regulated under the articles of costs, (on organizations and firms) which will realize them material resources (inputs),or render service.

As a result of such advancing, farms can not rationally use these means at own discretion, as funds have a particular target. For example, the farms do not use MTP

joint-stock company, but foreseen on these purposes means can not be expended on acquisition of material resources, or on payment of a wage.

By way of experiment, the order of a Cabinet of Ministers from November 13, 2002 №390 establishes the new order of advancing in Bukhara, Namangan, Fergana and Khorezm areas for farms on production, purchased for state needs; and outgoing from the standard of costs on 1 ton of production, farms receive the credit under current assets. However, in the established Temporary Order of crediting by business banks of costs of farms on production raw cotton and the grains, purchased for state needs, the credits are given under the definite articles of costs (with breakdown for the seasons), which are established by the Ministry of Finance for each year outgoing from agro-technical maps, approved by MAWR. The interest rate makes 5%.

Farms of four areas: Andizhan, Dzhizak, Navoi and Samarkand were transferred in 2004 on this order.

Payments for raw cotton

Annually in republic, before cotton harvest, Ministry of Finance approves the price-lists for raw cotton. The payment for raw cotton is made for conditional weight, which is determined with allowance for normative humidity and contamination, and also depending on the class and variety.

Since a crop of 2000, with the purposes of equating of quality of cotton to the world standards, the discounts are entered at values of a parameter "Micron air" above or below than established standards (3.5-4.9) from a procurement price of raw cotton of 1-2 varieties. At calculations for raw cotton of selection varieties, the correction coefficients are applied. In the price-lists the economical interest of seed farms, in production high-quality (high-performance) seed is stipulated, by paying premium for seed cotton. Since 1999, the size of the extra charges for seed cotton was increased in 2.5-5 times.

From a crop of 2003, the current calculations for raw cotton, produced over established forecast volumes, are made under the prices, on 20% superior than unified procurement prices, practically this economic incentive does not work, as the majority of farms default an established production target of raw cotton. In 2003, farms of republic have met the target for 78%.

It has been stipulated by the operational order, that for delivered raw cotton, farms receive only 80% from its cost on list prices, the remaining 20% of the costs of production, farms receive by results of its processing in a cotton fiber, with allowance for outputs, both quality of a cotton fiber, and state of the market prices on cotton, developed on the world market.

The analysis of list procurement prices on raw cotton for last years demonstrates that, the prices for raw cotton are annually revised, its value increases only at the expense of inflationary processes.

Indexes	Years							
	1996	1997	1998	1999	2000	2001	2002	2003
Price growth in % compared to previous year	156.3	159.0	122.3	144.4	149.4	153.8	156.5	154.8
Indexes-GDP deflators in % to the last year	181.8	166.1	139.1	144.1	144.4	143.2	145.5	124.3

Including in agriculture.	156.2	208.1	132.1	154.2	152.6	143.9		
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Thus the inflation in 1996-2000 years was much higher, than rise in prices of raw cotton.

Inset №2. Influencing existing price policy on cotton profitability.

Under the data of the annual reports of agricultural firms for 2000, the productivity of a cotton plant in farms of the Andizhan area has compounded 3.23 tons / ha, the sowing of a cotton plant was completely made under a cellophane sheet, that has allowed to make harvesting in short terms, in outcome its large part was prepared by the first varieties, and as outcome the average price of 1 ton of raw cotton was higher 6%, than on the average on republic. The production target was executed on 111%. However, the profitability of cotton growing has compounded only 3%*. On the other hand, the example of the Fergana area demonstrates, that also at fulfillment of a production target (at productivity 3.04 tons / ha) and not by broad usage of practice of sowing under a sheet, the unprofitableness of cotton growing has compounded -15%.

In 2001 farms of the Andizhan area have executed a production target of cotton on 125%, the profitability has compounded 3%. And, in farms of the Tashkent area, ensuring a task execution, the loss was in the sum 3.7 bln. soum, unprofitableness -16%.

In 2002 farms of the Andizhan area have executed a production target of cotton on 12%, the profitability has compounded 4%. And, in farms of the Samarkand area, ensuring a task execution in this year, the loss in the sum made 2.2 bln..soum, unprofitableness -10%.

In 2003 of a production target of raw cotton was met by farms of the Samarkand, Bukhara and Surkhan-Darya areas.

It demonstrates, that the procurement prices of raw cotton are undervalued and relevant factor of unprofitableness of cotton growing.

* It's necessary to mark, that the profitability, lower than 10% is the lowest, pursuant to the existing standards.

Table №12. Some indicators of production of raw cotton for 1992-2003 years (based on annual reports of agricultural enterprises)

Indexes	Years											
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003*
Gross harvest th.tons	4,116	4,229	3,877	3,798	3,165	3,310	2,826	3,120	2,437	2,535	2,215	1,740
Yield, t/ha	2.49	2.50	2.58	2.67	2.32	2.42	2.11	2.43	2.15	2.30	2.36	2.17
Production cost 1ton/ th.soum	19.4	168	1.8	9.5	16.7	24.5	33.2	38.6	74.2	106	156	211.1
Price per 1 ton th.soum	22.0	127	1.4	8.8	12.5	19.3	23.5	34.6	57.4	82.6	135	206.3
Profitablenss in %	13.6	-25	-25	-7.3	-26	-21	-29	-10	-23	-22	-13	-2.3

Source. State Committee on statistics of Republic of Uzbekistan

*) Preliminary data for 2003,.

The parameters given in the table №12, include the data only on agricultural firms disregarding activity of farms, and for last years this does not precisely reflect as a whole the cotton branch. In 2003, share of farms made 38% in productions of raw cotton, from its general production in republic. The outcomes of activity of farms can even be a little bit lower, as in the main farms are established on the basis of unprofitable and low - profitable collective farms and shirkats, and also farms which have been bailed out with unsatisfactory financial outcome.

Since 1993, production of raw cotton in agricultural firms is unprofitable annually. For the term with 1993 for 2003, the unprofitableness of cotton growing has compounded 22%, which varied from 7 up to 29%.

The appendices №11 and №12.

The unprofitableness of cotton growing is explained by the following factors:

- By low-level productivity of a cotton plant and decrease of production of raw cotton (the causes of a decrease of productivity of a cotton plant are given on page №8);
- By the undervalued state procurement prices of raw cotton. The analysis demonstrates, that even at getting higher productivity than the target, the profitability of cotton growing remains minimum or even negative (see insert №2).

Unprofitableness of a cotton plant, as crops, also negatively effects for motivation of the agricultural producers, and accordingly on productivity, that, in turn, aggravates a financial status of firms. In particular, it can result in using of material resources (inputs) allocated on production of cotton, on production of more profitable crops;

- By imperfection of an advancing system for a cotton crop, purchased for state needs, when the advance means allocated to farms are regulated under the articles of costs on organizations and firms, which sell them material resources (inputs), or also render service;
- High costs of manual labor at cultivation and harvesting of raw cotton, that has an effect for rise in price of product cost.

As contrasted to by previous years, as a result of a decrease of a level of the engine driven activities on cultivation and the harvesting of a cotton plant, costs of a labor of production increases. So, in 2002 as contrasted to 1992, even at a decrease of productivity, the costs of labor of 1 hectare of sowings have increased by 28%, and on 1 centner of raw cotton-by 35%.

The actual labor costs for production of raw cotton exceed in 1.5-2 times of the normative, definite instruction cards, designed by MAWR, for 2000-2005 years.

From other industrial crops, the sugar-beet, tobacco, kenaf and oil crops (sunflower, safflor, ground-nut, soya etc.) are cultivated in republic.

In 1998-2001 the attempt was made for replacement of sugar. Khazarasp sugar plant was constructed in 1998 in the Khorezm area, with capacity of production 35 thousand tons of sugar. The raw was envisioned to make for a sugar plant in farms of Republic Karakalpakstan and Khorezm area. However productivity of beet in farms of Republic Karakalpakstan made no more than 5 tons per hectare. In 2000-2001 production of sugar-beet was concentrated in the Khorezm area.

Indexes	Unit of meas.	2000			2001		
		target	actual	%	target	actual	%
Area under crop	Th.tons	19.0	15.0	79	10.0	7.9	79
Total harvest	Th.tons	380	102.1	27	220	53	24

As a result of low productivity of sugar-beet, and percentage of Sugar, it was not possible to supply a sugar plant with raw for Sugar production. By the order of Cab.Min, the decision on renovation of a sugar plant was accepted in 2001 for organization of production of sugar from imported raw sugar in bulk 126 thousand tons.

Potatoes

The planting of a potato, on all categories of farms is annually made on the area about 50 thousand ha. The planting of a potato in republic is carried out in two terms -in March, for production an early food potato, and in July for obtaining a late food potato, which goes on consumption in the autumn-winter season, and also for obtaining of a seed material.

Table №13. Main parameters of potato production for 1991-2003.

Indexes	Unit of meas.	Years					
		1991	1995	2000	2001	2002	2003
Planted area	Th.ha	40.0	45.9	52.2	50.8	48.9	49.2
Yield	Th.ha	8.7	9.58	14.02	14.64	15.90	16.95
Gross harvest	Th.ha	351	440	731	744	777	834
Consumption per capita	Kg	25	23	36	36	37	38

Source. State Committee on Statistics of Republic of Uzbekistan

Production of potato is annually increasing, and in 2003 has compounded 834 thousand tons, that in comparison with 1991 is more than 2.4 times, and against 1995 - 1.9 times. In the main, increment of production of potato has been reached at the expense of increase of its productivity, liberalization of the prices and concentration of its production in a private sector of economics, share of which in 2003 made 94% from a total harvest on republic.

250-300 thousand tons of a food potato, basically from Russia and Republic of Byelorussia was delivered in Uzbekistan annually till 1994 in centralized order. Besides, in 1991-1996 years the seed potato was annually delivered within the limits of 30-45 thousand tons. The import of seeds was basically made from Holland.

Corporation "Uzpotato-seeds" was organized at a holding company "Uzplodoovoshvinprom-holding" with the purposes of increase of own production and improvement of the quality of a seed stock pursuant to the orders of a Cabinet of Ministers of Republic of Uzbekistan from August 30, 1996 №301 and from June 27, 2001 №274, The founders of this corporation are 36 farms involved in potato production.

If 24 thousand tons of a seed potato was still delivered under a crop of 1997, only 4 thousand tons was delivered under a crop of 2003, and under a crop of 2004 the republic was completely supplied with a high quality planting materials.

Vegetables

All kinds of vegetable crops are produced in Uzbekistan. The range of production of vegetable crops was added up from a conventional feed of the population and possible export of vegetables.

The greatest quantity of vegetables is produced in the open ground, and only 1.3% in a protected soil - greenhouses. Production of vegetables in a closed ground has considerably increased for the last years, that allows to more fully satisfy the population by fresh vegetable products in the winter season. Only for last 4 years, production of vegetables in a protected soil has increased more than in 2.4 times. The main crops produced in green-houses are: tomatoes, cucumbers, dill, green onion, salad, spinach etc.

3.6-3.8% from all area under crop of agricultural crops is annually allocated under sowings of vegetable crops in the open soil, that makes 130-145 thousand ha.

Table №14. Total harvest of vegetable crops, on all categories of farms for 1995-2003 years
(000' tons)

Indexes	Years				2003 in % by 2000
	2000	2001	2002	2003	
Total open ground	2,627	2,750	29.1	3,257	124
Including on types:					
Tomatoe	1,011	1,014	1,080	1,410	140
Onion green	431	499	480	525	122
Carrot	367	397	450	454	124
Cabbage	200	209	231	219	109
Cucumbers	154	159	166	168	109
Pumpkin	55	55	61	69	125
Other	408	416	434	413	101
Closed ground vegetables (in greenhouses)	18	28	35	44	244
Total vegetables	2,645	2,778	2,936	3,301	125

Source: State Committee on Statistics of Republic of Uzbekistan

Production of tomato, share of which makes 39%, takes the biggest specific weight from vegetables of the open soil, that provides not only consumption in a fresh kind, but also allows to route it for industrial processing, i.e. for production tomato juice and tomato paste. The tomato paste is a liquid product and is exported basically to CIS countries.

Onion is the second product among vegetables, share of which makes up to 17% from all vegetables in republic. The large part of an onion is exported outside of republic- Russia, Kazakhstan etc.

On the average, production of carrots for 2000-2003 has compounded 14% from a total harvest of vegetables in the open soil, share of cabbage makes 7%, cucumbers -6%, pumpkin -2% and other vegetables -14%. The eggplants, pepper, garlic, fennel, celeriac, spinach etc. enter in other vegetables

The total harvest of vegetable crops for 2000-2003 years on all types of land, on categories of farms, is given in the Appendix №12.

Table №15. Production of vegetables on categories of farms for 1992-2003 (in %).

Indexes	Years					
	1992	1995	2000	2001	2002	2003
Farms		2.0	4.9	6.5	7.4	10.7
Dehkan farms		66.3	75.0	74.5	76.0	70.3
Agricultural enterprises		31.7	20.1	19.0	16.6	19.0

Source: state Committee on statistics of Republic of Uzbekistan

As it is visible from the table, the main production of vegetables is concentrated in a private sector, which in 2003 has compounded 81%, of them in farms -11% and in dehkan farms -70%.

Melons

For years of independence of Uzbekistan, production and planting of melon crops (water-melons, melon) reduced more than twice. More than 1 million tons of this products was produced till 1991 in republic, from which more than half was exported to Russia and other republics of former SU, and lately, definite customs and transport complications have appeared as a result of separation of the states.

Table №16. Main parameters of melons' production for 1991-2003.

Indexes	Unit of meas.	Years					
		1991	1995	2000	2001	2002	2003
Area under crop	Th.ha	83.2	42.7	37.0	35.6	37.3	41.3
Yield	Th.ha	10.6	11.05	12.22	11.41	12.85	14.22
Gross harvest	Th.t.	927	472	452	406	479	587

Source: state Committee on Statistics of Republic of Uzbekistan

Multiple Cropping

The natural-climatic conditions of Uzbekistan allow to grow on the same areas two - three crops during the year. It allows to more effectively use irrigated land, and to receive additional production.

The repeated sowings on irrigated land are mainly conducted after harvesting of grain crops (in June - July), and also after harvesting early vegetable crops. Inter-rows of fruit gardens and vineyards will be also used when they have no fruits. The main repeated crops are: potato, vegetables (cabbage, carrots, beet, turnip etc.), forage crops (corn on silage and green forage, fodder root crops).

Sowings of grain crops on irrigated land for last 4 years have compounded on the average 1.2 mln.ha, from them under sowings of repeated crops 160 thousand ha, or 13% was only utilized. The irrigated lands in the Fergana valley are used most effectively, in these areas the repeated sowings on all categories of farms make 25-30%.

Table №17. Usage of irrigated land under repeated sowings, after harvesting of grain crops in % from sowings of grain crops

Category of farms	Years				
	2000	2001	2002	2003	Average
Agricultural firms	8.0	10.5	11.1	9.1	9.5

Farms	5.9	5.6	5.6	3.9	5.0
Dehkan farms	51.2	43.4	61.5	46.7	50.7
Total	12.8	13.4	15.4	11.4	13.2

Source: state Committee on Statistics of Republic of Uzbekistan

The irrigated land is used best by dehkan farms, and this parameter is very low in farms and agricultural firms. The appendix №13.

Major factors influential in usage of land under repeated sowings are: good water supply, indispensable agricultural engineering permitting in a short time to prepare land to sowing, provision by fertilizing and financial capabilities.

Perennial Crops

Gardening and wine growing has a long and rich tradition.

Gardens

The area under gardens and berries in republic for 2003 has compounded 202 thousand ha, as contrasted to 1992 it was reduced by 42 thousand ha (83%). 146 thousand ha from them are in fruiting age, thus the specific weight of fruiting gardens makes 72%, while in 1992 it was 58%.

The large part of gardens is located in Bukhara, Tashkent and areas of the Fergana valley, on these areas it makes 67% from all gardens of republic.

In 2003, the total harvest of fruits and berries has compounded 766 thousand tons, that makes 109% by 1992. Productivity, accordingly and total harvest depend from water provision of year, and also on favorable weather conditions in early spring time –in blooming period of gardens. The mean total harvest for last 4 years has compounded 800 thousand tons, with productivity of 5.6 tons from one hectare. The appendix №14.

The analysis of the statistical data of fruits production for 2000-2003 years demonstrates, that share of seed fruits (apples, pear, the quince) makes 59% from a total harvest of fruits and berries. Accordingly drupaceous fruits (cherry, merry, drain, peach, the apricot) make-36%, subtropical (pommy-grenade, fig) -3%, nuts - (walnut, almond, pistachio) -1%, citreous (lemon, orange) -0.1% and berries (strawberry, raspberry, currant) -0.4%.

In 2003 the large part of fruits and berries were produced in dehkan farms -62%, in agricultural firms -30% and in farms -7%.

The areas of gardens, productivity, the total harvest for 1991-2003 years on areas of republic is appended. The appendix № 15.

Vineyards

In 2003 the area of vineyards in all categories of farms has compounded 118 thousand ha, that as contrasted to 1992 has decreased on 17 thousand ha (88%). From them vineyards in fruiting age make 97 thousand ha, the specific weight has compounded 82%, in 1992 it was 70%.

In 2003 the total harvest of grapes has compounded 402 thousand tons, with productivity of 4.12 tons from one hectare, and for 2000-2003, the mean total harvest made 530 thousand tons.

From general total harvest of agricultural firms, share of restaurants varieties of grapes make 48%, dry grapes' varieties -19% and technical varieties -33%.

The areas of vineyards, productivity, the total harvest for 1991-2003 on areas of republic is appended. Appendix № 16.

In 2003, the large part of grapes - 54% was made in dehkan farms, the productivity in which was more than 2 times higher, than in agricultural firms and farms.

Animal Husbandry

Animal husbandry, as one of mainstreams of agriculture, provides the population by main high protein milk and meat food.

The industry of Uzbekistan largely depends on agriculture. It specially falls into industries involved on processing of meat, milk, wool, astrakhan fur, silk cocoons, tanning raw and other production, and also to branches of engineering and agro-chemicals, which in many respects depend on a home market of agricultural sector.

Livestock Numbers

In the transition period to market economy in Uzbekistan, as against many countries of CIS, it was possible to avoid sharp reduction of cattle and also fall in production of animal industries.

Table №18. Number of cattle and poultry in all categories of farms for 1980-2003 to the end of year.

Indexes	Unit of meas	1980	1985	1990	1995	2000	2001	2002	2003
Cattle	Th.	3531	4100	4581	5203	5353	5416	5478	5879
Including cows	Th.	1360	1559	1856	2286	2343	2362	2393	2557
Goat and sheep	Th	8962	9256	9230	9322	8932	9023	9234	9929
Pig	Th	531	728	716	208	86	82	75.4	89.9
Horses	Th	82	88	105	150	146	145	143.4	147.5
Poultry (any)	Mln.	25.6	33.5	36.0	13.4	14.5	14.8	15.4	17.7

Source: state Committee on Statistics of Republic of Uzbekistan

During last 20 years, number of the large cattle steadily increased, except for small decline in 1996-1997. In 2003, big cattle as contrasted to 1980 was increased at 66%, and in comparison with 1990 on 28%. Thus for the similar term, number of the cows accordingly has increased by 88% and 38%.

The positive phenomenon is the increase of parent number of cattle, which is the result of growth of specific weight of the cows in structure of cattle flock. So, if in 1980 and 1985 number of the cows in structure of cattle made 38%, since 1990 it permanently increased, and with 1995 for 2003 was stabilized at a level 43%.

It was possible to keep number of goats and sheep in 2003 at a level of 1980. However, number of karakul sheep in 2003 as contrasted to 1980 and 1990 was sharply reduced, and has compounded these years accordingly, 74.6 and 78.2 percents. At the same time number of sheep of meat breeds has increased for this term on 52 and 36.2 percents, and the specific weight of sheep meat in structure of sheep' number was increased from 36% up to 53%. Number of goats has increased considerably, for these years it was increased in 2.2 times and 1.7 times. Reduction of karakul sheep by more than on 1.3 million heads is called by a decrease of demand, in the markets of countries of CIS, in karakul pelt, and decrease of deliveries of astrakhan fur on export.

Number of pigs since 1980 for 1990 steadily increased, head of pigs in this term was provided with mixed fodders (main forage in pig breeding) at the expense of deliveries of former SU. Since 1991, it was permanently reduced, and by 2003 was reduced as contrasted to 1990 in 8 times.

Number of the equines in 2003 as contrasted to 1980 has increased in 1.8 times, and in 1.4 times as contrasted to 1990.

In poultry-farming, similar as in pig breeding, number of poultry from has increased in 1.4 times 1980 for 1990, it was also provided with mixed fodders. Sharp decline of poultry was in the term from 1992 for 1996. As a result of adopted measures on the part of the state, it became possible to stop decrease of poultry since 1998, and the growth of number was noted, which in 2003 as contrasted to 1997 has increased by 44%.

The in-depth parameters of development of animal industries for 1980-2001 years on all categories of farms are shown in the Appendix №17.

Table №19. Production of main animal industries in all categories of farms for 1980-2003

Indexes	Unit of meas.	1980	1985	1990	1995	2000	2001	2002	2003
Meat (slaughtered weight)	Th.ton	331	386	484	508	502	508	514	561
Including beef	-/-	213	242	295	392	416	418	425	456
Pork	-/-	27	38	51	15	4	4.3	4.3	11.3
Lamb	-/-	61	60	67	83	67	71.6	71.1	74.1
Poultry	-/-	26.8	44.0	67.7	15.8	11.8	10.9	10.1	16.0
Other	-/-	3.4	3.1	4.7	2.6	3.7	2.8	2.8	4.0
Milk	Th.ton	2,265	2,439	3,034	3,665	3,632	3,665	3,721	4,031
Eggs	Mln.pcs	1,461	1,948	2,453	1,232	1,254	1,288	1,369	1,632
Cocoons	Th.ton	30.3	32.2	32.8	23.7	16.5	17.3	19.9	16.7
Wool	Th.ton	29.2	23.5	25.8	19.5	15.8	15.9	16.6	17.8
Karakul pelts	Th.pcs	2,674	1,654	1,402	1,393	748	729	688	691

Source: State Committee on Statistics of Republic of Uzbekistan

As a whole on republic, production of meat (in a slaughtered weight) in all categories of farms in 2003 has compounded 561.3 thousand tons, or has increased as contrasted to 1980 by 70%, and in matching with 1990 on 16%. The growth of production of meat was added up basically at the expense of an increment of meat of the large cattle. Production of meat of beef and veal for the similar term has increased in 2.1 and in 1.5 times. Production of mutton and goat meat as contrasted to 1980 has increased by 21%, and in matching with 1990 on 10%.

As it was marked above, in connection with reduction of pigs and poultry, production of pork in 2003 as contrasted to 1980 has decreased in 2.3 times, and as contrasted to 1990 in 4.5 times. For the similar term, production of meat of poultry was reduced in 1.7 and 4.2 times.

In this connection there were essential changes in structure of meat production. If in 1980 production of a beef and veal in structure of meat production made 64%, in 2003 it has increased up to 81%.

On remaining categories of meat, there was a considerable decrease: pork from 8% up to 2%, mutton and goat meat from 18% up to 13%, poultry meat from 8% up to 3%. The Structure of meat production is shown in the appendix №18.

Production of milk in republic in 2003 has compounded 4.031 thousand tons, and as contrasted to 1980 has increased by 78%, and in matching with 1990 on 33%.

However, the indicated increment of milk production has been reached at the expense of increase of the cows' number. The productivity of the cows in 2003, milking on 1 cow, has compounded 1,684 kgs, and as contrasted to with 1990, has decreased on 191 kg. As a result of a decrease of productivity, milk insufficiency by a computational way has compounded 490 thousand tons.

Egg Production in 2003 has compounded only 1,632 million. Pieces, that to a level of 1990 makes 66%.

Sericulture production, cocoons in the term from 1980 for 1992 made annually more than 30 thousand tons. Since 1993, there is an annual fall in production of cocoons, which in 2003 has gone down to 16.7 thousand tons. Strangely enough, one of the causes of a decrease of production of cocoons in agricultural firms is the cancellation of the state order since 1994, and liberalization of the prices. The decrease of economical interest of farms (low contractual prices, and not well-timed calculations of storage organizations) has influenced in reduction of plantings of sericulture plantations with 44.1 thousand ha in 1991, up to 38.1 thousand ha (86%) in 2001, and linear plantings with 290.9 up to 127.3 million. pieces (44%). Production of cocoons in 2003 as contrasted to 1980 has decreased in 1.8 times, and as contrasted to with 1990 in 2 times.

Production of wool and karakul pelt for the similar term has decreased accordingly in 1.8 -1.6 times, and 3.7-1.9 times. The fall in production is basically connected to reduction number of the small-sized cattle, and decrease of its productivity. Shearing of wool from one sheep in 1990 made 3.2 kgs, and in 2000-2003 years only 2 kgs.

In connection with realization of economic reforms in an agriculture, production of animal industries on categories of farms and patterns of ownership has considerably changed.

**Table №20. Modify structure of production of animal industries
on categories of farms (in %)**

Product	Agric. firms			Farms			Dehkan farms		
	1991	2001	2003	1991	2001	2003	1991	2001	2003
Meat (live weight)	37.6	7.0	4.3	0	1.5	2.0	62.4	91.5	93.7
Milk	29.0	3.6	2.0	0	1.6	2.1	71.0	94.8	95.9
Eggs	62.8	36.5	42.8	0	3.2	3.7	37.2	60.3	53.5
Wool	32.5	21.7	22.0	0	1.2	1.8	67.5	77.1	76.2
Karakul	72.7	64.0	58.2	0	1.7	2.1	27.3	34.3	39.7
Cocoons	100	97.6	89.5	0	2.4	10.5	0	0	0

Source: calculation of the author

The data of the table visually demonstrate change of production structure of animal industries on categories of farms, and useful increase of a production' share in private enterprises, and decrease of production in collective farms. In 2003 more than 94% meat and dairy production was made in dehkan farms.

Final parameter of agricultural production is its estimation in money terms.

Table №21. Outcome of a gross production of animal industries for 1980-2003 years in comparable prices to 1983

Indexes	Unit	Years					2000 in %	
		1980	1990	2000	2001	2003	1980	1990.
Livestock product cost	Mln.rouble	3,026	4,070	4,054	4,131	4,579	151.3	112.5
Specific weight from gross product	%	30.0	36.6	36.2	35.3	35.0	X	X
Cost of livestock product per capita	Roubles	189.7	198.4	163.8	164.8	178.4	94	90

Source: state Committee on statistics of Republic of Uzbekistan

For years of independence of Uzbekistan (1991-2003rr) the production of animal industries has averaged 38% from all gross production of agriculture, produced in all categories of farms, in comparable to prices of 1983. Deviations on years consisted from 35 up to 41%, which is called by a decrease of plant production in some years called by unfavorable nature-climatic conditions or low water provision.

There is a small increment of production at the analysis of the cost of a gross production of animal industries on years. However production per capita is steadily reduced. It is related to the fact, that the rates of increase of the population in republic are higher than rates of growth of a gross production. The detail parameters of gross production are shown in the Appendix №19

At calculation of gross production for the last years, its cost is determined from the actual adding up prices, which does not give an actual estimation of dynamic parameters of production on categories of farms, as the prices for sold production in different categories of farms considerably differ among themselves. The prices in dehkan farms, as contrasted to agricultural firms on the average for last 5 years are higher: on grain crops in 2.3 times, meat of cattle and poultry in 1.5 times, from them meat of a beef in 1.6 times, mutton in 2.2 times, pork in 1.2 times; eggs, wool, and astrakhan fur on 10-18%. The prices in farms as contrasted to agric.are above not significantly. Thus the rates of growth of a gross production are determined by the previous year in comparable prices of one year.

Production, per capita consumption and import of cattle for breeding

For an impartial assessment of cattle-breeding production, first of all of food production of the first necessity, it is expedient to consider these parameters with allowance for increasing population of Uzbekistan. The population of republic in 2001 has reached 24.9 million people, and from 1980 to 2001 has increased more than 9 million, or in 1.6 times. Under the forecasts, by 2010 the population will reach approximately 28.2 million.

Table №22. Production of animal industries in all Categories of farms per capita

Indexes	Unit	Years					2003 in % to	
		1980	1990	1995	2000	2003	1980r	1990r.
Meat (slaughtered weight)	Kg	21.0	23.8	22.6	20.4	21.9	105.6	92.3
Milk	Kg	143.8	149.3	162.5	148	157	110.0	106.2
Eggs	Pcs	92.7	120.7	54.6	51.0	63.6	69.5	53.2

Source: calculation of the author

At the analysis of absolute parameters, production of meat as contrasted to 1980 has increased in 1.5 times, however production of meat per capita has increased by 0.9

kgs, and has compounded 106%, and to a level of 1990 -92%. Accordingly on milk the net gain by 1980 has compounded 162%, i.e. per capita- 111%.

The physiological norms of consumption of products differ on countries depending on a demographic structure of the population, of conventional feed, and structure of products. The norms of food stuff consumption in republic are approved by Health Ministry of Uzbekistan from 25.10.1990. So, in recalculation on milk of basic fat content 3%, the norm for one inhabitant annually makes 364.4 kgs, meat and meat products in recalculation on meat of -54.8 kgs and eggs -180 pieces annually.

In the table №23 there is a fact sheet on consumption of key products of animal industries. The consumption of meat and meat products in 2000 per capita has compounded 66% from the physiological norm, which is little bit above than previous years. The consumption of milk and dairy products has compounded 45%, and eggs only 24% from the physiological standard.

Table №23. Consumption of key products of a feed on per capita of the population (1980-2003)

Indexes	Unit	Annual rate	1980	1990	2000	2003
Consumption of products per capita						
Meat & meat products	Kg.	54.83	31	32	34	32.3
Milk and dairy products	Kg.	364.36	185	210	162	161
Eggs	Pcs	180.38	90	120	47	61
Consumption of products per capita in % from the norms						
Meat & meat products	%		56.5	58.4	62.0	58.9
Milk and dairy products	%		50.8	57.6	44.5	44.2
Eggs	%		49.9	66.5	26.1	33.8

Source: the Statistical handbook: National Economy of Republic of Uzbekistan

For satisfaction of normative requirement of indicated food stuff in Uzbekistan, it is necessary to increase existing level of production of meat in 2.7 times reaching its production by not less than 1.3 million tons. Production of milk should accordingly be increased in 2.5 times with production 9 million tons, and egg production in 10 times to reach not less than 12.5 bln.pieces.

For the term under consideration, the actual consumption of milk and dairy production per capita exceeds a level of production, which is covered at the expense of import of finished products.

Table №24. Import of livestock products during 1997-2001 (Million US\$)

Indexes	1997	1998	1999	2000	2001	% to 1997
Total meat & dairy product:	149.6	56.1	110.3	44.4	22.2	14.8
Inc. Meat	103.0	16.8	78.5	22.9	9.7	9.4
Dairy	46.5	39.2	31.8	21.5	12.5	26.9

Source: State Committee on Statistics of Republic of Uzbekistan

The import of meat and dairy products is shown in money terms, as imported production is basically delivered in a processed kind: sausages, canned food, butter, etc. In this connection it is difficult to conduct the analysis of natural parameters. From meat and dairy products only butter is delivered in the centralized order, remaining production is delivered privately.

Analysis of sales and prices of livestock production

Table №25. Volume of realization of main animal industries production, all categories of farms for 1997-2001

Indexes	Unit of meas.	1997	1998	1999	2000	2001
Realization of product						
Livestock & Poultry (live)	Th.tons	468	489	516	532	534
Milk and dairy products in recalculation on milk	-/-	1,553	1,641	1,784	1,809	1,867
Eggs	Mln. pcs	676	752	871	837	896
Wool	Th.tons	6.7	4.3	6.4	6.5	6.5
Karakul	Th.tons	548	417	670	563	514
Cocoons	Th.tons	20.9	20.4	17.9	18.8	17.3
Merchantability						
Cattle and poultry (live weight)	%	58.5	60.4	62.8	63.2	62.6
Milk and dairy products in recalculation on milk	%	45.6	46.9	50.3	49.8	50.9
Eggs	%	62.9	64.6	70.3	66.7	69.6
Wool	%	43.4	27.7	40.8	41.2	41.2
Karakul	%	71.0	51.9	94.1	75.4	70.6
Cocoons	%	100	100	100	100	100

Source: State Committee on Statistics of Republic of Uzbekistan

Since 2002, the parameters on categories of farms are not published in republic.

The merchantability is percent of marketed products from gross production. This parameter is the highest in agric. firms, when as Dehkan farms consume or refine large part of production.

So, the merchantability of cattle and poultry in agric. firms on the average for last five years has compounded 86%, in farms -84%, and in dehkan farms -59%. Merchantability of milk in agr. firms -70.2, farmer -71.4 in dehkan -47.1 percents. Merchantability of eggs in agr. firms -92, farmer -88, in dehkan -51.8 percents. Merchantability of a wool in c/x firms -70.4, farmer -30.4, in dehkan -28 percents. Merchantability of astrakhan fur in agr. firms -104.3, farmer -65.5, in dehkan -29.3 percents. The excess of sale of astrakhan fur above production is explained due to the fact, that part of karakul hides the population sells through agr. firms. Production of silk cocoons is concentrated in agr. firms and farms, and sold completely (100%) to storage organizations.

One can see the sharp reduction of sale's volumes of agricultural production to the state, and increase of its sale on markets at transition to the market. Starting since 1995, the state order was completely lifted on production of animal industries, and the prices for production were completely liberalized. The prices formed under influencing of a supply and demand.

Now agric. firm and farms, engaged in production of cattle-breeding production, sell part of production (except for cocoons) in limits (20-50%) to storage organizations. Depending on production, terms of its deliveries, farms conclude agreements with

storage organizations, and receive advance at a rate of 15-50% from the cost of sold production. From 20 up to 30 percents of production will be realized in the market, and 10-15% will be transferred on account of the wage to the workers of farms.

Dehkan farms sell large part of cattle-breeding production in the markets under the free prices. In this connection, and with allowance for of high quality, the prices for sold production in dehkan farms are much higher, than in agric. Firms, as it was marked in section 2 on page 9.

With the purposes of satisfaction of the people's demand in products of animal industries, and protection of the republican commodity producers, a number of the Decrees of the President of Republic of Uzbekistan were adopted about banning export of above products.

Prohibitive measures on export of livestock production

Under the Decree of the President of Republic of Uzbekistan from October 10, 1997 № UP-1871, **export are prohibited:**

Cattle, poultry

Meat and meat sub-products

Dry milk

Under the Decree of the President of Republic of Uzbekistan from August 25, 1998 № UP-2068, the **export is prohibited:**

Hide (including non-standard), raw fur, including astrakhan, including non-standard *)

*) Joint-stock company «the Uzbek Karakul» is authorized for exportation through customs border of republic of astrakhan raw and astrakhan fur within the limits of approved by Cab.Min of. Republic of Uzbekistan of outturns scheduled to be delivered on export.

Under the Decree of the President of Republic of Uzbekistan from February 18, 2000 № UP-2553 the export is prohibited:

Silk cocoons, suitable for unreeling; raw silk,

Waste silk (including cocoons unsuitable for unreeling, cocoon waste of a thread and loosened waste)

Production of Animal Feed

For last 30 years of development of animal industries of Uzbekistan, the security of cattle by rough and juicy forages did not exceed 19-20 centners of fodder units on 1 conditional head, thus the animal industries continuously developed. Outgoing from adding up actual flows of forages, the supply from requirement made at a level of 83-85 percents.

Starting, since 1992, the annual tendency of a decrease of sowings of forage crops is marked. Establishment and allocation to agricultural firms of sowings targets of agricultural crops, first of all of cotton plant, grain crops has resulted in negative structure of sowings of agricultural crops.

Area under forage crops and its specific weight in structure of sowings of agricultural crops on all categories of farms (on all land)

The table №26

Indexes	Unit	1991	1993.	1995.	1997.	1999.	2001.	2003.
Sowing of forage crops, total	Th.ha	1,039	968	732	508	453	331	317
Including Lucerne	Th.ha	695	624	466	302	247	184	142
Specific weight of forage crops, total	%	24.7	22.9	17.6	12.3	11.3	9.6	8.4
Inc. Lucerne	%	16.5	14.7	11.2	7.3	6.2	5.3	3.7

Source: State Committee on Statistics of Republic of Uzbekistan

If in 1991 the sowings of forage crops in all categories of farms made 1,039 thousand ha, of which alfalfa -695 thousand ha, then in 2003 the sowings of fodder have compounded only 317 thousand ha, and sowings of an alfalfa -142 thousand ha. The specific weight of sowings of an alfalfa- main crop rotation culture has decreased from 16% up to 4%. The Structure of sowings of forage crops on areas of republic and categories of farms for 2003 is resulted in the appendix №20.

It was largely shown in deterioration of nutritious content of soil, and decrease of a land quality of locality for this season with 58 up to 55 (under the data Goscomzem (Land Committee), and as a consequent to reduce of productivity of agricultural crops and fall-off of production of forages. Besides, the low productivity of forage crops also has an effect for security of animal industries by forages and its productivity.

Alongside with these factors, reduction of production of mixed fodders with 2,125.6 thousand tons in 1991 up to 623.5 thousand tons by 2001 had negative effect in maintenance by concentrated forages of animal industries and poultry-farming. For this term, production of cotton by-products for feed was reduced from 1,193.7 thousand tons up to 667.6 thousand tons, including cotton cake with 1,133 thousand tons up to 592 thousand tons, and cotton husk with 695.5 thousand tons up to 619.2 thousand tons.

The number of the large and small-sized cattle has increased, the farms contain their livestock practically in half-fed condition.

Financial Results of Livestock Production

Table №27. Profitability from sale of main production in agricultural firms for 1996-2003

Products	1996	1997	1998	1999	2000	2001	2002	2003
<u>Livestock products, total</u>	-20.1	-5.0	2.1	1.4	8.0	4.4	15.0	8.0
Milk	-31.5	-17.5	-16.0	-19.6	0.01	-8.4	-4.7	-17.8
Meat-livestock	-15.7	-16.8	-14.1	-16.9	-5.8	-10.1	-4.4	5.7
Meat-goat and sheep	-5.0	12.7	10.7	16.4	2.4	5.0	27.4	52.7
Meat-pork	-34.4	-41.0	-8.2	-8.6	2.3	-20.2	0.3	-17.3
Meat-poultry	-6.1	-32.3	-11.4	-26.8	-20.8	-18.9	-31.5	-21.0
Wool	-16.2	-29.8	-22.1	-11.6	-12.4	7.0	21.6	9.4
Eggs	29.3	44.9	46.3	37.2	45.4	41.8	46.9	35.9

Source: State Committee on Statistics of Republic of Uzbekistan

As against plant production, where heavy losses take place annually, and agricultural firms are provided financial support by the way of discarding accounts payable, the animal industries, since 1998, as branch as a whole are profitable. However, profitability of marketed products of animal industries is not high.

Most profitable is production of sheep both goats' meat, and egg' production.

List of Supporting Analytical Tables:

- 1 Area under crop of agricultural crops, on all categories of farms for 1991-2003 years, on regions.
- 2 Structure of sowings of agricultural crops on Republic of Uzbekistan for 1992-2003.
- 3 Area under crop, productivity, total harvest of grain crops, on areas, in all categories of farms for 1991-2003.
- 4 Area under crop, productivity, total harvest of wheat, on areas, in all categories of farms for 1991-2003.
- 5 Production and sale of grain crops, on areas for 1998-2003 on agricultural firms and farms.
- 5a Production and sale of grain crops by agricultural firms and farms for 1996-2004 years on Republic of Uzbekistan
- 6 Area under crop, productivity, total harvest of rice, on areas, in all categories of farms for 1991-2003 years.
- 7 Structure of sowings of grain and industrial crops on Republic of Uzbekistan 2000-2003
- 8 Area under crop, productivity, total harvest of cotton, on areas, in all categories of farms for 1991-2003 years.
- 9 Task execution on production of raw cotton for 1995-2003 years, on areas.
- 10 Production and sale of raw cotton for 1992-2003 years on Republic of Uzbekistan, under the data of the annual reports of agricultural firms.
- 11 Production and implementation of raw cotton for 1998-2003 years on areas of Republic of Uzbekistan, under the data of the annual reports of agricultural firms.
- 12 Total harvest of vegetable crops, on categories of farms, for 2000-2003 years on Republic of Uzbekistan.
- 13 Analysis of repeated sowings on irrigated land, on categories of farms in a sectional view of areas for 2000-2003 years.
- 14 Total harvest of fruits, berries and grapes for 2000-2003 years on categories of farms.
- 15 Area, productivity, total harvest of fruits, on areas, in all categories of farms for 1991-2003 years.
- 16 Area, productivity, total harvest of grapes, on areas, in all categories of farms for 1991-2003 years
- 17 Main parameters of development of animal production in Republic of Uzbekistan for 1980-2003 years on all categories of farms.
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Agricultural Sector Review and Planning

Policy Note 2: Selecting Future Farmers

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

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Review of Government Policy, Laws and Rules on Liquidation of Shirkats and Selection of Family Farms.

In agriculture, which is vital branch of economy in Uzbekistan, accelerated formation of farmer sector has been chosen as a key direction of agrarian reform.

Redistribution of land resources for the benefit of farmer sector is now taking place basically due to reorganization insolvent and unprofitable shirkats.

Experience of the advanced countries shows, that integrity and system of state policy in the field of reforming agriculture are mainly predetermined by presence of the effective and active legislation. In this connection, processes of reforming in Uzbekistan as in other countries of the world are accompanied by simultaneous creation and strengthening of necessary legislative base, both in institutional, and in the legislative - process attitude.

Idea of development of farms as the basic organizational form of an agricultural production has appeared at the Government of Uzbekistan not at once. It is possible to explain, that the legislative base of this process began to be formed only with 1998, that is 7 years after the announcement of independence, and most actively it was formed only last three - four years.

For example, at the first stage of market transformations in agrarian sector, which can be defined as the period from the beginning of 1990th years up to 1998, formation of farms occurred spontaneously. At this stage farms were understood basically as private cattle-breeding farms that have managed to privatize the cattle belonging earlier to collective farms and the state cattle-breeding farms.

Actually there was no special legislation connected to these processes, and formation of farms was based on the general laws related to business. There was no legislation that would allow allocating lands to farmers in long-term rent.

Taking into account, that the most part of the suitable lands to agricultural use during the Soviet period has been distributed between collective farms, process of new farms creation was carried out only on the free lands. Because of that creation of farms has been extremely complicated, and process of allocation of the lands to farmers is not transparent.

Legal bases of farms formation became more active at the second stage of agrarian reforms - since 1998.

During this period the following laws have been accepted: "About the land", «About land cadastre», "About agricultural co-operative farm (shirkat) ", "About rent", "About dehkan farm" which have allowed to start new legal relations on village, have created conditions for formation of multi-structure economy, development farmer and dehkan farms.

Active process of transformation of collective farms in co-operative farms (shirkats) began on the basis of these laws, which have been recognized during this period as the basic organizational form of agricultural production.

Accepted «Law on farm» has also created conditions for legitimate formation of farms not only in animal industries, but also in agriculture. The legislative opportunity of allocation land areas for the long-term period has been created, including from sites of the lands, earlier allocated to collective farms, which were simultaneously transformed in shirkats.

At the same time, this law, and also the decisions, which have followed after the Government brought an attention to the question of allocation of the lands to farms, as a rule, depending on decisions of shirkats. However, in conditions of insufficiency of land resources, and also the subjective attitude to decision-making

on allocation of the land for farmers, and selection of farmers, it extremely negatively influenced dynamics of processes of creation of farms.

Besides, it was supposed that farms would function, basically, in structure of shirkats with the rights of its self-supporting divisions that did not create conditions of sufficient independence of farms. The high degree of danger was kept to lose the right of rent on the land area already after the farmer would spend financial resources on creation and activity of farm, land cultivation, etc.

The basic lacks of legislative base of formation of farms during this period were:

- Lack of the precise transparent mechanism of farms selection that led to corruption, to mass abusing at allocation them land areas on the part of heads of shirkats and local authorities;
- Lack of precise contract-legal base on use of allocated to farmers lands that allowed heads of shirkat farms and local authorities for any reasons to evict sites and to limit the right of farmers to dispose their crop;
- Lack of conditions for purchase of a material - source of raw materials (combustive-lubricating materials, mineral fertilizers, etc.) by farmers that led to the abusing connected to outflow of material resources, allocated by the government for reduced prices, from shirkat in farms, and accordingly financial resources - from farms personally to heads of shirkat (instead of in cash department of shirkat). In result, shirkat had heavy losses, and farms lost the social and economic status as were considered as the channel of plunders of the state resources and the reason of non-profitability of shirkat.

At the same time, wide circulation of non-profitability among collective farms has led the government to idea of their reorganization and creation on their basis not only shirkat, but also farms.

Starting from 2001 separate unprofitable collective farms were transformed to farms. For example, in 1998-2002. from bailed out 412 collective farms, 335 farms (81% from their general number), have been transformed in shirkat farms, and 3,054 farms are created on the basis of 79 reorganized farms which have not achieved positive results on evaluation of bailing out.

Since 2001, separate unprofitable collective farms began to be transformed to farms, passing process of bailing out. Though the number of such collective farms was not great, however, results of farms appeared to be better in comparison with parameters of the reorganized collective farms.

The third stage of agrarian reforms can be designated, as the period with 2003 till now when process of formation of farms on the basis of reorganized shirkat has got mass character, and farms actually become the basic organizational form of an agricultural production.

According to Decrees of the President of Republic Uzbekistan, Decisions of the Cabinet of Ministers, number of provisions and orders, regulating separate procedures of reorganization of agricultural productions is developed and accepted during last years¹

The legislative system of formation of farms (the Appendix 1) is characterized now in general by the following:

¹ More than 10 orders and provisions creating legislative bases for wide-scale restructuring of agricultural enterprises in farms have been approved by Orders of Cabinet of Ministers dated January 8, 2002 No 8 "On restructuring agricultural enterprises", October 30.2003 No 476 "On implementing farm development concept in 2004-06".

1. Formation of farms is carried out, as a rule, by means of reorganization unprofitable, unpromising and inefficient shirkat (the circuit of sequence of works on reorganization is resulted in the Appendix 2).

Reorganization is carried out under the decision of Government, instead of initiative of shirkat itself, which, naturally, is not interested in reorganization and expects from the state write-off of the duties and covering of losses.

Legislative procedures of reorganization, are determined in the Civil code, and have the common character and are distributed to all branches of economy, including on agriculture. However, specific features of this branch have predetermined that reorganization is carried out here by means of transformation shirkat farms in farms. Specificity is that rights and liabilities of reorganized shirkat pass to again formed farms according to the transfer certificate and dividing balance.

2. Selection of concrete shirkat farms subject to reorganization in farms is carried out on an annual basis and occurs "from below" - under proposals of local authorities. However, the decision on reorganization on each concrete farm is accepted by the Decision of the Cabinet of Ministers (one list confirmed by the government)², after detailed check of the submitted documents confirming non-profitability or hopeless shirkat farms.
3. The state carries out controlled selection of farmers in connection with that in conditions of limitation of the suitable lands to agricultural use and extreme importance of agrarian sector for economy, it is necessary to faster select farmers, who is effective, able to work on the land and conduct enterprise activity.
4. Selection of farmers is carried out on a competitive basis according to «Regulations about the order of granting of land in long-term rent to farms»³ which provides the following:
 - a) The decision on allocation of the concrete land (from the set-aside lands, the unused agricultural lands, from the lands of reorganized shirkat) to farm is accepted by khokim of area;
 - b) The specified decision, with the detailed description of all basic characteristics of the land area, not less than one month prior to competition is published in mass media, and put on in the buildings most accessible to the majority of citizens for visiting (mahalla, board shirkat, etc.);
 - c) Approval of applicants for creation of farm shall be considered by the regional commission led by area khokim;
 - d) The accepted decision of the regional commission becomes legitimate only after its approval by khokim of areas;
 - e) The contract of land plot rent is signed by khokim of area and elected head of a farm only after approval of khokim decision.

² For example, list of restructured in farm shirkats in 2004 has been approved in Appendix No4 to the Decision of Cabinet of Ministers of Uzbekistan dated October 30, 2003 No. 476 "Measures on implementing Concept of farm development in 2004-06"

³ Approved by decision of Cabinet of Ministers of Uzbekistan dated October 30, 2003 No. 476 "Measures on implementing Concept of farm development in 2004-06"

The existing order of farms selection became more transparent in comparison with earlier existing order:

- Dependence of reception of the sanction to creation of farm on the decision shirkat is excluded.
- The head of shirkat is deprived rights to define individually, like which applicant to authorize creation of farm.
- The farmer became independent and not dependent from the head shirkat.
- The order of competitive selection of farmers is introduced on the basis of decisions of the regional commissions.

At the same time, the problem questions connected to realization of legislative norms and its perfection is observed at the analysis of the existing legislation and its practical application:

1. According to the current legislation, reorganization of the agricultural enterprises is carried out administratively, which is created in areas by the special commissions. All work is assigned to the commission on reorganization of the agricultural enterprises. However, chairman (the first assistant khokim area) and members of the commission on reorganization of the agricultural enterprise combine work with the primary activity on public principles.

For realization of the assigned functions, the a lot of time is required from members of the commission, which appointed people who not always have connection with direct work load on the basic post⁴. In this connection, in practice, the part of the stipulated measures on reorganization of the agricultural enterprise is carried out formally, or simply is not executed. For example, inventory of a fixed capital and other material assets, the uncompleted construction, collecting debts, return of the plundered and spent property, realization of excessive property, etc.

Thus, the property of the reorganized 178 farms exposed at the tenders, was realized in target dates only on 58% in 2003. Besides, sale of property of agricultural productions to the third parties for nothing is happening quite often, that does not allow extinguishing to the full creditor debts of reorganized farms, which subsequently is transferred to new farmers.

2. For the lack of public control, significant intervention is quite often observed on the part of local officials in a course of carrying out of tenders. It is testified by numerous informal complaints from local population concerning carrying out of tenders. For example, in many cases, former heads of the reorganized farms, which lead shirkat farm to bankruptcy could win tender and receive the best lands.
3. The list of reorganized shirkat is annually approved by governmental decision on the basis of proposals of Council of Ministers of Republic Karakalpakstan and khokims of areas. It allows to carry out reorganization unprofitable and unpromising shirkat in farms on all republic with creation of corresponding conditions.

⁴ More non-effective method is applied since 2004, when designated heads of republican Ministries, agencies, commercial banks etc. for the purpose are sent to regions to coordinate process of restructuring shirkats in farms

At the same time, there are some factors lowering efficiency of accepted measures at such approach:

- a) Lack of the initiative of proprietors of property (shareholders) and shirkat members. At preparation of tender proposals on reorganization, the initiator is the local authorities, and opinions of shareholders are insufficiently taken into account. It leads to low interest and passive participation of shareholders (and members) during reorganization, in maintenance of safety of property and realization of spring-field works.
 - b) Proposals on inclusion in the List of reorganized farms are usually prepared at the end of August - beginning of September. Selection of farmers occurs much later. It creates an opportunity of a manipulation of the accepted decision. For example, after approval of the List in 2004, Government received references of lines khokims about exception of the List of one shirkat and inclusion of others.
4. The working circuit of sequence of works on reorganization of the agricultural enterprise in farms provides realization of all complex of works (5 stages) within 2 months, however, process of shirkat reorganization does not come to the end in target dates practically in all regions of republic. So, more than 4 months was required in 2004 for creation of farms on the basis of reorganized 284 shirkat farms⁵. Even in 6 months after the beginning of process, process of realization of property is not completed yet in 60% of reorganized farms.

The established deadlines lead to roughest mistakes at reorganization, strengthen formalism and the superficial attitude, especially in carrying out of competitions, realizations of property under the worthy prices, and finally reduce efficiency of conducted reorganization.

5. The questions related to activity of objects of an infrastructure, serving again established farms are settled not enough precisely in the current legislation.

There is no order of assignation of reorganized farms to the enterprises of the serving organizations ("Uzoiilproduct", "Uzhimprom") on account of repayment of duties of reorganized farms. The matter is that the organization of networks on realization of the petroleum products, mineral fertilizers and chemical means of plant protection needs building, mechanisms, other kinds of the equipment and working capital. The property suitable to these purposes is available in the reorganized farms; simultaneously reorganized farms also have debts to the enterprises of these organizations. Certain time (3-4 months) is required for purchase of these objects when due hereunder (after an estimation, exhibiting to the tenders, carrying out tender, etc.). Taking into account sharp necessity of creation during the shortest terms of objects of an infrastructure for service of again created farmers, it is necessary to develop the order of assignation of a reorganized farms to the enterprises of serving branches on account of repayment of creditor debts.

6. During reorganization shirkat farms there remains land, which has been not distributed between farmers for the lack of interested persons (basically it is deserted and left without use, with a bad ameliorative condition land). So, more than 7 thousand hectares of land (where it was

⁵ According to the Order of Cabinet of Ministers dated October 30, 2003,

possible to create about 100 farms) have remained not distributed in 2003. Usually such lands are included in structure of lands of khokim's reserve.

Taking into account absence at khokim the means necessary for improvement of a condition of these lands, it is expedient to transfer such lands to interested persons without obligations on performance of the state order, releasing them from all kinds of the tax to 5 years, hence, for this purpose it is necessary to develop the corresponding order.

The requirements to applicants for reception plot of land in rent for formation of farms.

Structure of farmer selection commission. The commission is headed by khokim of area and includes heads, experts, members (workers) of the reorganized agricultural enterprise, and also representatives of trade union, serving bank, financial and tax bodies, regional department of rural and water management, regional service on land resources, Association dehkan and farms

The order of carrying out selection and competition of applicants for the organization of farm on the basis of reorganized shirkat is determined in the decision of the Cabinet Ministers from January, 5 2002r. № 8.

The specified order provides the following requirements to applicants for reception of the land areas in rent for formation of farms:

1. Citizenship of Republic Uzbekistan.
2. Granting the necessary documents including:
 - a) The application on participation in competition with the indication (the Appendix 4) numbers of the certain land area for which bidder applies;
 - b) The obligation to provide productivity on this land not below mid-annual long-term productivity;
 - c) The obligation to observe specialization within 10 years with observance of the circuit of accommodation of the agricultural crops, authorized by department rural and a water management of area;
 - d) A guarantee of sale of production for the state needs at observance of crop rotation;
 - e) The obligation of increase of land fertility, obligation of repayment of creditor debts in target dates, the obligation to execute other conditions established by the commission.
3. The documents confirming profession, experience of work.
4. Calculation of the basic parameters of the business - plan.
5. Letters of recommendation.

Persons, who have not presented the above-stated documents, are not allowed to participation in competition.

According to Methodical recommendations on reorganization of agricultural co-operatives (shirkat) in the farms, authorized by the Ministry Agriculture and Water Management of republic⁶, the commission evaluates the documents submitted by applicants in two stages at selection of farmers.

⁶ The methodology bears recommending nature< thus not all commissions are guided by that.

At the first stage applicants are evaluated on the following 7 criteria, for each of which 10 points (the greatest possible general point - 70) are maximum awarded:

- 1) Age - from 6 up to 10 points, thus the maximal point is awarded, if the applicant is in the age of 31-40 years, and minimal (6 points) - if more senior than 51 years;
- 2) Profession by the received education - the maximal point is awarded to agriculturists, minimal (7 points) - to livestock specialists, builders, and contractors;
- 3) The experience of work in agriculture - the maximal point is awarded to those who has the experience of work more than 15 years, minimal (6 points) - who has the experience from 1 till 5 years;
- 4) Education - the maximal point for the applicant having higher education, minimal (receives 7 points) - having the general secondary education;
- 5) Availability of agricultural machinery in a private property - the maximal point is given to the one who has an arable tractor, minimal (3 points) who has only cargo or the car;
- 6) Availability of free money resources on the account - the maximal point is awarded to the one who has on the account more than 1.5 million sum (in an equivalent of 1.5 thousand US dollars). The minimal (3 points) - to the one who has less than 500 thousand sum (in an equivalent of 500 US dollars);
- 7) The proof of the fact that earlier, within three years, the applicant, working as the family contractor, fulfilled the state order on production - the maximal point provided that the plan was carried out within three years, minimal (4 points) when the plan was carried out only 1 year from three.

Applicants having difference in points in comparison with the applicant who has received the maximal number of points, which does not exceed 10 are allowed on the second round.

In the second round applicants are evaluated on 10-mark system by five generalized criteria:

- An operational experience in agriculture and economic parameters - from 1 up to 3 points;
- Education and profession - from 0 up to 2 points;
- Organizing and enterprise activity - 0-1 point;
- Business parameters-plan, availability of sufficient conditions for employment in enterprise activity - 0-1 point;
- Knowledge in the field of economy, legislation, tax and a financial system, reforms in agriculture - 1-3 points.

In the second round members of the commission put down the points to each applicant, and then for each applicant the mean score for the second round is deduced.

The winner is considered the applicant who has collected on results of two rounds the greatest number of points. With other things being equal advantage is given to a member of a reorganized farms.

It is obvious, that the used order of selection of farms has a number of appreciable lacks, basic of which are:

- 1) There is an insufficient transparency and subjectivity at putting down of points by the elected criteria in connection with that:
 - a) Members of the commission, as a rule, are not closely familiar with professional and personal characteristics of each applicant;
 - b) Criteria of selection is not precise enough especially in the second round;
- 2) The short term given to applicants for preparation of necessary documents (one month) which is not enough for development qualitative business plans, especially for applicants who have learned about carrying out of competition not in the first days after its announcement.
- 3) Excessively rigid requirements to applicants (and in the subsequent to farmers) within 10 years to submit subjective and not always to the economically justified decisions of local agricultural controls in a question of cropping pattern.

Modern condition of process of transformation shirkat farms into farms

As it has been marked in the previous sections, the first experiments on transformation of unprofitable agricultural productions to farms began in 1998-2000 by the example of lines of farms in Khorezm, Syr-Darya, Navoi and Bukhara areas, and also Republic Karakalpakstan, and results appeared positive.

Taking that into account, the Government activated processes of reorganization unprofitable and insolvent shirkat in farms since 2001. Like if only 21 agricultural enterprises has been transformed into farms for 1998-2000, in 2001 this figure made 52, in 2002-86, in the beginning of 2003-178 farms. (Appendix - 5).

The greatest quantity of farms undergone during this period of reorganization was observed in the regions showing the worse parameters of productivity and profitability of agricultural production: in Dzhizak (66), Kashkadarinskai (58), Syr-Darya (53) areas and in Republic Karakalpakstan (43)

Practice of full transformation of agricultural productions of separate areas in farms is started since 2002. In 2002 the government of Republic accepted proposals khokims of Syr-Darya and Fergana areas about transformation of all agricultural shirkat in farms in 3 areas. Before similar practice was carried out only in shallow areas of the Khorezm area and Republic Karakalpakstan, and also on area Romitanski of Bukhara area.

As a result of conducted transformations, the quantity of farms in 2003 has increased in 3.8 times in comparison with 1998, the area of lands allocated-in 4.9 times. The very first and appreciable consequence of reorganization of the large agricultural enterprises became numerical growth of farms, and, accordingly, increase share of farms in areas under crops, and also in gross output of agriculture.



The share of farms in areas under crops has reached 37% in 2003 (in 1991 there were 0.3%), in gross output of agriculture - 14% (0.2%). In 2003 the average size of agricultural land on one farm has made 24.5 hectares, or has increased in 3.5 times in comparison with 1991.

1,020 agricultural productions will be transformed to farms (shirkats), or 55% from their general number in 2004-2006 (the Appendix 6) according to «Concept of development of farms on 2004-2006» and decision of the Cabinet of Ministers Republic Uzbekistan from November, 30 2003 №476,

According to the Program, more than 85-90% shirkat farms of Republic Karakalpakstan, Khorezm, Syr-Darya, Dzhizak, Bukhara and Navoi areas will be transformed to farms within the nearest 2 years.

One of the primary goals of the given stage consists that carried out processes of reorganization should promote increase of efficiency of agricultural production.

At the same time, existing problems of farms selection process render the certain negative influence, first, on the attitude of countrymen to processes of farms creation and, second, on efficiency of use of lands allocated to farmers when selection of farmers was not successful.

The dissatisfaction of countrymen is substantially connected to restriction of their access to competitions, in connection with the limited terms allocated for preparation of corresponding documents, and accordingly by unequal conditions of participation in competition.

Confirmation of existence of the specified problems is relatively low level of participation of applicants in competitions (the Appendix 7).

For example, 2 bidders applied on one competitive land area on the average in farms created in agricultural year 2003, including in the Kashkadarinskai area - 1.4 bidder, in Republic Karakalpakstan - 1.5, in the Samarkand and Syr-Darya areas - on 1.7, Dzhizak, Navoi and Bukhara areas - on 1.9. It obviously does not reflect the real fact of potentially great demand on rent of the lands in conditions of their limitation.

Competition was a little bit higher in 2004 and has made on the average 2.4 persons on one land area. However competition was still low (less than 2 person on a site) in the Fergana, Namangan and Khorezm areas, and also in Republic Karakalpakstan.

The low level of participation in competition for the above-named reasons causes a dissatisfaction of many countrymen, and also does not allow be confident in correctness of a choice.

Lacks of selection prove to be true by the compelled decisions of local authorities to terminate the rent contract with farmers, who could not provide observance of taken by them obligations.

As a whole in republic there were about 3.5 thousand unprofitable farms in 2003, from which 872 farms have been liquidated. It is interesting, that non-profitability of these farms was generated not because of the objective reasons, but owing to unsatisfactory management.

Table 1. Liquidation of unprofitable farms in Republic*

Parameters	2001	2002	2003
Quantity of the liquidated farms	442	483	1026
Including: <i>by the announcement bankrupts</i>	14	49	96
<i>In % a ratio from the general number of the liquidated farms</i>	3.2	10.1	9.4

Source: the data of Committee on affairs of economic inconsistency of the enterprises.

1,026 farmers (the Appendix 8). have been deprived rent rights in 2003), whose sites have been again exposed on competition for selection of other applicants. The greatest number of the farmers, deprived at rights of rent was in Dzhizak area - 551 (54% from all farmers deprived of the right of rent on republic), that testifies that during the previous periods in this area process of selection of farmers passed extremely unsatisfactorily and subjectively.

As of December 1 2004, cancellation of rent contracts was already carried out with 2,552 farms (the Appendix 9), including voluntary handing over sites of the land 1,252 farmers, at 1,236 farmers the land has been evicted under the decision of economic courts for default of the rent contract, 64 more farms have lost the land owing to bankruptcy procedure.

This process proceeds, as the general number of the farms, which have not executed the contracts on sale of raw cotton, makes 13,126. That part from them will fail to extinguish debts against the state under earlier taken advance credits, and will be deprived rights of rent under the decision of court to the end of the current year. Sites will be exposed on repeated competition for new applicants.

The greatest number of farms which have not executed the contracts on grain production, is observed in the Dzhizak, Syr-Darya, Samarkand areas, and raw cotton - in Syr-Darya, Fergana, Namangan, Tashkent and Dzhizak areas, that characterizes insufficiency of farms selection process in these regions the last years.

On set of parameters of participation in competitions and numbers of farms which have not executed treaty obligations, it is possible to conclude, that processes of selection of farmers were carried out the last years least successfully in Syr-Darya, Dzhizak, Fergana and Samarkand areas.

Estimation of appeal opportunities of citizens who have not gained in competition on reception the land area for formation of a farm

The regional commission has obligation to present written explanations to applicants about their reasons of non admission to competition that can serve subsequently as the document for proceeding under claims of persons, not concordant with the presented substantiations.

Though the special official order of the appeal of the citizens, who have not gained in competition on reception the land area, does not exist, complaints and references of the citizens who have been not satisfied with results of competition take place.

It is proposed, that process of selection occurs publicly, at participation of the commission that guarantees validity of selection.

At the same time, there are two opportunities to challenge the decision of the regional commission.

First of them is connected by that the decision of the regional commission should be authorized by khokim of area. Theoretically, the citizens having lost in competition, still have an opportunity to appeal in regional khokim but only before khokim will ratify the decision of the regional commission. Accordingly, khokim has the right to not ratify the decision of the regional commission, if will see any infringements at carrying out of tender. However, rules and consequences of such appeal are not registered legislatively.

The second opportunity to challenge the decision of the commission (and the decision regional khokim) is connected to usual procedure of submission of the claim in court. The content of the claim can be based on the revealed and documentary proved infringements of carrying out of competition. Complexity of legal proceedings

of claim submission (professional lawyers which employment for countrymen is almost not possible on financial reasons can do it only), and also necessity of payment of State Tax for the sent claim makes an opportunity of submission of such claim practically minimal.

There are no official data on quantity of the sent appeals or judicial claims on the decision of the regional commissions concerning selection of farmers. However, there are written complaints from separate citizens in the various regional and republican instances expressing their discontent by selection process. Also in informal conversations with applicants, claims were expressed for bias of selection, though such complaints and judgments can also be not objective.

For example, in the Fergana area complaints in higher instances (appeal) in the beginning 2004 have been submitted by 19% applicants, which were refused in allocation of the land area. After consideration of appeals, 54% from submitted appeal (10% from number of initial applicants), have received the positive decision on allocation of the land areas. Thus the regional commissions found the decision of a problem, as a rule, in splitting of earlier proposed sites on smaller ones, with such purpose that the greater number of applicants could receive plots for conducting a farm.

All this testifies for the benefit of that it is necessary to develop and accept precise and clear for all the order of the appeal of decisions of the regional commission. Such order would allow preventing, as cases of infringement of the legislation during selection, and would create the democratic procedure allowing all citizens, having objective claims to process of selection of farmers, in the lawful order to prove their rights.

Proposals for improvements in the selection of applicants for formation of farms.

The analysis of farmer selection process testifies that the legislative base of realization of such selection in republic is created recently which is considerably advanced.

At the same time, process of selection is complicated or looks insufficiently transparent for the following reasons:

1. The insufficient period of time (one month), allocated for preparation of rather difficult tender documents that limits many citizens in an opportunity to participate in competition, or to qualitatively prepare necessary documents. Applicants who have found out about competition before others, including as a result of affinity to the officials preparing these competitions, receive advantage.
2. The big danger of value judgment at putting down of points to applicants by the chosen criteria. Members of the commission are poorly familiar with each applicant that creates danger of the subjective approach at putting down of points.
3. Excessive requirements to the future farmers which performance frequently depends on subjective decisions of local controls of agriculture. Besides passivity of work of the regional commissions on reorganization frequently delays processes of transfer of the allocated sites of the land and property to the new farmer. Land, hence, and crops, long time remain without due care, spring-field works are in due time failed. In the result, the new farmer does not receive the stipulated crop and incurs losses. Practice shows, that duly transfer of the lands to the new farmer, at the best, is carried out only on 35-40% shirkats.

Because of not qualitative selection of candidates, a low level of carrying out of processes of competition, absence in region of applying persons for carrying out of competitive selection and other similar reasons, the land is often transferred the persons who are not prepared and not able to operate farm. By expert estimations, the probability of such "casual" persons even for the objective reasons makes not less than 8-10% as a whole on republic⁸, and in Republic Karakalpakstan, Syr-Darya and Dzhizak areas where there is shortage of qualified personnel, it reaches up to 20%.

4. There is no precise and transparent mechanism of the appeal on the decision of the regional commissions on selection of farmers that generates mistrust of the population to the selection process.

The following measures on perfection of farmer's selection policy are proposed to:

1. Prolong preparation period and submission of documents for competition about two months so that farmers have better opportunity to prepare documents.
2. Begin farmers selection process not in December - January, but much earlier, having declared the beginning of competition, at least, in September, so that in November to finish selection of farmers.
3. Without fail to include in structure of the regional commission wide representation of the public (chairman of mahalla committee, elderly people, the representative of women committee, etc.) that will allow making selection procedure more transparent.
4. Provide the order when the commission should hear each farmer of his plans to receive the best representation about his opportunities.
5. Enter three stage procedure of tender when at the first stage representatives of the public of settlement (authorized representatives of inhabitants) reject the least prepared applicants, and in the second round the regional commission with participation of representatives of the public selects on points not less than two, but no more than 5 applicants (depending on number submitted the application). In the third round the winner is selected a method of casual sample on a lottery.
6. Not to allow inclusion in tender conditions requirement of covering by farmers' debts of reorganized farms (behind exception of really confirmed volumes of work in progress) that limits opportunities of participation in competition of the citizens who are not having financial resources for covering of another's debts.
7. Terms of realization separate tender procedures, established in the current legislation, are not real. Therefore it is proposed to reconsider terms of realization of works, having divided them on two parts:
 - a) The creation of again formed farms, by the regional commissions within no more than one month after the announcement of tender results.
 - b) Liquidation of a reorganized farms (with end of works on realization of property, the decision of questions of write-off of unreal debts, etc.), carried out by the liquidating manager - within six months, if necessary with prolongation of term for 3 months.

⁸ Specific weight of all farmers, failed to meet contractual targets as a result of 2004 makes 14.1% on grain, and 20.1% on cotton.

8. To develop and accept precise and clear for all appeal order of decisions of the regional commission, which would allow to prevent both cases of infringement of the legislation during selection, and would create the democratic procedure allowing all citizens, having objective claims to process of selection of farmers, in the lawful order to prove their rights.

Agricultural Sector Review and Planning

Policy Note 3: Agricultural Tax System

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Introduction

Inherent in Soviet times taxation system was kept in agriculture of Republic Uzbekistan up to 1999. Types of taxes were the following: income tax (profit), the value-added tax (VAT), the ecological tax, the tax for using water resources, tax for using land, property tax, land tax; social infrastructure development tax, other local taxes and tax collections (the Appendix 1).

Regular change of tax rates and growth of inflation have led to deterioration of financial condition of agricultural productions.

The total amount of the raised from agricultural productions taxes made 23% from proceeds, and 18% from the general expenses.

Payment of several types of taxes created the certain inconveniences up to 1999 both for agricultural productions, and for tax bodies, namely:

- Set of paid taxes (the profit tax, the VAT, taxes for using land, etc.);
- Difficulties in charge of the tax sum by types;
- Uncertainty of the impact mechanism of separate types of taxes to agricultural productions activity;
- Difficulties in preparation of various kinds of documents (more than 30) at payment of taxes.

With a view of simplification of taxation system and increase land use efficiency, the unified land tax¹ has been accepted since January 1 1999 in republic.

Calculation and payment of the unified land tax is made according to the instruction of the Ministry of Finance and State Tax Committee² "About the order of calculation and payment of the unified land tax by agricultural producers".

The unified land tax is accepted for all forms of agricultural producers, except for dehqan farms according to the legislation. According to the Law "About Dehqan farms" dehqan farms pay land tax, tax for use of water resources and property tax.

The base rate of the unified land tax in view of inflation is annually reconsidered by the Government (Appendix 2 - base rates for 1999-2004). The correction factors used to base rates, remain constant (the Appendix 3).

As of January 1 2003, 36.6 thousand agricultural productions pay the unified land tax, and so far 900 farms did not select this system of taxation. The sum of the paid unified land tax has increased from 11.9 billion sum up to 17.3 billion sum for 1999-2003.

In an aggregate number of payers of the unified land tax - 89% are farms; the share of the taxes paid by them makes 13% (the Appendix 4).

According to the Law "About farm" newly created farms are released from payment of the unified land tax within 2 years.

The quantity of farms annually increases, so 72.4 thousand farmers worked in 2002, and in 2003 their quantity increased up to 87.6 thousand; the land areas rented by them have increased for 556.4 thousand hectare. Hence, newly created 15.2

¹ The order of President of Uzbekistan on "Introducing unified land tax for agricultural producers" dated from October 10, 1998 No.YP-2086, Order of Cabinet of Ministers on "Approval provisional base rates of unified land tax for agricultural producers", dated from December 26, 1998 No. 539.

² Instruction of Ministry of Finance and State Tax Committee as of January 31.2002 No.29, and 2002-27 (new version)

thousand farmers have been released in 2003 from the tax to the sum 7.4 billion sum (average volume of the tax with 1 ha - 13.3 thousand sum).

In the general structure of taxes and tax collections the share of the unified land tax in 1999 made 2.2%, and in 2002 - 1.8% (the Appendix 5).

Weaknesses and solutions.

The unified land tax has revealed in practice a number of lacks, in particular:

- Charge of the unified land tax is carried out in conformity with land quality classification, in steps with intervals in 10 points, which does not reflect objective situation. The sum of the land tax with land quality classification point - 61 is more on 37%, than land quality classification point -60, and similarly with land quality classification point - 71 on 37% higher, than 70;
- Increase of land fertility (land quality classification point) is connected to increase in the sum of the taxation that does not stimulate producers to increase land fertility.

In this connection the Government has decided to reconsider receipts from the unified land tax, and since January, 1 2004, agricultural productions of Tashkent and Samarkand regions by way of experiment began to pay the unified land tax in new system, proceeding from an economic and cost estimation of land³).

According to new techniques, the sum of the unified land tax is established at a rate of 2% from normative cost of the agricultural land⁴).

In others regions, the base rate of the unified land tax in comparison with 2003 is indexed in 1.5 times.

Since January 1 2004, not included in the list earlier scientific institutes, having the land areas experimental - pilot farms began to be charged with the unified land tax.

Since 2003 obligatory payments in non-budgeted social funds made 37% from fund of the salary (35% in fund of social insurance, 1.5% in the state fund of assistance of employment, 0.7% in Council of Federation of trade unions). Before that deductions made 40%. The income tax was raised from wages, compensations and other incomes equal to them on a scale, and payments in a pension fund at a rate of 2.5%.

Since January 1 2004 unified social payment is established at a rate of 33% from wages fund, instead of obligatory insurance payments⁵.

Tariffs of insurance payments are obligatory and unified for all branches of economy.

The sum of obligatory payments from a wage fund makes 50-55%. The fact that it's impossible duly payment of the deducted obligatory payments leads to increase in creditor debts of financial unstable agricultural enterprises.

Taken actions have considerably simplified tax payments for agricultural productions. So if in 1999 the share of taxes and payments from the general proceeds made 23%, in 2003 this parameter has decreased to 15% (the Appendix 6).

Except for it, the indirect tax, which will consist from: VAT, the excise tax and the customs is raised from agricultural productions in Uzbekistan.

³ Order of Cabinet of Ministers of Uzbekistan on "Parameters of State budget of Uzbekistan for 2004" dated from December 25, 2003 No 567

⁴ Provisional methodology of identification of qualitative economic and quantitative evaluation of agricultural land in Republic of Uzbekistan (1998)

⁵ Tax sum in 2003 have been calculated based on 1.5 times indexation to the tax sum in 2004.

The zero rate of the VAT is applied to maintenance of the agricultural enterprises with material resources. According to the State Tax Committee, due to application of the zero rate of the VAT only on supplied mineral fertilizers, privilege in 2002 have made 7.0 billion sum; on all supplied material resources privileges have been given to the agricultural enterprises in size of more than 20 billion sum.

The excise tax is not charged for agricultural production.

At export of agricultural production, the custom duties are established at a rate of 0.1% from its cost (charges on official registration of papers), and at import - 30%.

The government pursues policy of the informal indirect (latent) taxation of cotton and grain sectors by means of decrease in procurement prices in 1.5-2 times against market (the Appendix 7).

The share of the indirect tax raised from cost of cotton fiber is constantly growing. In 1999 this parameter has made 22%, in 2000 - 40%, in 2002 - 57%, and in 2003 - 54%. The share of an indirect tax raised from wheat cost is reduced. Thus, this parameter made 35% in 1999, in 2002 - 32% and in 2003 - 28% (the Appendix 8). Receipts from these latent taxes go on filling of the state budget.

The analysis of payments of the unified land tax (on Tashkent region) at a rate of 2% from normative cost of the agricultural lands shows, that the sum of the unified land tax in 2004 has increased in 2-3 times in comparison with 2003. So on region in 2003⁶ the sum of the unified land tax has made 5,100.6 million sum, in 2004 on preliminary computations this parameter will make 11,983.4 million sum, or will increase in 2.4 times (the Appendix 9).

Introduction of a new technique of unified land tax collection has sharply increased the tax sums, especially in vegetable-growing and gardening farms. If in the Tashkent area, specializing on vegetable growing and gardening in 2003 the sum of the unified land tax counting upon 1 ha averaged 9.7 thousand sum, in 2004 this sum has increased up to 45.2 thousand sum/ha (or in 4.4 times).

In 2003 in shirkat farm Niyozbosh Yangiyul area, which grows cotton in 47% of area and grain crops in 44%, unified land tax has made 61.4 million sum; in 2004 on new technique the farm should pay 102.1 million sum (the sum of the unified land tax on 1 ha-26.8 thousand sum in 2003, in 2004r. - 44.0 thousand sum).

In shirkat farm "Navbahor" Parkent area the sum of the unified land tax in 2003 made 11.3 million sum, in 2004 this parameter has made 30.5 million sum (the Appendix 10). In result profitability of shirkat from 8% has decreased up to 1% in 2004 compared to 2003

Application of a new method of the taxation in farm "Mubarak" of Samarkand region Kattakurgan area has led to increase sum of the unified land tax in 2.4 times (2003 1 ha. - 18.8 thousand sum, in 2004 - 44.5 thousand sum). Land area of the farmer in total makes 101 ha, from them 46%-cotton, 49% - wheat (96% of the land is occupied with these two crops).

The design procedure of the unified land tax used nowadays has a number of lacks:

- The size of the unified land tax established at a rate of 2% from normative-economic cost of the land is insufficiently proved. It has resulted to 3-4 multiple increases in the land tax paid by agricultural productions, displeasing agricultural producers.

⁶ tax sum in 2003 has been calculated based on 1.5 times indexation in relation to tax sum in 2004.

- Owing to low profitability, the majority of agricultural productions is not capable to pay taxes in due time, therefore are charged fine, that negatively influences financial condition of agricultural productions;
- Because of imperfection of the mechanism of calculation and collection of taxes, only 70-80% of taxes act in the state budget, which in turn renders negative influence on filling of a profitable part of the budget.

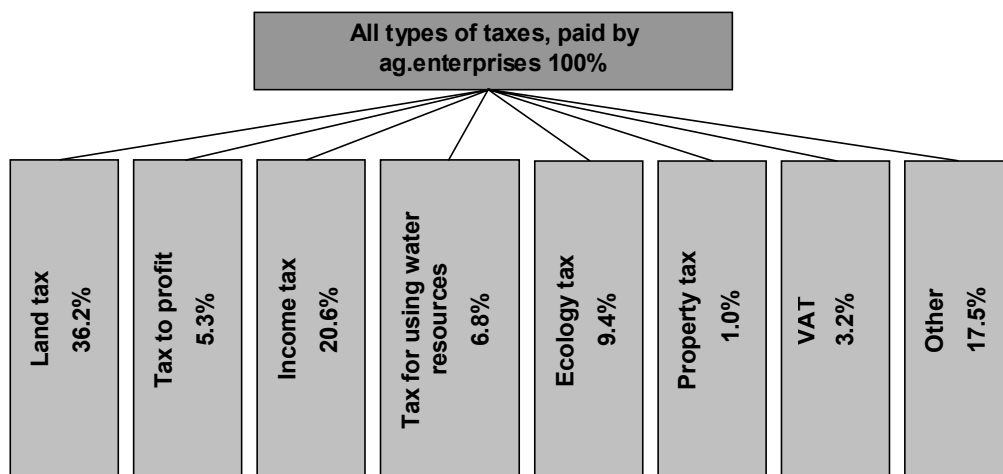
Conclusions and Recommendations

Perfection of tax system in agriculture in the long term will be carried out on the following basic directions:

1. The base rate of the taxation at collection of the unified land tax from agricultural productions and charge of the tax sum should be established not on each 10 point of lands fertility parameter, but in view of each land quality classification point.
2. Agricultural producers, provided increase of land fertility within 5 years, should keep the tax rate on former land quality classification point, and remaining in the farm means be directed on actions to increase land fertility. At the same time, it is expedient to establish economic sanctions to farms, which have allowed decrease in soil fertility.
3. In the unified land tax it is necessary to take into account not only parameter of land' quality, but also other parameters (financial and economic condition, level of profitability, type of crop, level of marketability of agricultural products, etc.).
4. It is expedient to establish the rate of the unified land tax from normative economic cost of the agricultural lands at a level of 1% from their cost.
5. With a view of creation of mechanism for rational and economical use of water resources, it is necessary to allocate the tax to water, and apply it in parallel with the unified land tax.
6. Taking into account, that process of reorganization shirkats in farmers is underway, and the basic part of farmland (75-80%) will be given to them, it is expedient to cancel the order of clearing of farms from payment of the unified land tax within the first 2 years after their organization.
7. As the land areas and production volume in dehkan farms increase, it is necessary to introduce the unified land tax and for the new form of managing.

Appendix - 1.

Taxes (general structure) of agricultural enterprises before introducing unified land tax in 1998.



Source: annual reports of MAWR

Appendix - 2.

Basic rates of unified agricultural land tax in 2004 (sum/ha)

Regions	Irrigated land (Category-1)		Rainfed (Plain)		Rangeland and hayfield (desert)	
	1999 ^{x)}	2004 ^{x))}	1999 ^{x)}	2004 ^{x))}	1999 ^{x)}	2004 ^{x))}
R.Karakalpkstan	375.1	1,336.8	-	-	10.6	38.0
Andijan	569.2	2,028.6	68.4	243.8	14.4	51.2
Buhara	493.4	1,758.5	-	-	14.1	51.2
Jizzak	429.6	1,531.2	64.6	230.4	13.3	47.4
Kashkadarya	415.7	1,481.7	71.4	254.6	17.1	60.9
Navoi	400.0	1,425.6	64.6	230.4	14.4	51.2
Namangan	586.7	2,091.0	-	-	14.4	51.2
Samarkand	596.6	-	64.6		13.3	
Surhandarya	640.0	2,280.9	86.1	306.9	9.5	34.2
Syrdarya	343.1	1,222.8	64.6	230.4	13.3	47.4
Tashkent	598.7	-	68.4		13.3	
Fergana	528.9	1,884.9	-	-	13.3	47.4
Khorezm	456.0	1,625.3	-	-	10.6	38.0
Tashkent city	1,471.2	5,243.4	-	-	-	-

Source: ^{x)} Appendix №1 to Cabinet Ministers Order dated December 26 1998 №539.

^{x))} Appendix №15 to Cabinet Ministers Order dated December 25, 2003 №567

Appendix 3.

Correction ratios of basic rates of unified land tax in 2004

Indexes	Ratios
Irrigated land	
0-10 land classification point	Basic rate
11-20	1.50
21-30	2.25
31-40	3.29
41-50	4.67
51-60	6.54
61-70	9.00
71-80	11.68
81-90	14.55
91-100	17.50
Non-evaluated land	4.67
Rainfed land	
Plain zone	Basic rate
Plain-hill zone	1.19
Foothill and mountain	1.67
Rangelands and hayfields	
Desert zone	Basic rate
"Adyr"	1.51
Mountain	2.05

Source: Appendix №15 to Order of Cabinet of Ministers as of December 25, 2003. №567.

Appendix 4.

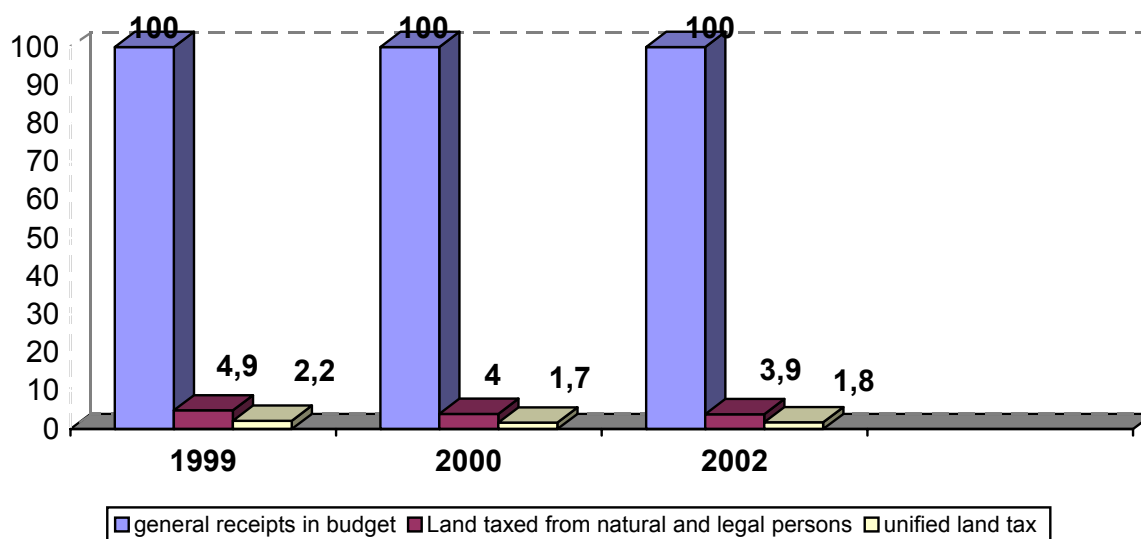
Dynamics of unified land tax payment by agricultural enterprises in 1999-2002

Parameters	1999	2000	2002
Number of payers (th)	23.9	28.5	36.6
Land, mln. ha	10.0	10.6	9.1
Calculated unified land tax sum (billion sum)	11.9	12.6	17.3
Share of farms in general number of payers (%)	90.4	94.0	88.8
Share of farms in general calculated sum of unified land tax, (%)	9.0	10.0	12.8

Source: State Tax Committee.

Appendix 5.

Unified land tax share in state budget structure,%.



Source: Source: State Tax Committee.

Appendix - 6.

Comparative analyses of taxes and collections for sales proceeds before and after transferring to payment of unified land tax.

Indexes	Prior to unified land tax			After unified land atx	
	1996	1997	1998	1999	2003
Total taxes, bil.sum	3.0	6.0	16.5	15.2	41.8
In % for sales proceeds	4.1	5.0	11.7	7.1	6.6
Compulsory payments, total bil.sum	12.7	14.4	16.4	24.0	50.6
In % for sales proceeds	16.8	11.8	11.6	11.3	8.0
Total taxes and Compulsory payments, total bil.sum	15.7	20.4	32.9	39.2	92.4
In % for sales proceeds	20.9	16.8	23.3	18.4	14.6
Note: Total sales proceeds, bln.sum	75.4	121.1	141.3	212.4	629.5

Source: Data MAWR.

Appendix 7.

Free and State procurement prices of agricultural production, th.sum per 1 ton.

Product	1999	2000	2001	2002	2003
Cotton (fibre) -average state procurement price*	102.0	168.0	255.0	378.0	585.0
-Average market (world) price**	130.7	278.0	317.2	392.0	1,287.4
Grain - average state procurement price	20.4	26.2	43.2	63.9	72.0
- Average internal market (world) price	31.4	42.6	71.6	93.8	100.0

Source: *Data of MAWR with account of procurement price of 1-ton of raw cotton

**Calculated with account of world price per 1 ton of raw cotton on official Central Bank rate in national currency (sum) to USD.

Appendix 8.

Unofficial (latent) taxes in % out of production cost, bought for state needs.

Agricultural product	Years				
	1999	2000	2001	2002	2003
Cotton	22.0	40.0	19.6	57.4	54.5
Grain	35.0	38.5	39.7	31.9	28.0

Source: Calculated with account of balance of free and state procurement prices.

Appendix - 9.

Comparative analyses of unified land tax payment in Tashkent region in 2003-2004

Area	Total irrigated land, th. ha	Paid tax sum in 2003. ^x		Calculated land tax 2% out of normative cost of land in 2004			Balance in 2004г. ию к 2003 г.			
		Total mln.sum	Average 1 ha, th.sum	Calculated normative cost, Mln.sum	Total to payment unified land tax, mln.sum	Average per 1 ha, th.sum	Total unified land tax		Average per ha in 000' Soums	
							Mln.sum (+; -)	паза	000' Soums (+; -)	
Akkurgan	26,524.8	436.2	16.5	49,782.1	995.6	37.5	559.4	2.3	21.0	2.3
Ahangaran	21,727.3	153.3	7.1	26,401.0	528.0	24.3	374.7	3.4	17.2	3.4
Bekabad	40,442.3	555.9	13.8	58,241.2	1,164.8	28.8	608.9	2.1	15.0	2.1
Bostanlik	12,003.2	80.0	6.6	17,883.9	357.7	29.8	277.7	4.5	23.2	4.5
Buka	35,400.2	603.6	17.3	68,430.2	1,368.6	38.7	765.3	2.3	21.4	2.3
Zangiota	10,132.1	197.9	19.5	23,838.9	476.8	47.1	278.9	2.4	27.6	2.4
Kibray	15,239.2	327.6	21.5	41,082.6	821.7	53.9	494.1	2.5	32.4	2.5
Kuyichirchik	36,395.4	630.0	17.3	73,175.5	1,463.5	40.2	833.5	2.3	22.9	2.3
Parkent	13,584.3	81.8	6.2	13,679.7	273.6	20.1	191.8	3.3	13.9	3.3
Piskent	22,845.8	314.1	13.8	32,070.7	641.4	28.1	327.3	2.0	14.3	2.0
Tashkent	8,599.8	84.0	9.7	19,428.2	388.6	45.2	304.6	4.6	35.5	4.6
Urtachirchik	29,470.9	512.4	17.4	62,072.5	1,241.4	42.1	729.0	2.4	24.7	2.4
Chinaz	19,027.5	323.7	17.0	34,284.1	685.7	36.0	362.0	2.1	19.0	2.1
Yukorichirchik	22,623.1	338.9	15.0	36,192.4	723.9	32.0	385.0	2.1	17.0	2.1
Yangiyul	23,349.5	461.3	19.8	42,605.2	852.1	36.5	390.8	1.8	16.7	1.8
Total in regions	337,365.4	5,100.6	15.2	599,168.1	11983.4	35.5	6882.8	2.4	20.3	2.4

Source: Tax department of Tashkent region

^x tax sum in 2003 counted with 1.5 times indexation to tax sum in 2004

Appendix 10.

Unified land tax sum in farms out of normative cost of agricultural land

Areas	Name of farm	Specialized	Total cropped area, ha		Including 2004						Общая сумма земельного налога всего, млн. сум		На 1 га, тыс. сум	
					Cotton		Grain		Other					
			2003	2004	ha	in %	ha	in %	ha	In %	2003 _x	2004	2003 _x	2004
Tashkent region														
Yangiyul	Niyazbash	Cotton, grain	2,280	2,280	1,150	50.4	1020	44.7	110	4.9	61.4	102.1	26.9	44.7
Chinazx	Eshonobod	Cotton, grain	867	854	380	44.5	340	39.8	134	15.7	21.2	17.9	24.3	21.0
Parkent	Novbahor	Grain, horticulture	903	903	-	-	497	55.0	406	45.0	11.3	30.5	12.5	33.7
Samarkand region														
Kattakurgan	“Mubarak farm”	Cotton, grain	101	101	47	46.5	50	49.5	4	3.9	1.9	4.5	18.8	44.5
Ishtihan	10-years independence Farm	Cotton, grain	44.8	44.8	23	51.3	20	44.6	1.8	4.1	0.6	1.9	13.5	42.4

Source: Data of farms.

^x tax sum in 2003 counted based on 1.5 times indexation to 2004

Agricultural Sector Review and Planning

Policy Note 4: High Implicit Taxes Destroy Producer Incentives

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

January 10, 2005

Background. Uzbek agriculture has been losing money for at least a decade. The main reason is high indirect tax imposed through low prices paid by the government to cotton and wheat producers.

The tax revenue generated in agriculture is diverted in part to support the development of domestic industry (protected by high import tariffs), in part for other purposes. Only a small share returns back to agriculture as subsidies (e.g., free irrigation water).

Our assessment of Uzbek agriculture describes the consequences of excessive taxation: the lack of incentives to produce and the poor results of low and declining farm incomes, underutilized production potential – low yields, deteriorating land fertility, deteriorating irrigation services, growing debt, growing rural poverty, migration abroad, etc.

Our assessment also describes efforts by the Government law enforcement agencies to crack down on corruption, smuggling, and misuse of resources supplied by quasi Government monopolies. However, the Government intent seems clear – maintain the current system of agricultural taxation.

Would more effective enforcement of the current system stop farm losses and increase government tax revenue? The answer is no. The experience of the past ten years suggests that “cracking down” on farmers with even more vigorous enforcement will reduce production and increase enforcement cost. Also, cracking down will produce more social tension. Countless examples from other countries make this prospect quite certain.

Adam Smith on Excessive Taxation. In his “The Wealth of Nations” published in 1776, Adam Smith explains why excessive taxes fail to increase government revenue. Although written in archaic English, Adam Smith seems to be commenting on the current system of agricultural taxation in Uzbekistan.

Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury of the state. A tax may either take out or keep out of the pockets of the people a great deal more than it brings into the public treasury in the four following ways:

1. *The levying of it may require a great number of officers, whose salaries may eat up the greater part of the produce of the tax, and whose perquisites may impose another additional tax upon the people.*
2. *It may obstruct the industry of the people, and discourage them from applying to certain branches of business which might give maintenance and employment to great multitudes. While it obliges the people to pay, it may thus diminish, or perhaps destroy, some of the funds which might enable them to do so.*
3. *By the forfeitures and other penalties which these unfortunate individuals incur who attempt unsuccessfully to evade the tax, it may frequently ruin them, and thereby put an end to the benefit which the community might have received from the employment of their capitals.*
An injudicious tax offers a great temptation to smuggling. But the

penalties of smuggling must rise in proportion to the temptation. The law, contrary to all the ordinary principles of justice, first creates the temptation, and then punishes those who yield to it; and it commonly enhances the punishment too in proportion to the very circumstances which ought certainly to alleviate it, the temptation to commit the crime.

4. *By subjecting the people to the frequent visits and odious examination of the tax-gatherers, it may expose them to much unnecessary trouble, vexation, and oppression; and though vexation is not, strictly speaking, expense, it is certainly equivalent to the expense at which every man would be willing to redeem himself from it.*

Among many of the points, Adam Smith mentions smuggling. Clearly, smuggling of cotton to Kazakhstan is just one indicator of excessive agricultural taxation. Why does the official cotton yield tend to be lower the closer a farm is to the Kazakh border? The answer is simple. It is easier to run with it across the border and get more money for it. Adam Smith also developed criteria to judge a good tax. They are:

1. Cost of collection must be low relative to the yield
2. Timing and amount to be paid must be certain to the payer
3. Means and timing of payment must be convenient to the payer
4. Taxes should be levied according to ability to pay

Modern economists have added three more:

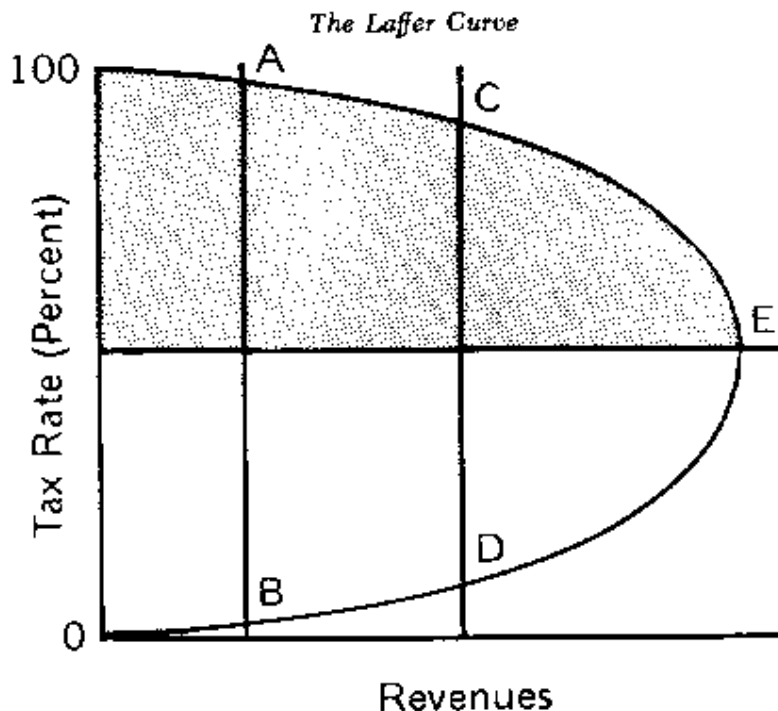
5. A tax must not hinder efficiency or should involve the least loss of efficiency
6. A tax should be compatible with foreign tax systems
7. A tax should automatically adjust to changes in the rate of inflation

Clearly, taxes on Uzbek farmers fail to meet any of the “good tax” criteria. Ignoring these criteria imposes a heavy burden on society of underachievement, misery and corruption, the opposite of what prudent Government and society desires.

The Laffer Curve.¹ This Curve illustrates the relationship between the tax rate and the tax revenue. Named after Arthur Laffer in the late 1970s, the Curve charts the law of diminishing returns on tax rates – increasing the tax rate increases tax revenue up to a point (the maximum) after which further increases of tax rates lead to revenue decreases and increased cost of enforcement (e.g., increased border protection to avoid smuggling). This is a powerful universal concept.

Arthur Laffer has noted that “*There are always two tax rates that yield the same revenues.*” When asked to elaborate as an aide to President Gerald Ford, Laffer (Economics Professor at the University of Southern California) drew a simple curve, shown below, to illustrate his point. The point, too, is simple enough -- though, like so many simple points, it is also powerful in its implications. It should be viewed as a tool to help policy makers in their analysis.

¹ This concept provided the intellectual foundation to Ronald Reagan's 1980 campaign for the presidency. At that time, the average top marginal income-tax rate around the world was between 65% and 75%. The average today is closer to 35%. In 1978, for example, the top rate in England was 96% and today it is 40%.



When the tax rate is 100 percent, all production ceases in the money economy (as distinct from the barter economy, which exists largely to escape taxation). People will not work in the money economy if all the fruits of their labors are confiscated by the government. And because production ceases there is nothing for the 100-percent rate to confiscate, so government revenues are zero.

On the other hand, if the tax rate is zero, people can keep 100 percent of what they produce in the money economy. There is no governmental "wedge" between earnings and after-tax income, and thus no governmental barrier to production. Production is therefore maximized, and the output of the money economy is limited only by the desire of workers for leisure. But because the tax rate is zero, government revenues are again zero, and there can be no government. So at a 0-percent tax rate the economy is in a state of anarchy, and at a 100-percent tax rate the economy is functioning entirely through barter.

The curve connects the two extremes. If the government reduces its rate to something less than 100 percent, say to point A, some segment of the barter economy will be able to gain so many efficiencies by being in the money economy that, even with near-confiscatory tax rates, after-tax production would still exceed that of the barter economy. Production will start up, and revenues will flow into the government treasury. By lowering the tax rate, we find an increase in revenues. On the bottom end of the curve, the same thing is happening. If people feel that they need a minimal government and thus institute a low tax rate, some segment of the economy, finding that the marginal loss of income exceeds the efficiencies gained in the money economy, is shifted into either barter or leisure. But with that tax rate, revenues do flow into the government treasury. This is the situation at point B. Point A represents a very high tax rate and very low production. Point B represents a very low tax rate and very high production. Yet they both yield the same revenue to the government.

The same is true of points C and D. The government finds that by a further lowering of the tax rate, say from point A to point C, revenues increase with the further

expansion of output. And by raising the tax rate, say from point B to point D, revenues also increase, by the same amount.

Revenues and production are maximized at point E. If, at point E, the government lowers the tax rate again, output will increase, but revenues will fall. And if, at point E, the tax rate is raised, both output and revenue will decline. The shaded area is the prohibitive range for government, where rates are unnecessarily high and can be reduced with gains in both output and revenue.

Supply Response. Improved incentives to farm producers of cotton and wheat (really a tax cut) are likely to bring about a strong supply response for the Uzbek economy over the next 3-5 years. This policy has been successful in many other countries (e.g. China, Vietnam, New Zealand, and others).

It is important to emphasize that the supply response to a tax cut increases efficiency, productivity, and total production. With a healthy tax cut, for example, Uzbek cotton producers could reach yields of 4.0 t/ha on average. Clearly, this will increase total cotton production, government tax revenue and reduce cost of tax enforcement.

Conclusions for Uzbek Agriculture. Uzbek farmers have been suffering from excessive Government taxation through low prices for cotton and wheat for over 10 years. The symptoms are described in our recent draft assessment of the sector.

Continuing the current taxation policy will result in lower production, lower tax revenue and more poverty – the opposite of what the Government wants and the Uzbek population deserves from its leaders.

Substantial reduction of the tax burden on agriculture is a necessary condition for the revival and long-term sustainability of Uzbek agriculture.

Other key complementary conditions include protection of private property and contract enforcement.

Agricultural Sector Review and Planning

Policy Note 5: Estimates of Implicit Taxation on Agriculture

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

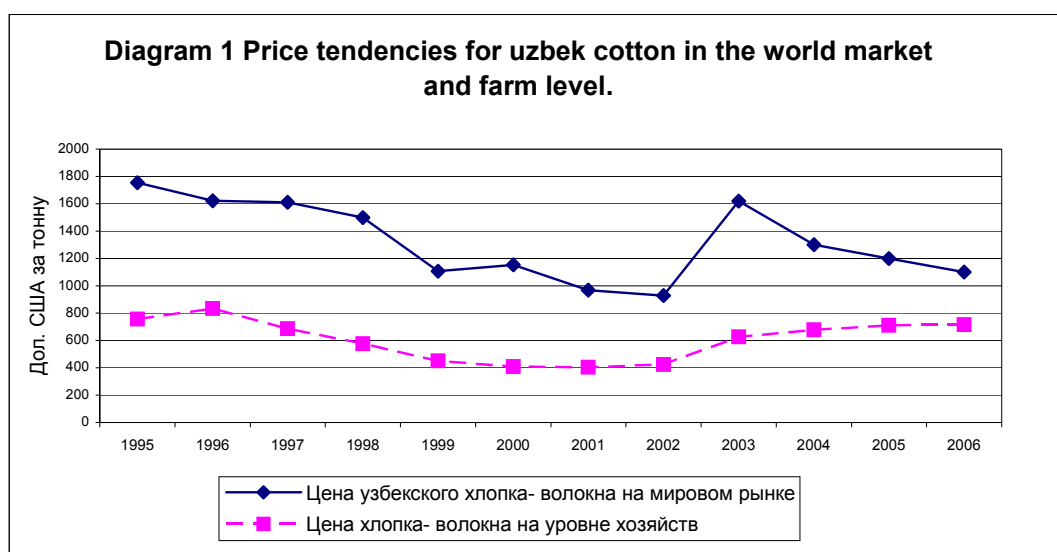
(TAR: UZB 37148)

February 2005

Tendencies for Prices of Uzbek Cotton

The prices established by state on wheat and cotton is the basic tool of the hidden taxation in agriculture and the important source of the budgetary income. According to estimates in 2004, net hidden tax has made 1.04 billion US dollars or 350 US dollars from hectare of cotton and wheat, which is cultivated on more 80% occupied under crops. Average value of hidden taxation - have made 1.13 billion dollars or about 10% of gross national product of Uzbekistan for 2002 - 2004.

The basic lever of redistribution of this tax is the system of pricing, constructed on a principle « expenses plus », not taking into account market conditions of formation of the prices. The state has declared, that procurement prices of cotton will not be reduced below 70% from the world prices, however in practice, from developed overestimated exchange rate and world market opportunity on cotton, local procurement prices made for cotton fiber from 39% in 2003, and up to 75% in 2001 of the world prices. (Diagram 1) Since 2004 reduction in demand and the prices for cotton - fibers marked in the world market .



Calculations of hidden taxation on cotton and wheat

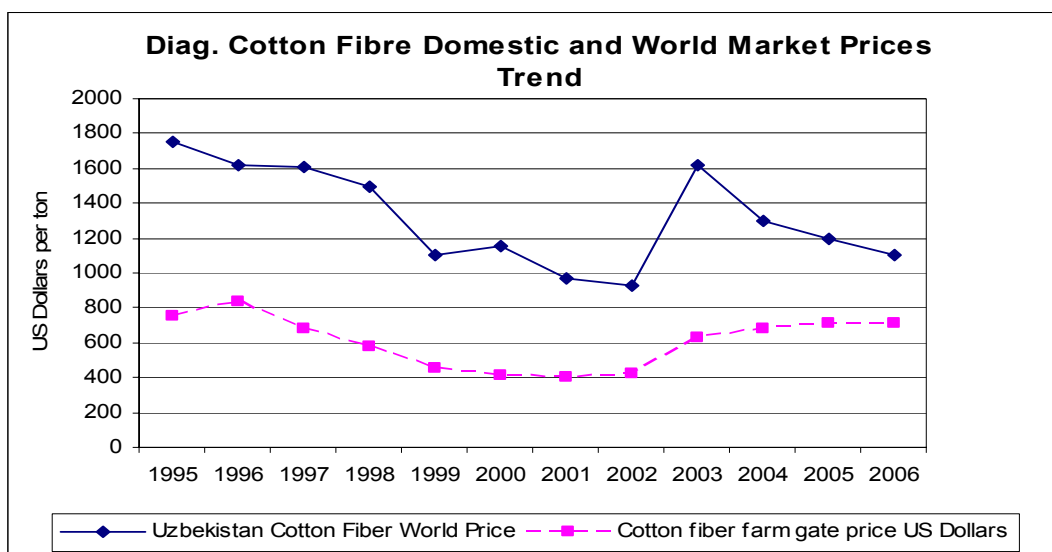
The high hidden tax to an agricultural production has been caused by the overestimated exchange rate used for converting of the internal prices. In 1999 the difference between market and official rates has made more than 4 times. The liberalization of the exchange rate entered in October 2003, which changed this situation a little, and has made the hidden taxation more transparent.

Because of the overestimated exchange rate farmers have received less for the cotton and wheat, than they could, if their production was marketed under the world prices. The state receives benefit from saving of a foreign currency in connection with that does not import wheat. Such system compels farmers to produce wheat here, but to receive low payment for it.

Tendencies of the hidden taxation of cotton and wheat production caused by a difference of the prices in the world market and local procurement prices are shown on the diagram 2. If predicted reduction of prices on cotton fiber in the world market will proceed, the hidden taxation of agriculture will decrease accordingly. Minimal hidden taxation is marked in 1996 and 2001 when transfers from agriculture have accordingly made 230 and 208 million dollars. It is explained by mass debt write-off of farms before the state, which consisted from 428 million dollars in 1996 up to 450 million dollars in 2001, which is reflection of unreal trading conditions for agriculture.

Obviously, mass injection in agriculture of demanded significant public funds, has served one of the reasons of a suspension of free converting currency in 1996.

Hidden taxation of cotton and grain production via transfers is most brightly shown in Table 1. Total amount of transfer from these two sectors designed under the conditional - equilibrium exchange rate varies from 208.4 million dollars in 2001, when the prices for the Uzbek cotton fiber in the world market have fallen up to 796



dollars for ton, up to 1429 million dollars in 2003, when the prices have risen up to a mark of 1620 dollars for ton. It is marked as relative increase in transfers from grain sector in comparison with cotton; so if in 1996 the share of grain to a cotton made only 27%, in 2001 and 2002 transfers from grain exceeded cotton-growing sector on 10% and 20% accordingly. It testifies to increase taxation in grain sector whereas cotton production becomes more and more unprofitable.

Table 1. Hidden taxation of cotton and wheat production for 1996-2004 with the forecast till 2006 under "conditionally equilibrium" exchange rate¹ (One million Dollars)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Transfers on cotton - fiber	841.8	785.5	799.8	1,040.8	737.4	399.9	511.7	907.0	729.2	549.2	431.5
Transfers on wheat	228.2	350.8	377.6	426.2	423.1	437.2	631.9	724.4	594.0	681.6	678.8
In total transfers from agriculture	1,069.9	1,136.3	1,177.4	1,467.0	1,160.5	837.1	1,143.5	1,631.4	1,323.2	1,230.8	1,110.3
In total transfers in an agriculture, from them:	839.7	505.3	622.5	250.9	622.5	628.7	205.7	207.3	282.3	200	180

¹ The World Bank, the Center of Effective Economic policy and other economic organizations in the estimates for the period before introduction of converting in October, 2003, use « the conditional - equilibrium exchange rate determined in the following ratios - 70% - official exchange rate and 30% - non- official «the black market» rate.

Subsidies on irrigation	412	283	299	231	191	169	159.1	193.8	260.7	180	160
Other Subsidies	428	223	324	20	432	460	47	14	22	20	20
Net transfers from agriculture	230.2	631.0	554.9	1,216.2	538.0	208.4	937.8	1,424.1	1,040.9	1030.8	930.3

Source: author

Subsidies to an agriculture

The basic argument justifying a modern policy of hidden taxation in agriculture, in opinion of the state bodies, is the hidden subsidizing agrarian sector. In 2004 the hidden subsidizing was carried out in the following directions²:

- Subsidies for maintenance with agricultural machinery (\$ 30 million);
- Subsidies for fuel and lubricants (\$ 31 million);
- Subsidies on irrigation (\$ 261 million. From them the hidden Subsidies for the electric power \$ 69 million);
- Subsidies for fertilizers (\$ 22 million)

Assuming lack of any changes in an existing state policy on cotton deliveries, it is possible to predict, that for three next years recession of the prices of the world market on cotton on 15-25% will annually reduce receipts in the state budget. In part it is possible to compensate such reduction by the further reductions of Subsidies in agrarian sector, or reduction of charges, for example on operation and servicing of an irrigating network. The tendency of reduction of subsidies to agrarian sector from 840 million dollars in 1996 up to 206 million dollars was marked in 2002.

Since 2003 the share of Subsidies on irrigation increases due to increase in the prices at the electric power. If in 2001 1 kwt.h of the electric power was 6.45 sum, in 2004 its cost has reached 24.5 sum and continues to grow.

Reduction of the hidden subsidizing of agrarian sector leads to growth hidden taxation, which strengthens by delay of payments for made production reaching from several months till two and several years, that worsens financial parameters of agricultural production.

There are distinctions in the prices for agricultural products in a section of regions that leads to distinctions in hidden taxation an agriculture depending on territories. As a whole, hidden taxation leads to decrease in population' incomes and growth of poverty level in countryside.

«Laffeur Curve» and agrarian production of Uzbekistan

Many experts³ connect decrease in economic activity of business, including with farmers in Uzbekistan, with excessive tax burden and complexity of the tax laws. In result many kinds of enterprise activity pass in shadow sector of economy. The analysis of dependence of tax revenues in the budget from tax burden in the various countries and during the different historical periods show the dependence which has received the name «Laffeur Curve». The basic postulate of this curve is that tax "press" up to some time leads to increase in tax revenues. However reaching up to

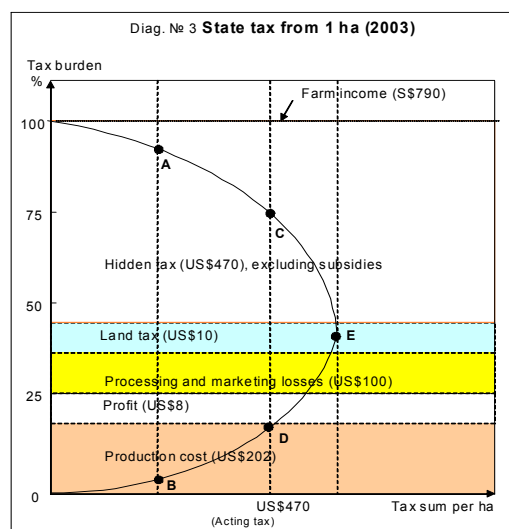
² Estimates of grants for 2004 are executed by World Bank consultant Anna Krole-Ris

³ "Shadow relations in Uzbekistan existed, exist, and.....will exist?"

http://www.navigator.kz/articles/busines_140601a.shtml;

the certain critical point it leads to the further increase in burden and to reduction of receipts in the budget.

The graphic representation is shown to "Laffeur Curve» on the diagram 3. Under its condition the tax burden is equal to 100%, the economy becomes natural, i.e. monetary attitudes are replaced by barter. In this case manufacturers stop to work. As the income is taken by state through taxes, and manufacture stops, tax revenues will also not flow in treasury, or will be brought to zero. On the other hand, at absence of state regulation and restrictions in manufacture, lack of financial burden, the economy runs into an anarchy condition⁴.



Estimated calculations have shown, that, despite of measures on reorganization shirkats, and increase of procurement prices, agriculture in 2003 tested strong tax press due to hidden taxation (point **C**). Farm incomes on the average on complex hectare (cotton / wheat) have made 790 US dollars, out of which the gross revenue of farmers and shirkats has made \$ 205⁵. On the average about \$ 100 is lost for inefficiencies in processing and weak operating marketing. The equipment on cotton processing factories is worn out and obsolete. Losses of raw material reach 10-20%. The unified land tax has made about \$ 10, and \$ 470 goes in the state budget as the hidden tax. The cost price of production in 2003 on shirkat farms has made \$ 202. Despite of non-profitability of cotton production, the profit in \$ 8 is incorporated in estimates on complex hectare, (wheat / cotton). (The states taxation separately on cotton and wheat is submitted in the appendix)

The volume of tax revenues on Laffeur Curve has identical value in a point **C** and **D**, however a level of financial burden which producers bear is not similar. In **C** point, the significant part of the farmer income is spent on payment of the tax that does not stimulate growth of labor productivity. While in point **D**, taxes are insignificant, leaving

⁴ For presentation it is possible to carry out parallels in history with Central - a planned economy (point **A**) when manufacture and received incomes completely were adjusted by the state and New economic policy (NEP) of 1920-1924, characterised by privatization and development of market attitudes in economy (point **B**). Reduction of tax burden having place after finding independence has increased tax revenues by a difference between points **A** both **S**. Tax receipts and the production level is maximized in point **E**.

It is designed on the basis of the given annual reports «the Basic parameters of activity of the agricultural enterprises for 2003»

⁵ Data based on annual report «the Basic parameters of activity of the agricultural enterprises for 2003»

the most part of the income to the farmer. It promotes growth of private investments on increase of agricultural production efficiency.

Decline of productivity of agrarian sector has caused adequate measures on the part of the state, directed on preservation of existing system of agricultural "taxation" and financing. Law enforcement bodies⁶ are directed to agrarian sector for the control over use of resources, combating against corruption and smuggling, on protection of the law and order. The "rigid" control of manufacture observable by last years over system of the state order and monopsonic⁷ marketing system will not lead to increase in production, in opposite, manufacture is reduced, and expenses «on compulsion» increase.

It is obvious, that ignoring hidden taxation of agriculture of Uzbekistan imposes heavy burden on a society, as outstanding industrial obligations, eyewash and corruption, i.e. opposite to what the independent state aspire.

Scripts of tax burden on agrarian sector

Forecasts of the world market opportunities predict falling the prices for cotton fiber in the nearest 2-3 years on 15-25%. Introduction of paid water use and institutional reforming of water management (establishing WUA and basin managements) will lead to reduction of grants on irrigation. Predicted decrease in grants in agrarian sector makes in 2006 at a rate of 35%, and falling of the prices for cotton fiber will lead to reduction hidden taxation in 2 times. The state has real chance now to create really competitive agrarian sector if it liberalizes system of pricing and marketing on production of the state order.

The powerful tool in this plan is the unified land tax. In this case the possible script of carrying out of a fiscal policy of the state is liberalization of the prices for cotton, accompanying increase of the unified land rate in such a manner, that through 5 - 10 transitional years budgetary receipts from agrarian sector would be made even to the size of today's redistribution of financial resources through the hidden taxation.

The diagram 4 shows distribution of tax burden after carrying out of tax reform, basic components of which is liberalization of the prices and increase in the rate of the land tax. It is supposed, that downturn of hidden taxation will increase total manufacture. At increase in productivity up to 4 tons / ha, farm incomes will increase up to 1450 \$/ha, at this script hidden taxation decreases⁸. This will increase tax revenues in treasury of the state and will reduce cost of tax "compulsions".

The high annual sum of positive temperatures, presence optimum water - salt balance, performance of a complex of ameliorative and agro-technical actions will allow to collect in the long term up to 6 t/ha, and receptions of the income of farms up to \$2200. The natural potential of Uzbekistan can be realized only under condition of liberalization of economy and refusal of system of the state order. In this case high incomes of manufacturers and the maximal tax revenues in treasury will be provided⁹.

⁶ Additional transaction costs connected to charges on the maintenance of supervising bodies will increase the tax burden, having shifted it from a point **C** upwards on a curve in a point **A** or back to a management system

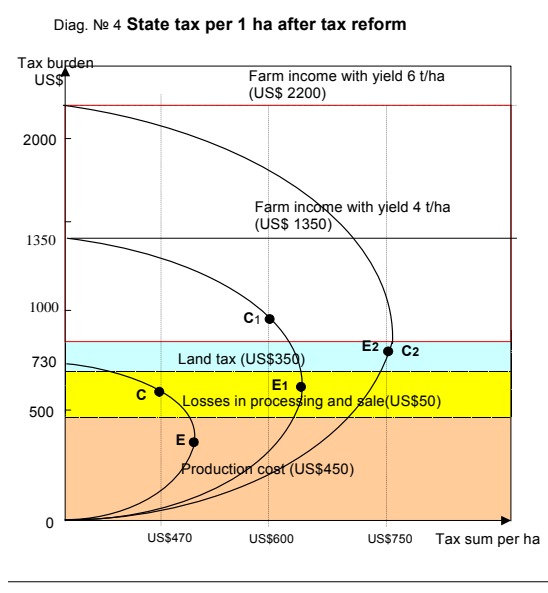
⁷ Monopsony (in opposite to monopoly) presents marketing system with one buyer and many vendors.

⁸ Point **C** moves to point **C1** and down to "Laffuer curve" to point **E1**.

⁹ In this case point **C1** will move in point **C2** and will be displaced in point **E2** - an optimum point providing the maximal tax receipt. Point **C2** will go down from increase in a production efficiency further downwards to the bottom part of "Laffuer Curve" to which each state aspires

Liquidation of the hidden taxation of cotton and wheat production will lead to reception of some essential benefits:

- At first, introduction of the land tax will make practice of the state order of cotton and wheat unnecessary. It is supposed, that tax revenues will increase; the state will also receive necessary profit;
- Second, necessity of mobilization of law enforcement bodies for the control of performance of the state tasks over cotton and wheat production will disappear, and necessity of intervention for affairs of farmers will be reduced;
- Third, from only economic point of view, the land tax is ideal as does not deform the price and, hence, keeps the proved price pulses for economy that is very important for optimum distribution of resources.



Under condition of marketing and liberalization of the prices on all agricultural production, increase in the universal land tax up to \$ 450 is quite real. In 2004 tenants "hectare leasers", making agricultural products (melons, berries and vegetables), focused only on the market, paid to farmers for land rent for an agricultural season from \$ 300 up to 500 for 1 ha. Rent «cost» depends on a site, ameliorative condition and water-security of the land area. Liquidation of monopolies and monopsonies will lead to increase in producers incomes, will raise their ability for payment "market" rates of the land tax, that finally will lead to increase in tax revenues in the budget.

Improvement of stimulus for cotton and wheat production (real tax reductions) will cause the response expressing in growth of production volumes, and other economic parameters of agrarian sector in during next 3-5 years. Such taxation policy has justified itself in such countries as China, Vietnam, New Zealand, etc.

Recommendations

Decrease in grants in agrarian sector should be compensated by adequate increase of the state procurement prices, or liberalization of the markets on financially technical resources, and agricultural production. It is necessary to transfer system of hidden taxation of agriculture in direct taxation by means of the universal land tax.

Introduction of the export duty on a cotton fiber can serve as alternative script of tax revenues. This approach is more effective for filling treasury, than, the state order and the control over marketing and pricing. Such approach will not only increase the income in the state treasury, but also as a result of decrease in the internal prices for a cotton fiber in comparison with world, it will promote more processing of the raw goods, and increase manufacture and export volumes of finished articles, advantages of which in comparison with export of the raw goods is obvious both regarding increase of employment of the population, and regarding increase workers incomes¹⁰.

Introducing pricing system' liberalization on agriculture production, delivered under the state order (raw - cotton, grain and other), is obviously not enough, since increase of cost prices for raw cotton will lead to further increase of wholesale prices for cotton - fiber, that will lower competitiveness of the enterprises of the textile industry. In result, relative increase of producers profitability without taking into account necessity of decrease in the cost price of made production can lead to loss of commodity markets of processing branches production and, hence, to reduction in receipt of means in the budget. Formation of the competitive market for the processing enterprises is vital, which will focus commodity producers on introduction of new technologies, improvement of professional skill of a labor, reduction in the cost price of processing.

At the end of each agricultural year it is expedient to carry out calculations of the average parity parameters of barter between agriculture and the industry, and also to expect the average parity prices for the major agricultural goods, on which realization of production would be at a level of normative profitability. Depending on a level of the parity prices it is expedient to adjust the sizes of the grants directed to agriculture. Procurement prices of production of an agriculture purchased for the state needs, should be established at a level not below parity prices. In this connection, procurement prices of raw cotton, grain and other crops established before harvesting, should be specified on results of farms' activity for a fiscal year.

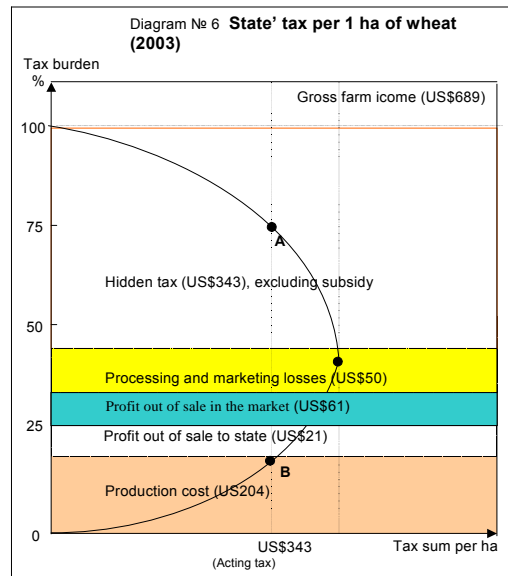
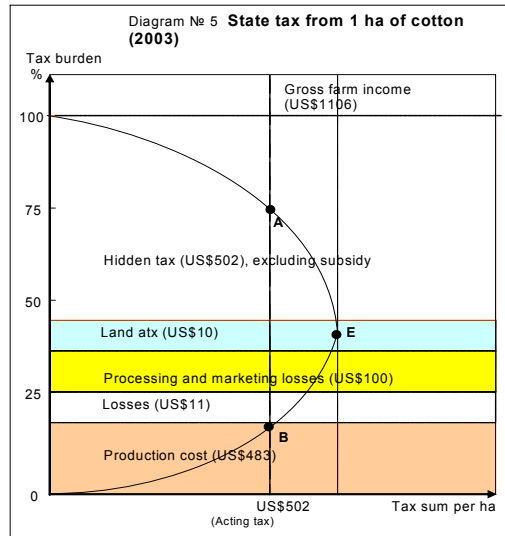
Appendix

As we can see from analysis of taxation of the state order production, the tax of the state with 1 ha of cotton in 2003 has made \$ 1106, which is 43% higher, than wheat - \$ 628. However the share of the hidden tax in general taxation by state in production of wheat (55%) is higher, than at cotton (45%). It is explained by the low cost price of wheat production (\$204), which is twice less, than the cost price of cotton (\$ 483). The high cost price and low state procurement prices have brought cotton producers losses at a rate of

11 \$/ha. Diagram №. 5

The analysis of financial parameters of wheat production marks profit of farms at a rate of 21 dollars from realization of wheat on list and contractual prices, which are higher 33% than list prices. It is also necessary to add here profit received by farmers from realization of a part production in the market under the prices 57% above list prices, which is not reflected in financial documents. Estimates show, that under condition of realization of 18% of made production on a market, the farmer receives the additional income at a rate of 61 \$/ha.

¹⁰ Report of Center for Effective Economic Reforms. Policy and institutional measures on production and marketing of cotton in Uzbekistan. Page 27



Agricultural Sector Review and Planning

Policy Note 6: Agricultural Prices and Trade

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Prices in Agriculture

Prices for all types of agricultural crops except for wheat and cotton are formed freely in Uzbekistan depending on influence of one of two parallel markets: sale on a market where the price is agreed in each separate case, and payment takes place immediately and cash; contracts on delivery of production to the processing enterprises controllable by state.

The prices for cotton and wheat are subordinated to system of the state orders added with normalization of resources and financed «centralized credits». The mechanism of establishment of the state orders remains practically without changes and not dependent on varying conditions.

The state orders demand from each farm to produce established quantity of wheat or cotton. If the industrial quota of production is exceeded, a share of production, falling the state order is sold for a list price of the state order, and the rest - on a contractual price, coordinated with the processing enterprises. If shirkat or farm does not fulfill the state order for production on whatever objective or subjective reasons, his entire crop is sold for a list price of the state order under the established requirement.

The price of the state order and contractual price are established below world market prices as farms are compelled to agree with the prices established by the processing enterprises. (Diagram 1)

Tendencies in the ratio of prices for wheat for the period of 1996-2003 are shown with the following: a ratio of a market price to list made 325% in 1996, to contractual - 200%; in 2003 this ratio has made 157%, and 118%. If a difference between the list and contractual prices in relation to market made 38% in 1996, by 2003 this parameter was reduced up to 25%. It testifies to rapprochement of a level contractual and list prices.

Price disparity was observed at a level of the manufacturer when the prices for agrarian production, increased in much smaller degree, than the price for means of production. On estimates, rate of a rise in prices of industrial output for agriculture grows on 40% faster, than rate of growth of realization of agricultural production.

Despite of subsidies of the price for the majority of means of production: agricultural machinery, fertilizers, pesticides and the veterinary help, they are inaccessible to manufacturers. The prices for such important agricultural resources as fuel and electricity remain under the administrative control and were raised several times. It resulted in strong increase in production costs at agricultural production.

Indicator of the required volume of grain crops for purchase of one ton (piece) of resources is testimony of increase prices disparity. Estimates have shown, that during 1992 - 2002 the quantity of grain necessary for purchase unit of financial technical resources invariably increased: motor oil-10 time; diesel fuel - in 3 times; ammonia saltpeter and ammophos- in 6 times. The greatest rise in price in relation to grain is marked on purchase of technical equipment: cultivator in 20 times, 2-row plough in 27 times, tractor TTZ 80 -in 22 times. (appendix - 3)

Practically there is no progress in rapprochement of purchasing level and world prices for cotton. In spite of the fact that nominal procurement prices of cotton annually (since 1995.) raised at 1.4-1.6 time, and the world prices during 1995 - 2000 have gone down almost in 1.5 times (from 1.88 thousand \$ for ton up to 1.28 thousand \$), even in these conditions it's difficult to speak about the tendency of rapprochement of a level internal purchasing and the world prices (Diagram- 2) In 2003 the state procurement prices have made only 39% from the export prices for the Uzbek cotton in the world market.

Agricultural Trade and Barriers to Trade

Uzbekistan was the second in the world exporter of cotton - fiber from shares of export in the world market within the limits of 14-16%. This line of export of Uzbekistan brings annually more than billion US dollars of export cost, during 1991-1995 the share of export of cotton - fiber averaged 50% from all export of republic. Since 1996, the share of cotton - fiber in structure of export is annually reduced, in 2003 it made 20%.

Since 1998 export gets stagnant character, it has made 3 - 3.2 billion US dollars, in comparison with 4 billion in the middle 1990. Only two kinds of production - gold and a cotton fiber - make about 60% from the general volume of commodity export, and together with power resources and other previous objects of export - about 80% of commodity export. It makes Uzbekistan subject, for example, to fall of prices for a cotton fiber.

Since 1998 import has remained approximately in volume of 3 billion dollars; for 1998 - 2003 share of import of agriculture has decreased from 16% to 10% out of all import.

After gaining independence significant efforts have been made on diversification agrarian policy and trade as a whole, in result export and import have been reoriented on the far countries. (Diagram- 3 and Diagram- 4) Export of food articles abroad has increased from 6% up to 38%. Now more than 97% of export of production of processing of fruit-and-vegetable raw material fall at the CIS states, including, more than 90% - on the Russian market. There were changes in structure of import: import of energy and some kinds of foodstuffs has decreased as consequence of a policy of self-maintenance.

Among principal causes of the overestimated decrease in export of food production in the CIS countries they often name de-integration of once uniform railway network, transition to the international tariffs of payment of transportations, customs and transit duties, barriers in payments, etc.

Uzbekistan has concluded more than 20 bilateral and some multilateral trading agreements. Besides Uzbekistan is a member more than 25 international organizations and programs on trade, assistance, and social development. Also there are a lot of agreements concerning development of trade within the framework of the CIS and Central Asian region. In 1992 Uzbekistan has entered the International Currency Fund and is going to become a member of the World Trading organization (WTO).

Tariffs and not tariff trade barriers

Up to 1996 general tendencies in a policy have been directed on easing of trade restrictions. On a number of decisions licensing import / export and the duty has been gradually cancelled. Duties on import / export did not remain to the middle 1996, and only some kinds of goods were still licensed.

In June 1996 in reply to low export incomes from cotton, which were directly reflected in a financial policy, new import - export duties have been entered. Rates of import duties in Uzbekistan on agricultural production and the foodstuffs exist in limits from 5 up to 30%. The minimal customs (10%) duties apply for import of tea, sausage, meat products, foodstuff, and also the canned food.

The average level of import tariffs for agricultural raw material and foodstuffs in Uzbekistan is lower, than in some countries - members of WTO with transitive and developing economy. In 2003 the average level of tariff on agro-food group of the goods has made about 15%.

Subsidies and other kinds of assistance to export are entered. Despite of deficiency of fertilizers inside republic, steps on stimulation of manufacturers of mineral fertilizers with the help of preferential taxes have been undertaken, which have helped to keep a level of export of fertilizers.

New trading barriers came at the end of 2003 with liberalization of the exchange rate. Closing of borders with the next states at realization of commercial activity and additional restrictions concerning a private sector interfere with positive results of regulation of the exchange rate.

Conclusions

- The agriculture is strongly limited due to established state system of the low prices for end production, and the high prices for means of production. The majority of farms are unprofitable, and this situation worsens. Production of cotton and wheat is subordinated to an obligatory quota system and the state orders.
- The government pursued a policy of the latent taxation of cotton and grain sectors by means of procurement prices of 40-50% of below frontier prices (on indicative exchange rate). In spite of the fact that the significant sizes of grants have been returned to sector by fuel, irrigation services, fertilizers, service of technical equipment and credit grants, the net implicit tax remained high and has led to that cotton production became unprofitable.
- Negative influence on a financial condition of branch renders an inadequate rise in prices on agricultural products and the material resources consumed by rural commodity producers, and also tariffs for industrial services for agriculture.

Recommendations

- Until prices for cotton and grain are not established at a level close to world prices, and if these prices will not be paid directly to producers, it is impossible to expect significant growth in sector, and the production efficiency will remain low.
- A priority is perfection of pricing policy through growth of a competition at a farm level. Anti-monopsonic legislation should be developed. Creation of a competitive climate around purchase agricultural production of farms will raise farm incomes, and will induce to effective manufacture, marketing and trade, and qualitative processing of agricultural products.
- It is necessary to cancel requirements on the production, connected with the state order, and refuse system of state planning of production. For the goods, which, in opinion of the state, should be made in national interests, it is necessary to enter a price policy, which will stimulate their production on a voluntary basis, proceeding from profitability.
- Reduction of the state order should be accompanied by a rise in prices on made production up to a level of the world prices. The state purchases of cotton, wheat and rice should be made on market prices; using system of contracts it is possible to improve production efficiency. In the future, the state and farmers will sell and buy future contracts in reply to change of the prices and market conditions, or to generate the income before harvesting.
- Potential opportunities of export of fruit and vegetables can exceed export of cotton and increase reception income, however for this purpose it is

necessary at first to carry out radical changes in agricultural and commercial policy. Refuse system of trading barriers and to proceed to system of custom duties. Refuse licenses for export and import, to resolve and stimulate private concerns to take part in international trade, under condition of collection from them only the specified customs.

Diag. 1 Trends on wheat prices 1996-2003 (1000 soum per ton)

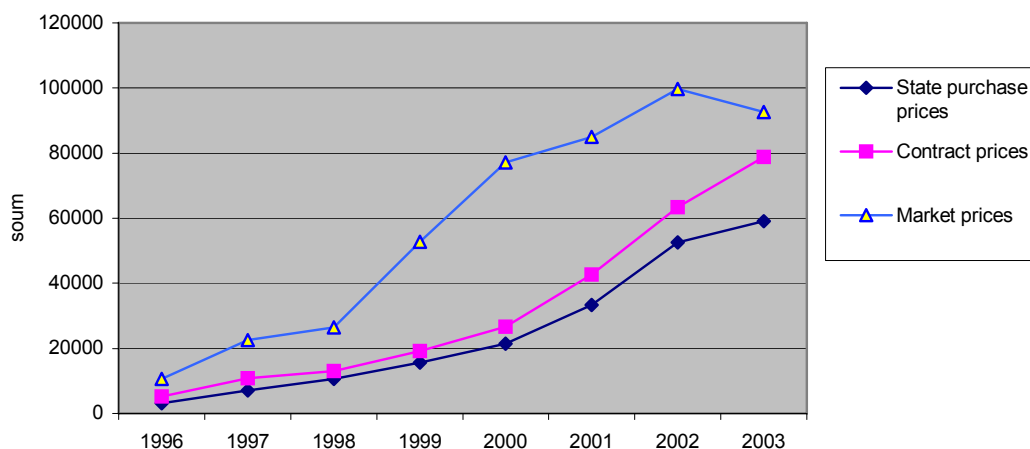
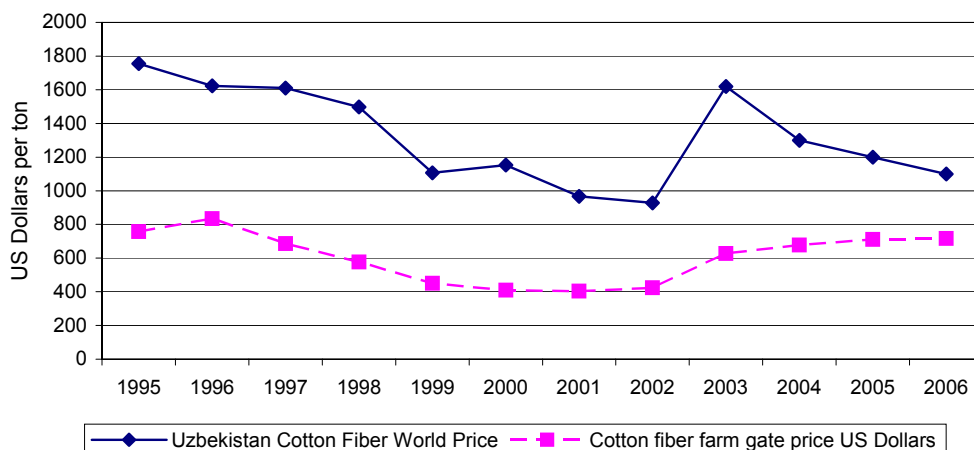
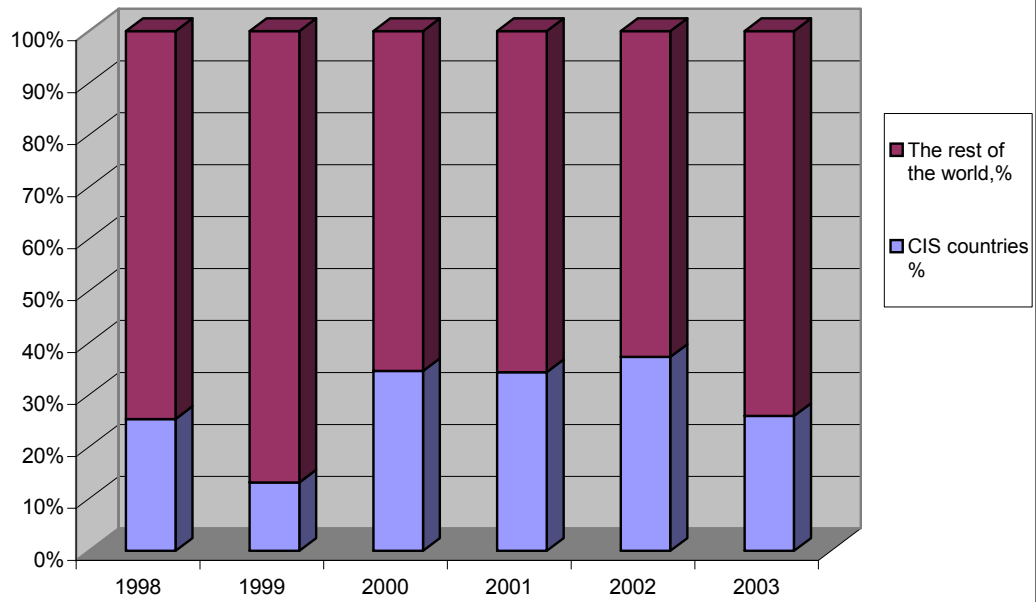


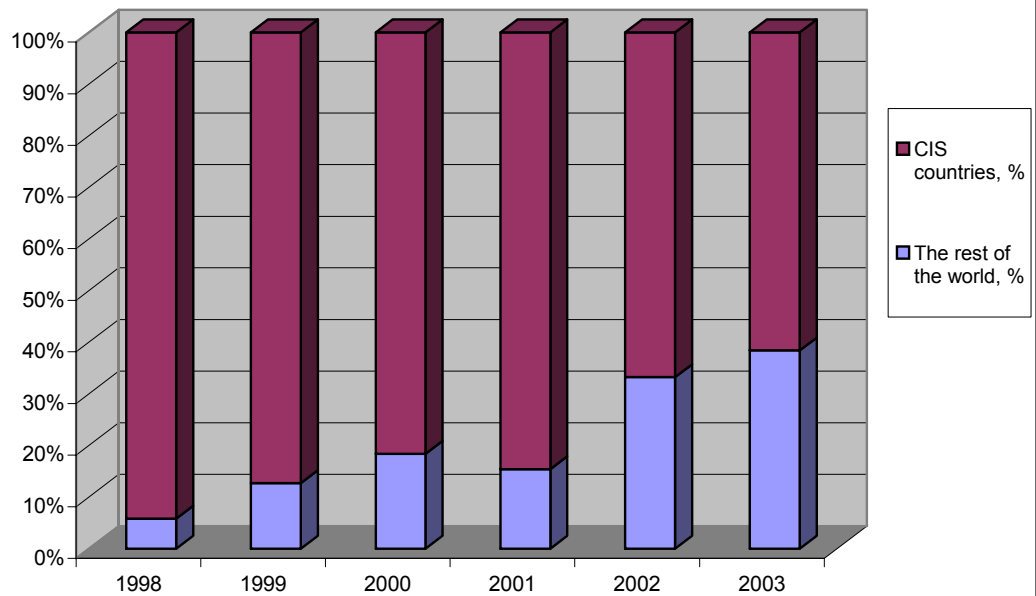
Diagram-2. Cotton Fibre Domestic and World Market Prices Trend



Diag. 3. Import of food products



Diag. 4 Export of food products



Appendix 1.

International trade of agricultural products in 2003

	Goods	Export 1,000 US\$	Import 1,000 US\$
1.	Meat and food products	2,076.6	22,987.7
2.	Fish and fish products	10.1	630.1
3.	Milk and milk products	1,530.4	17,844.2
4.	Vegetables	25,862.5	3,309.6
5.	Fruits and nuts	16,838.2	7,546.6
6.	Coffee, tea, mint, spices	556.7	16,171
7.	Grain	1,026.2	5,839.7
8.	Flour and cereals industry products	7,860.9	53,606.4
9.	Oil seeds	5,330.3	13,510.4
10.	Vegetative juices and extracts	80.5	219.2
11.	Fat and adipose	692.2	17,556.7
12.	Products from meat, fish ,other	73.2	4,392.1
13.	Sugar and confectionary	492.9	107,179.2
14.	Cereal products	2,541.3	4,093.9
15.	Processed horticulture	19,481.2	1,050.4
16.	Fodder	4,779.1	2,532.2
17.	Alcohol and beverages	4,157.3	1,425.6
18.	Tobacco and substitutes	7,264.6	7,056.1
19.	Leather good and leather	921.5	204.8
20.	Leather items	63.4	1,191.8
21.	Natural and artificial fur	633.1	274
22.	Vegetative material for cloth	6,442.6	11.4
23.	Cotton fibre	739100	27

Appendix 2.

Product specific Import and Export Tariffs for selected agricultural and food commodities

Product	Import tariff in %	Export tariff in %
Grain	No custom duties	Banned
Flour and flour products	30%	Banned
Cotton fiber	10%	Managed by the state
Cotton products	30%	Managed by the state
Fruits and berries	30%	Only phyto – sanitary certificate and customs declaration required ²
Melons and Water melons	30%	Same as above
Grapes	30%	Same as above
Vegetables	30%	Same as above
Potatoes	No custom duties	Same as above
Tobacco	10%	No custom duties
Processed fruit and vegetable products	30%	No custom duties
Vegetable oil	No custom duties	Banned
Oil cake	No custom duties	No custom duties
Meat and meat products	No custom duties	Banned
Milk and Milk products	10% – 30%	Powder milk banned
Honey	No custom duties	No custom duties
Butter	No custom duties	No custom duties
Eggs	No custom duties	No custom duties
Wool	10%	No custom duties
Skins and hides	No custom duties	Banned
Silk cocoons and silk thread	10% - 30%	Banned
Mixed fodder	No custom duties	No custom duties
Fish and fish products	No custom duties	No custom duties

² See more details in the Annex 4

Appendix 3

Required volume (ton) of grain to buy 1 ton (piece) of resources (tons)

Product type and inputs	Unit												
		1990 rouble	1991r.	1992r.	1996 sum	1997 sum	1998 sum	1999 sum	2000 sum	2001 sum	2002 sum	2003 sum	2004 sum
Cereals (price-list)	Sum per 1 ton	235	235	20,000	3,253	7,167	10,566	15,570	21,485	33,405	52,560	59,022	
Fuel&Lub.													
A) Motor oil	ton	1.1	2.4	0.3	4.8	3.1	2.6	1.6	4.1	3.4	3.0		
B) Diesel fuel	ton	0.5	0.6	0.6	4.5	2.3	1.5	1	2.9	2.4	1.8		
C) Petrol	ton	0.6	0.8	0.4	6	3.3	2.4	1.7	5.8	5.2	3.7		
Fertilizer													
A) Ammonium nitrate	ton	0.4	0.7	0.1	1.9	0.9	0.9	0.9	0.9	0.8	0.6		
B) ammophos	ton	1	1.6	0.4	2.8	1.9	1.7	1.8	2.5	3.5	2.3		
C) potassium	ton	0.2	0.4	0.1	0.9	0.8	0.6	2.7	1.9	1.5	1.45		
D) super-phosphate	ton	0.2	0.8	0.2	1.1	0.6	0.7	0.7	1.1	0.8	0.6		
Machinery													
A) cultivator	Piece	6.2	11.4	0.8	30.9	21.7	25.5	38	33.4	29.3	16.4		
B) plough 2 –row	Piece	2.3	6.7	0.9	30.9	14.1	12.6	30.4	27.5	26.8	24.2		
C) TTZ - 80	piece	38.3	38.3	8	197.5	211.3	200	177.2	160.5	188.1	177.4		

Agricultural Sector Review and Planning

Policy Note 7: Estimates of Comparative Advantage for Uzbek Farm Products

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

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Methodology

The estimation of comparative advantage of Uzbek agricultural products has been made with the help of method "Domestic Resource Cost" DRC. The method allows to estimate efficiency of use of natural resources (the irrigated lands), that is to answer a question: whether «Is it favorable to produce agricultural products in Uzbekistan or to import from abroad?». Financial parameters of production factors, from accounting reports of farms are considered deformed, as all tradable resources (fertilizers, seeds, petroleum products and chemicals) are subsidized by the state. Therefore for correct DRC calculation it is necessary to use the world prices for material technical resources (inputs).

With a view of definition of dynamic changes of DRC behavior in modern conditions and conditions of open economy, calculations were carried out on three categories: 1) with use of financial parameters and local prices; 2) with use of technological specifications and the world prices; 3) with use of potential productivity and the world prices. (See. The appendix)

Tradable and non-tradable resources

Despite of state subsidies, the price for financially technical resources, except for seeds, are close to world. The deterioration and small number of agricultural technical equipment leads to reduction in technological processing of land and increase in use of labor, as a result of which actual use of petroleum products is in 4-6 times lower than recommended technological maps¹.

Non-tradable resources include water, land rent, labor and hired technical equipment. Necessity in rehabilitation of hydro-ameliorative systems, for conditions of the state grants reduction leads on the average to two-times increase of costs at water-supply services. In open economy water costs are stabilized at a rate of 5 - 10% from the cost price.

For production of the state order rent cost is limited to the unified land tax at a rate of 10-30 dollars, at the same time farmers hand over a part of land in sub rent (from 200 up to 500 dollars depending on quality and water-security) for production of cultures focused on internal and foreign market. In conditions of liberalization of economy, cost of land rent will most likely be stabilized at a level of 200 dollars.

Comparative advantage of the Uzbek agricultural products basically is provided with cheap labor in a home market. The payment difference in comparison with world quotations makes from 2 (cotton) up to 10 times (fruits).

High cost of services of agricultural equipment², machinery - tractor parks on the one hand leads to increase in a share of expenses at services, on the other hand compels farmers to address to services of private tractor operators.

Estimates of Domestic Resource Cost (DRC)

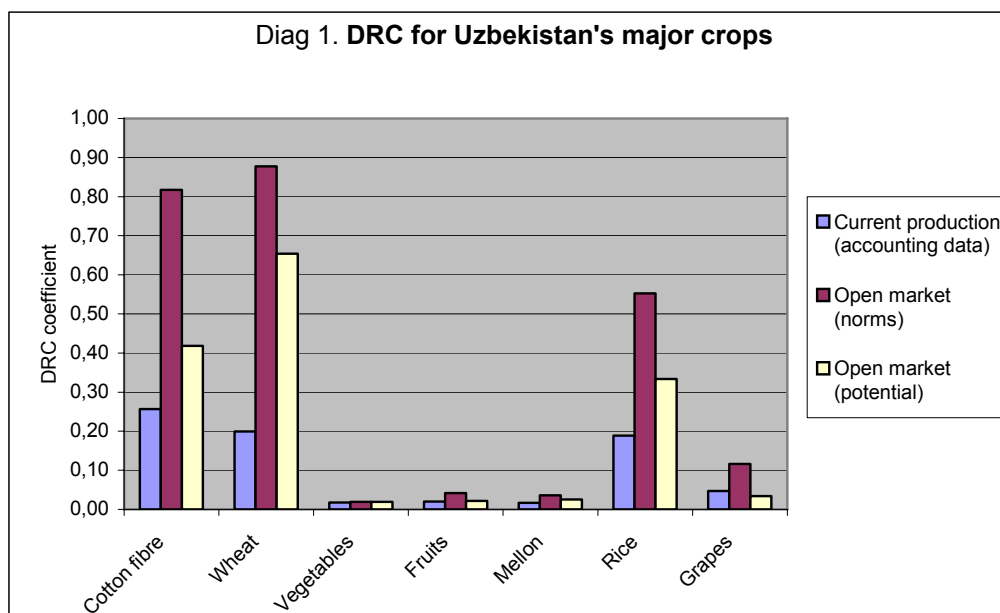
The degree of freedom of the market or «liberalization of industrial system» renders various influences on DRC. The modern industrial system, with the significant state intervention expressed by low procurement prices and weak solvency of the population, shows high profit in comparison with equivalents of the world market.

Estimates with use of the world prices have shown (Columns 1 and 2.), that at modern productivity the open market economy leads to decrease in comparative advantage of the Uzbek agricultural products. A principal cause weak competitiveness of industrial system is its low efficiency caused by lack of stimulus to increase productivity. So cotton productivity in 20.7 c/ha in 2003 has made 60%;

¹ Typical technological maps of agricultural production for 1999-2005, Market reforms institute

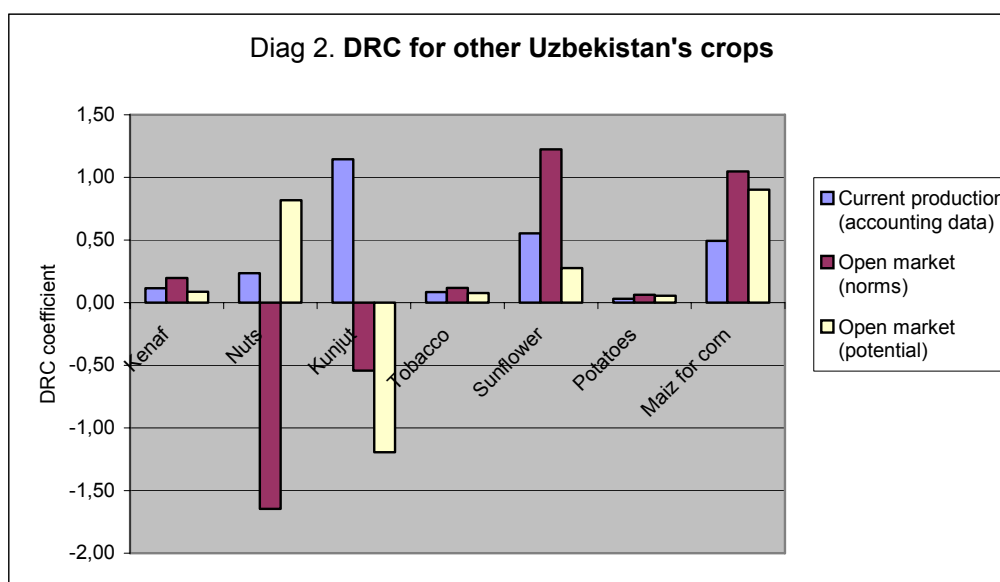
² Cultivation of 1 ha land with Case tractors made 45,000 sum in 2004

productivity of fruit in 2 times, productivity of grapes, sunflower and sesame in 3 times less than potential productivity for similar natural - climatic conditions.



But for rigid competition in the world market, increasing productivity of irrigated land at the possible extent will lead to increase comparative advantages of agricultural production.

Basic agricultural production of Uzbekistan at the DRC comparative advantage level could be divided in three groups:



The first group with high DRC (0.02-0.08) includes cultures making export article of the country' income (vegetables - fruit, melons, grapes) and also technical crops (kenaf and tobacco).

The second group with moderate DRC (0.2 - 0.8) includes cotton, wheat, rice, corn on grain) these crops are the basic cultures of Uzbekistan and occupy over 85% of the irrigated lands.

The third group with low and negative DRC (1.2 - (-1.22)) includes oil-bearing crops: peanuts, sesame and sunflower. The reason of negative value DRC is high cost of sold resources. High expenses and low efficiency cause Low DRC at oil-bearing crops.

Comparative advantage of production for the state order

At modern industrial system with low procurement prices DRC at cotton is higher (0.26), than at wheat (0.20). It means, that wheat had comparative advantage against cotton at its cultivation on the irrigated lands in 2003 that economically justifies advantage of internal production of grain in republic. However comparative advantages of cotton considerably grows in conditions of open economy and the market economy. DRC calculations under condition of liberalization of the prices and increases of productivity up to potentially possible, have shown, that DRC of cotton makes 0.42; at wheat accordingly - 0.65.

Major factors influencing reduction of comparative advantages of cotton in comparison with wheat in modern conditions are:

- Lack of a competition in system of selling and presence of monopsonic buyer of cotton fiber while wheat producer can realize part of a crop in the market;
- Increase in a share of labor at industrial operations on cotton cultivation because of lack of technical equipment, a deterioration and difficulties on restoration of technical equipment while the park of machines for cultivation and cleaning grain is rather new.
- Lack of producers' stimulus in an intensification cotton production because of low procurement prices of the cotton production, not allowing to pay expenses of manufacture in connection with a significant rise in prices on minerals, oil, spare parts to technical equipment, plant protection means and mineral fertilizers.

DRC method does not take into account quality of production. Wheat grown on the irrigated lands of Uzbekistan, basically of soft grades, is used as fodder in animal industries. For bread-bakery products wheat of firm grades, grown on rain fed lands is used. Rain fed wheat makes 12% from total amount made in Uzbekistan.

Cost of Internal Resources in 2003, by all analyzed types of production (except for corn on grain) is less than in 1998. It means, that comparative advantages of Uzbekistan' production in the world market are increasing. Cost of not commodity resources such as water, labor, land rent and technical equipment has increased, that prompts about relative rise in price of local resource indicators.

Policy of self-sufficiency by grain products with the help import substitution has been developed and introduced in Uzbekistan. World experience shows, that the policy directed on foodstuffs self-sufficiency can in practice endanger its security. In result many countries have refused a policy of self-sufficiency because of extremely high costs. Besides losses of export proceeds and redistribution from other sectors reduce import opportunities of other foodstuffs, material resources, spare parts and new technology.

Strategy of strengthening comparative advantages' of Uzbek production.

Strategy should be based on the following principles:

1. Reduction of costs on manufacture and processing of agricultural production with the purpose of maintenance of price competitiveness in the world market.

2. Manufacture of the agricultural products corresponding to requirements of the world quality standards and corresponding packing.
3. Creation of the macroeconomic conditions stimulating development of agricultural co-operatives, dehkan and the farms, capable to make export oriented production with the least costs and high quality.
4. The state economic policy of regulation of the foreign trade, directed on its liberalization.
5. The property right to made production and means of production. Observance and protection of the land rent right.

World experience in developing comparative advantages of agrarian sector

Experience of countries developing comparative advantages of agrarian sector in the world market determines, that the following tendencies could be useful for Uzbekistan.

1. Diversification agricultural export to less developed countries; it is impossible to concentrate on one or two products or to not depend on low expenditures of labor for the international competition. Experience of less developed countries shows that they can compete to the advanced countries both on expenses, and on quality. The success is based on introduction of foreign technologies, correct construction of local education, an infrastructure, on research opportunities. Experience of many developing economy shows that they have become successful within ten years after entering on the world market.
2. The success in export diversification depends on priority or parallel development of a home market. None of the countries developed comparative advantages, being based only on manufacture of export production out of the state. The state and donor organizations (ADB and World Bank) should diversify export not only on the basis of an existing foreign market, but also to invest and support development of a home market.
3. The state and donor organizations should create conditions and facilitate access of foreign investors and the international transfers in industrial and processing technologies. It means acceleration of foreign investments' attraction procedure and reduction of tariff and penal barriers to import of a planting material, the irrigational and processing equipment and other material resources for management of agribusiness.
4. Creation of favorable macroeconomic conditions and carrying out corresponding policy will provide stimulus for new investments and expansions of trade for expansion of the basic commodity systems. A gain of the niche in the international market (establishing trade), steady manufacture of agricultural products, which depends on a combination, first, microeconomic development (joint ventures, vertical integration, the program of stimulation of investments, etc.) and, second, from investments into the human capital and supporting structures (an infrastructure, researches).
5. Development of a market infrastructure serving agrarian sector. Availability of transport, telecommunication means and legislative support is necessary for favorable, sustainable trade. In all less developed countries public services are provided with the state and include carrying out of research works, training, the control, quality and marketing informative services.

6. The international experience shows, that commercial manufacture, processing and marketing high and export oriented manufactures should be transferred to a private sector. When the state organizations participate in trade, certain agricultural bias is imposed on enterprises, they are neither market oriented and nor flexible in management. The enterprises controllable by state were not effective in production, and marketing in the competitive markets. On the contrary, a private sector (including trading cooperative societies) has shown abilities to reaction to change of a supply and demand in the market, and were much more progressive to innovations, development of the integration connections promoting trade expansion.

Appendix

Comparative advantages of the country at production competitive agricultural products in the world market is defined with the help of a method of "Cost of internal resources" (Domestic resource cost). According to DRC technique, all material resources are distributed on commodity (sold) and not commodity (non-sold). All inputs that could be bought in the market refers to commodity; in agriculture they are: - fertilizers, seeds, petroleum products and chemicals. Costs of water delivery, land rent, expenditures of labor and rent of technical equipment refer to not commodity expenses. The formula of internal expenses looks as follows:

$$CIE = \frac{\text{Not commodity resources}}{\text{The world prices} - \text{Commodity resources}}$$

In case CIR > 1 - it is unprofitable to make production inside the country, it is favorable to import more from the world market . In case CIR < 1 - the country has comparative advantages, it saves hard currency, it is favorable to make inside the country and to export on the world market.

DRC calculation for 1 ha of agricultural production on irrigated land 2003 in US dollars (accounting data)

		Tradable input					Non-tradable input						Revenue	Yield	World	Revenue	
	Fertilizer	Seeds	Fuel	Chemicals	Total tradable	Water	Land rent	Labor	Machinery service	Total non-tradable	Total	from 1 ha in local prices	from 1 Ha in ton	market prices 1 ton	from 1 ha in world prices	DRC	
Cotton (fiber)	69	35	42	34	180	29	20	179	63	292	473	443	0.68	1,950	1,320	0.26	
Wheat	51	46	18	14	128	13	20	28	53	115	243	245	3.52	200	704	0.20	
Vegetables	43	51	25	40	158	49	200	110	41	400	558	700	20.90	1,100	22,990	0.02	
Potatoes	47	37	26	51	162	49	200	119	56	423	585	1431	15.20	900	13,680	0.03	
Maize for corn	20	6	14	7	47	25	200	26	23	274	321	393	4.03	150	605	0.49	
Fruits	2	12	2	3	19	19	200	7	5	231	250	143	5.25	2,200	11,550	0.02	
Mellon	22	4	13	14	53	17	200	23	31	271	324	381	14.10	1,120	15,792	0.02	
Rice	70	65	31	20	186	75	200	36	81	392	578	412	3.02	750	2,265	0.19	
Grapes	4	1	4	2	11	34	200	18	6	258	269	235	4.08	1,350	5,508	0.05	
Kenaf	15	12	10	8	44	26	200	117	22	365	409	534	8.3	390	3,237	0.11	
Nuts	5	5	2	7	19	27	200	18	25	270	289	283	0.97	1,200	1,164	0.24	
Kunjut	1	3	5	2	11	24	200	2	8	234	245	7	0.20	1,100	216	1.14	
Tobacco	4	1	29	4	38	25	200	408	67	700	738	617	2.41	3,500	8,435	0.08	
Sunflower	20	42	15	7	85	30	200	28	21	278	363	39	0.45	1,300	588	0.55	

DRC calculation for 1 ha of agricultural production on irrigated land 2003 in US dollars (based on Norms) world price

	Tradable input					Non-tradable input						Revenue	Yield	World	Revenue	
	Fertilizer	Seeds	Fuel	Chemicals	Total tradable	Water	Land rent \$/ ha	Labor	Machinery service	Total non-tradable	Total	From 1 ha in local prices	From 1 Ha in ton	Market prices 1 ton	From 1 ha in world prices	DRC
Cotton (fiber)	35	126	111	20	292	71.15	200	375	194	840	1,132	1,950	0.68	1950	1320	0.82
Wheat	17	43	53	18	131	56	200	150	97	503	634	200	3.52	200	704	0.88
Vegetables	47	1,200	19	40	1,306	68	200	110	41	419	1,704	1,100	20.9	1,100	22,990	0.02
Potatoes	36	3,200	96	15	3,347	117	200	190	150	657	4,005	900	15.20	900	13,680	0.06
Maize for corn	48	26	91	10	174	61	200	120	70	451	476	150	4.03	150	605	1.05
Fruits	47	1,000	25	13	1,085	64	200	70	105	439	1,305	2,200	5.25	2,200	11,550	0.04
Mellon	22	800	24	14	860	59	200	225	59	543	1,130	1,120	14.1	1,120	15,792	0.04
Rice	48	400	97	30	574	244	200	290	200	934	1,508	750	3.02	750	2,265	0.55
Grapes	28	1,000	110	20	1,158	46	200	160	100	506	1,664	1,350	4.08	1,350	5,508	0.12
Kenaf	30	700	170	41	941	65	200	180	9	454	1,395	390	8.3	390	3,237	0.20
Nuts	15	1,100	78	6	1,199	67	200	86	24	377	1,576	1,000	0.97	1,000	970	-1.65
Kunjut	20	850	150	9	1,029	70	200	158	13	441	1,470	1,100	0.20	1,100	216	-0.54
Tobacco	25	1,100	210	21	1,356	68	200	460	103	831	2,187	3,500	2.41	3,500	8,435	0.12
Sunflower	20	42	110	19	192	69	200	135	81	485	677	1,300	0.45	1,300	588	1.22
			ER	995												

DRC calculation for 1 ha for agricultural production on in irrigated land 2003 in US dollars (potential yield) world price

	Tradable input					Non-tradable input						Revenue	Yield	World	Revenue	
	Fertilizer	Seeds	Fuel	Chemicals	Total tradable	Water	Land rent \$/ ha	labor	machinery service	Total non-tradable	Total	from 1 ha in local prices	from 1 Ha in ton	market prices 1 ton	from 1 ha in world prices	DRC
Cotton (fiber)	35	126	111	20	292	71.15	200	375	194	840	1,132	1,950	1.18	1,950	2,301	0.42
Wheat	17	43	53	18	131	56	200	150	97	503	634	200	4.50	200	900	0.65
Vegetables	47	1,200	19	40	1,306	68	200	110	41	419	1,704	1,100	20.9	1,100	22,990	0.02
Potatoes	36	3,200	96	15	3,347	117	200	190	150	657	4,005	900	17.00	900	15,300	0.06
Maize for corn	48	26	91	10	174	61	200	120	70	451	476	150	4.50	150	675	0.90
Fruits	47	1,000	25	13	1,085	64	200	70	105	439	1,305	2,200	9.75	2,200	21,450	0.02
Mellon	22	800	24	14	860	59	200	225	59	543	1,130	1,120	20	1,120	22,400	0.03
Rice	48	400	97	30	574	244	200	290	200	934	1,508	750	4.50	750	3,375	0.33
Grapes	28	1,000	110	20	1,158	46	200	160	100	506	1,664	1,350	12	1,350	16,200	0.03
Kenaf	30	700	170	41	941	65	200	180	9	454	1,395	390	16	390	6,240	0.09
Nuts	15	1,000	78	6	1,099	67	200	86	24	377	1,476	1,200	1.3	1,200	1,560	0.82
Kunjut	20	850	150	9	1,029	70	200	158	13	441	1,470	1,100	0.60	1,100	660	-1.20
Tobacco	25	1,100	210	21	1,356	68	200	460	103	831	2,187	3,500	3.50	3,500	12,250	0.08
Sunflower	20	42	110	19	192	69	200	135	81	485	677	1,300	1.50	1,300	1,950	0.28

Seed consumption in cotton sowing for 1997 -2003

Years	Seed consumption per 1 ha kg/ha	
	sowing	Including re-sowing
1997	92.7	123
1998	92.7	117.5
1999	64.6	92.7
2000	72.7	90.5
2001	58.3	71.1
2002	66.6	87
2003	67.2	93

Source: MAWR

Seed consumption for wheat sowing in 1997 -2003 equal to 250 kg/ha (Tashkent)

Crops kg/ha															
Cotton:		Grain:													
Lint	De-linted	Wheat	Barley	Spring wheat (irrigated)	Autumn wheat	Rice	Corn for seed	White corn for seed	Corn-silage	Lucerne	Onion	Tomatoe seedling	Seed	Melon	Carrot
45-60	20-25	150-200	160-180	180-220	180-220	180-220	25-30	18-20	35-40	16-20	12-16	0.5	3	4-5	6.0
												2,800-3,500			
												16-20			
													0.5		
													2-2.5		
													6-7		
													0.6		
													15-20		
													16-20		

Rate of mineral fertilizer application in vegetables kg/ha

Crop types	Yield c/ha	N	P2O5	K2O
Early potato	120 -150	150	100	60
Late	150 - 180	200	150	90
Tomato	280 - 300	200	150	100
Cabbage-early	200 - 300	150	100	100
Late	300 - 400	200	150	100
Cucumber	150 -200	200	150	75
Carrot	150 - 200	150	100	50
Onion	200 - 250	220	150	75
		183.75	131.25	81.25

Mineral fertilizer use efficiency in 2003 (actual) kg/ha

	Nitrate		Phosphorus		Potassium	
	Kg.ha	Applied th.tons	Kg.ha	Applied th.tons	Kg.ha	Applied th.tons
Cotton	189.2	263.51	54.5	75.89	4.5	6.28

Wheat	175.1	222.76	37.6	47.86	3.7	4.69
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Fuel consumption in production of agricultural crops. C. 54.

Crop types	Diesel fuel, kg.	
	1	1 c
Cotton	362- 370	12.7 - 13.0
With Pump	25.8	0.9
Cereals.	157.3	4
With Pump	20.7	0.1
Corn-seed	304	6.4
With Pump	24.8	0.5
For silage	249	1.2
With Pump	20.7	0.1
Rice	322	7.3
With Pump	23.3	0.5
Lucerne	294	3.3
With Pump	23.3	0.5
Lucerne	294	3.3
With Pump	21.8	0.2
Vegetables	210	0.9
With Pump	35	0.15
Vegetables	270	2.3
With Pump	19.8	0.2
Potato	319	3.4
With Pump	23.7	0.25
Kenaf	253	1.4
With Pump	18.8	0.1
Fruits	274	5.2
With Pump	10.9	0.2
Grapes	347	4.3
With Pump	13.9	0.2
Sericulture	106	
With Pump	8.5	

Average water costs per ha by crops In 2002.in regions (low water year)

	Mean republican consumption m3				
Cereals	3,200				
Rice	24,420				
Corn	6,079				
Cotton	7,115				
Kenaf/Tobacco	6,516.7				
Oil-yielding crops	6,508				
Sugar-beet	9,200				
Potato	11,746				
Vegetables	11,746				

Melon	4,103				
Fodder	8,835				
Fruits	4,581				
Yield		2000	2001	2002	2003
Grain	c/ha	24.3	29.2	36.2	33.8
Inc.wheat	c/ha	26	33.1	39	37.2
Raw cotton	c/ha	21.4	22.9	23.5	20.7
Potatoe	c/ha	140.2	146.3	143.7	154.9
Vegetables	c/ha	203.5	211.8	193.8	202.1
Melons and tuber crops	c/ha	141.4	130.9	128.4	142
Fruits	c/ha	56.8	55.9	57.8	53.3
Grapes	c/ha	63	59.3	51	40.8
Rice	c/ha				30.2

Sample technological maps on production of main crops in 1999-2005

	Water	Seeds	Fuel&Lubr	N	P	K	Machinery sum/ ha	Labor man/hour
Kenaf	6,500	70	282	170	130	80	52,170	1,104
Pea-nut	6,500	450	158	170	130	80	31,712	681.2
Sesame	6,500	7	216	170	130	80	17,817	250
Tobacco	6,500	12	391.6	130	90	40	593,910	14,064
Sunflower	6,500	14	199	130	90	40	61,953	329.2

APPENDIX

Calculation of economic prices of tradeable commodities

						US\$/ton	
			Cereals			wheat	maize
		US\$/ton	Indicator price (2010)		126.86	102.12	471.52
Cotton			international freight, handling,				
Indicator price (2010)		1,420.29	insurance		25.00	50.00	50.00
international transport		-175.00	Border price		151.86	152.12	521.52
quality adjustment	5%	-71.01	Local handling, storeage, transport		5.00	10.00	15.00
Border price		1,174.27	Value of grain at mill		156.86	162.12	536.52
Port charges and margin		0.00	Milling: rice to paddy	65%			348.74
Transport from mill		-5.00	Milling cost				-45.00
Value of lint at mill		1,169.27	Drying, storage, assembly		-20.00	-20.00	-25.00
Convert to seed cotton	32%	374.17	Farm gate value		136.86	142.12	278.74
Moisture and gin loss	6%	-22.45					
Value of seed cotton at mill		374.17					
Quantity of seed by-product kg		620	Fertilizer		urea	TSP	Potash
Soyabean		216.12	Indicator price (2010)		109.97	133.54	99.78
adjust to cottonseed	1.75	76.57	international freight, insurance etc.		60.00	60.00	60.00
Ginning costs		-25.00	Border price		49.97	193.54	159.78
Value of seed cotton		425.74	Handle, store, transport	(+bag TSP)	-12.00	35.00	12.00
Assembly cost		-9.70	Value at distribution centre/factory		37.97	228.54	171.78
Farm gate value		416.04	Local distribution		3.00	3.00	3.00
			Farm gate value		40.97	231.54	174.78
				nutrient content (N,P,K)	46%	21%	50%
				= kg of nutrient	0.09	1.16	0.35
			Diesel fuel				
						1 barrel = 3.5 kg	
			Indicator price (2010)	crude oil		barrel	14.92
			Adjust to diesel price			barrel	5.00
			Diesel fuel - world market			barrel	19.92
						= litre	0.09

				Transport and distribution costs	70%	0.07
				Farm gate value	litre	0.16

sources Commodity Markets and Developing Countries, World Bank, April 2000
FAOSTAT Database (for butter and SMP)

Agricultural Sector Review and Planning

Policy Note 8: Status of irrigation and Drainage Infrastructure

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

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Water Resources and their Use in Uzbekistan

Water resources in the Republic of Uzbekistan are distributed in an extremely non-uniform manner, and its extensive plains suffer from a severe shortage of water. The main sources for the Republic's water are the trans-boundary rivers of Amu Darya and Syr-Darya, which are used on the basis of interstate agreements and legal decisions. These resources are supplemented by some small rivers and other internal sources.

The Republic's share of the total water resources of the Aral Sea basin is 71.1 billion m^3 comprising: Amu Darya - 28.4 billion m^3 , Syr-Darya - 10.9 billion m^3 , the small rivers - 19.2 billion m^3 , and from underground and sewage-12.6 billion m^3 .

For last five years because of drought and an incomplete set of water-economic data, the actual water-intake for the entire Republic, was limited to 53.1 billion m^3 , i.e. 75% of the volume allocated under normal conditions. 92% of the general water-intake was used in agriculture, 0.2% - in power, 1.5% - in the industry, 0.8% - fishing and other activities, 5.5% - in municipal sector.

With transition to water allocation in the Republic, in the last decade total water use for one hectare has decreased from 13 thousand m^3/ha to between 10.4 and 12.2 thousand m^3/ha . Use in the vegetative period of between 10.7 and 11 thousand m^3/ha has decreased to between 8.8 and 9.6 thousand m^3/ha , and in non-vegetative period it is between 2.4 and 2.7 thousand m^3/ha .

At the same time in some regions, the water use per hectare remains high, for example in Republic Karakalpakstan – between 15 and 16 thousand m^3/ha , and in the Khorezm area – between 18 and 19 thousand m^3/ha .

It is necessary to note, that water consumption in irrigated agriculture is set by natural and economic conditions, the physical condition and management of irrigation systems and the irrigation technologies used.

There was a sharp reduction in the flow of all rivers in region, especially Syr-Darya and Amu Darya Rivers at all sites from sources to the mouth. Water salinity also increased: in headwaters to 0.2-0.3 g/l, in mid-stream to 0.5-0.7 g/l, and in downstream to 1.0-1.5 g/l, which caused increased salinization of irrigated land, and also increased the demand for water for leaching.

From the Republic's total area of 44.4 million ha, 25.8 million ha is used in agriculture. The total area irrigated in the Republic of about 4.3 million ha is limited by available water resources.

Population growth is continuing; the agriculture, power, the industry and other branches of economy are developing, and accordingly their water demand is increasing. In this connection, the per capita water resources in the Republic was 5,000 m^3 in 1960, by 1990 it was 3,043 m^3 , and in the drought affected year 2000, 2,214 m^3 . It is forecast that by 2010 the per capita resource will be 2,144 m^3 , and by 2050 it will be 1,441 m^3 . Because water resources in Aral Sea basin are limited, water in the Republic will become scarcer, requiring a range of measures for rational management and use of the limited water resources.

Irrigated land and its ameliorative condition

According to the State Committee on Land Resources, as of January 1, 2002, throughout the Republic the area of irrigated land is 4,278.8 thousand ha; of which arable lands make 3,309.4 thousand ha, or 77% of the total irrigated area. Irrigated personal plots total only 501.4 thousand ha, or 12%. Between 1990 and 2002 the increase in irrigated area was 57 thousand ha, i.e. rates of increase in the irrigated land is very low.

The Ministry of Agriculture and Water Management monitors the sustainability of irrigated land through surveys of hydrogeology and ameliorative conditions..

According to the data for 2003, 40% from the total irrigated area is in good condition, 51% is satisfactory, and 9% is in an unsatisfactory condition.

The area classified as good land has increased by an average of 2% during 2000-2003: the satisfactory land decreased by 3%, and unsatisfactory increased by 0.6%.

A small reduction in the area of medium and strongly salted land was observed. In 2003, the total area of irrigated land unsalted land was 48%, poorly salted - 30%, medium saline - 18%, and strongly saline - 4%. There were no significant changes in the ameliorative condition of the irrigated land for the specified period for the Republic as a whole.

At the same time in different regions there is some deterioration of the ameliorative condition of the irrigated land. During 2000-2003, the increase in the unsatisfactory land in Republic Karakalpakstan was - 2.1%, in the Andizhan area - 2.5%, Navoi area - 2.4%, Syr-Darya area - 2.7%, the Khorezm area - 1%; and strongly saline land in Republic Karakalpakstan has increased 1.9%, in the Dzhizak area - 1.2%, Navoi area - 1.8%

Water-economic infrastructure

One of the most effective irrigational systems in the world has been constructed and operated to guarantee water supply to all branches of economy of the Republic of Uzbekistan, and also to improve conditions on irrigated land.

According to a survey in January 1, 2004, the following irrigation infrastructure delivers water to land in the Republic:

- The main and inter-farm channels, total – 28,064.8 km, of which 9,714.5 km are concrete faced. There are 7,697 km of main channels in this total, of which 649 km are concrete faced;
- Inter-farm irrigation network is 172,449 km, of which 13,067 km are concrete, drains total 22,795 km; There are 11,437 hydraulic control structures on the main and inter-farm channels of which 274 are large, with outlet capacity of more than 100 m³ / sec., 13,334 structures have an outlet capacity between 10-100 m³ / sec.;
- There are 19,904 water outlets to farms;
- On the main and inter-farm channels, 21,005 stations control water delivery;
 - 64,083 hydraulic engineering constructions on an inter-farm irrigating network;
 - 42,507,000 water control stations on an inter-farm irrigating network;
 - 1,803 siphons and aqueducts on the main and inter-farm channels;
 - 2,630,000 siphons and aqueducts on the on-farm irrigating network;
 - 56 water basins and 10 sediment dams with a total reservoir capacity of 17,142 million in m³;
 - 1,605 pump stations with 5,097 pumps with a total power demand of 3,831,000kWh and pumping capacity of 6,870 m³/sec;
 - 4,551 irrigation wells;
 - 11,289 farm pump units.

Infrastructure on maintenance of an ameliorative condition of the irrigated land:

- 31,962.2 km of main and inter-farm collector drains —, of which 5,174 km of mains have a capacity of more than 10 m³ / sec. ;
- 67,323 km of inter-farm open collector drains;
- 37,751 km of inter-farm pipe drainage, of which 8,901 km are on state farms;
- 3,702 drainage wells.

Also, the state farms have 11,286 km of inspection road, including 4,111 km with a sealed surface, 2.5 million m² of administrative and operational buildings, 3,995 km of phone line, 1,506 radio stations and other auxiliary structures.

Technical condition and repair of irrigation systems

The condition of irrigation and other systems on state farms is inspected annually by the Department of Irrigation. In the 2000-2003 inspections, 35-36% of the total length of main and inter-farm collector drains required repair and cleaning. The requirement for cleaning and repair of inter-farm collector-drainage increases year by year. In 2000 the requirement on clearing of collectors was 33%, in 2003 it was 39%. The requirement for repair of the closed horizontal drainage is also increasing. In 2000 it was 28%, in 2003 it was 40%, in particular sites requiring maintenance increased from 18% up to 21%, and sites requiring reconstruction increased from 9% up to 18%.

Thus, while the state irrigation system is supported approximately at one level, but the condition of an inter-farm irrigation network worsens year by year. It is especially noticeable in the Andizhan, Samarkand and Fergana areas.

For the whole Republic, the range of required repair and clearing of inter-farm collector drains completed during 2000-2003 was between 55 and 66%. In the Republic of Karakalpakstan it was only between 25 and 36%, in the Dzhizak area between 40 and 57%, in Syr-Darya between 29 and 77%, and in the Khorezm area between 21 and 66%. Work was limited by available budgetary funds for operation of the state irrigation systems.

The operational life of pump units is 10 years. However of the 5,097 state pumps only 18% are replaced after 10 years, 11% are replaced between 10 and 15 years, 24% between 15 and 20 years and 46% over 20 years.

Pump stations Alat and Karakul in Bukhara area, have been in operation between 40 and 45 years. The water intakes of pumping stations are seriously deteriorated, as are working chambers and rotors, and inlet and pressure pipelines.

Repair work is conducted by pump stations, and factories ("Suv mash", "Rotor", "EIREM", divisions "Uzsuv tamir", etc). Replacement units and spare parts are brought from Russia. However the age of pump stations and units increases the cost of restoration. The pumping capacity, and especially the efficiency, is reduced.

Currently of the 23 large pump stations, 19 (83%) require reconstruction. Of the 730 medium sized pump stations, 371 (51%), and of 852 small pump stations, 267 (31%) need to be re-built.

Annually, by governmental decision, funds are allocated to the water management investment program for construction and reconstruction of irrigation infrastructure, for reconstruction to improve ameliorative capability of existing irrigation structures, and to develop new irrigated land.

For this purpose 27,059 million sum was allocated in 2001, in 2002 – 42,821, in 2003 – 26,017, and in 2004 the allocation was 18,000 million sum.

The priority is given to construction of new water reservoirs (Arnasay, Rezaksay and Kenkulsay) and other important water-economic objects.

Because capital investment is limited, the amount of water-economic work is also reduced. In 2001 11,471 ha was reconstructed, and the ameliorative condition of 18,412 ha of old irrigated land was improved, and 1,847 ha new land was reclaimed, and also 114 km of the main collectors were reconstructed, but in 2003 these parameters were reduced to 711 ha, 1,810 ha, 44 ha and 35 km.

The government has taken a number of decisions on development of small hydropower engineering, to increase the safety and operational reliability of large and especially important water-economic objects, to improve the ameliorative condition of the irrigated land, and to increase water security, etc.

However, because of limited investment, these decisions were not implemented.

Proposed Solutions

Recently the Government made a special effort to attract foreign investments to solve water-economic problems.

The World Bank for Reconstruction and Development has started implementing the «Uzbekistan Drainage» project to divert drainage from Southern Karakalpakstan, for a total sum of 74.55 million US dollars, including a loan of 60 million US dollars from IBRD.

The project «Support of the agricultural enterprises», for a total sum 43.46 million US dollars is also being implemented and includes an irrigational component,

«Rehabilitation of inter-farm irrigation-ameliorative networks», funded from an IRBD loan for 9.52 million US dollars.

Memorandums for 6 projects, for a total sum 424.3 million US dollars are signed with the Asian Development Bank, out of which ADB loans comprise 335.9 million US dollars.

Projects are starting under investments of Eximbank of People's Republic of China totalling 648.2 million US dollars in foreign investments for the period till 2007.

Russia is lending 100 million US dollars for rehabilitation of Karshinski machine channel pump stations.

USAID is providing grant aid for technical assistance for basin management of irrigational systems and water-user associations.

The company VRL from France together with SANIIRI is developing proposals for water supply service tariffs.

Swiss Aid, and the International Water Resources Management Institute are carrying out a regional grant project on integrated water resources management in the Fergana valley.

Work has also started to prepare proposals for integrated water resources management in the lower reaches of the Amu Darya and Syr-Darya, and on other projects.

Financing of a water-economic complex

Despite various difficulties, the state annually allocates funds for operation of the state water-economic infrastructure, and also for capital construction of ameliorative improvements and reconstruction of existing irrigation land, to construction of water reservoirs, pump stations, channels and other water-economic objects.

In 1990 389.5 million roubles were allocated for operation of the state water-economic systems, in 1995 it was 8,638.6 million sum, in 2000 – 71,407 million sum, in 2003 – 184,157 million sum, and in 2004 – 257,924.7 million sum.

Thus the share of funds for the electric power annually increased, (18%, 40%, 47%, 59% and 75% in 2004) while the funds for the repair of water-economic system have decreased.

Water-economic objects, agricultural co-operatives and associations of water-users, were financed by their own means and a significant part of an irrigating network of farms were repaired manually, by "volunteer work".

Farms, providing agricultural produce for the state needs are given loans to finance water user associations and also funds to repair and clear inter-farm irrigation-ameliorative systems.

Foreign investments and grants are widely involved.

Structure of water resources management

Till last years in Republic Uzbekistan, as well as in other countries CIS, management of a water-economic complex and water resources was carried out by an administrative-territorial principle. Department of water management of the Ministry of Agriculture and Water Management of Republic Uzbekistan, its regional (13 units) and aerial (163 units) territorial services of a water management, more than 40 managements of inter-district channels and other water-economic organizations were engaged in water resources management.

At this control system, planning of water use and balances of water resources were made by an administrative principle.

The administrative-territorial principle of management had the following basic lacks:

- Complexities in planning water use, management and the analysis of efficiency of use of water resources;
- Complexities in proportional water delivery to water-users on water' sources;
- Intervention of incompetent supervising persons in water resources management;
- The weak contractual relation between water-economic bodies and water-users;
- Complexities in the control for target and efficient control of budgetary funds;
- Turnover of staff and others.

Reform is required in the field of management of use water resources for maintenance of need in water, first of all the population, of agriculture and other branches of economy, and also for development of water attitudes, especially in conditions of its limitation and growing deficiency,

The ways of solution of water use problems

It is known from world experience, that one of the main ways of the solution of the given problem is introduction of the integrated management and use of water resources which, first of all, includes transition to a hydrographic principle of management of irrigational systems, the correct account of all water resources and water-users, introduction of a market principle in water use, i.e. transition to paid

services for water-supply, attraction to management of water resources of the broad audience of representatives of water-users and the public.

Introduction of a market principle in water use in the majority of the countries, including neighboring countries as Kazakhstan, Kyrgyzstan and Tadjikistan shows, that it allows saving water resources up to 20%.

As is known, basin - the hydrographic principle of management of irrigational system and water resources enables to plan, operate rationally and proportionally to provide water-users on sources. Such principle of management of water resources in Uzbekistan has been even earlier introduced on river basin of Zerafshan. Management of Zerafshan valley water management - "Zerdolvodhoz" has been created, which served Dzhizak, Samarkand, Navoi and Bukhara areas

Taking into account positive experience of introduction of the integrated water resources management, on the basis of the Decree of the President of Republic Uzbekistan from March, 24, 2003, by the decision of the Cabinet of Ministers from July, 21, 2003 №320, management of irrigational systems and water resources in republic is transferred from administratively territorial principle on basin - hydrographic principle, which provides introduction of a market principle in water use.

According to the given decision, 10 basin managements of irrigational systems have been organized on the basis of the water-economic organizations and services, which include 11 managements of the main channels (systems), and 52 managements of irrigational system.

Thus, only 73 water-economic agencies, including more than 10 interregional and interstate water-economic organizations and services, were formed on base of more than 220 regional, aerial and inter-district organizations: i.e. the quantity of the organizations and services engaged in management of irrigational systems and water resources was reduced more than in 3 times

The primary goals of basin managements of irrigational systems are determined:

- The organization of target and rational use of water resources on the basis of introduction of market principles and mechanisms of water use;
- Carrying out of a uniform technical policy in water management on the basis of introduction of high technologies;
- The organization of uninterrupted and duly maintenance of water to consumers;
- Maintenance of technical reliability of irrigational systems and water-economic constructions;
- Rational water resources management on territories of basin and increase its efficiency;
- Maintenance of the authentic account and the reporting of use of water resources in a section of water-consumers.

With a view of efficient management of operation of the state water-economic pump stations, power and communication, and also collector-drainage systems, they also are transferred to a hydrographic principle of management.

Structural divisions of managements of pump stations, power and communication were organized on irrigational systems, including Hydrogeology-ameliorative expeditions on large ameliorative systems.

Besides, all territorial managements of Pump stations, power and communication, and also Hydrogeology-ameliorative expeditions are transferred in structure of basin

managements of irrigational systems for the joint solution of problems and interaction.

In connection with transition on basin principle of water resources management, changes and additions have been entered by decision of Oliy Majlis in the Law of Republic Uzbekistan «About water and water use» and other acts.

The Ministry of Agriculture has developed the following prime normative documents on regulation of water relations, between the water-economic organizations, their relations with primary water-users, and also relations between primary and secondary water-users:

- The project about the limited water use in Republic Uzbekistan;
- The project of regulations about stimulation of water-using, for economical use of water resources;
- The Draft of the Program measures about introduction of market principles in use of irrigation water.

The following has been reconsidered according to transition on a basin principle of water resources management:

- The order of an establishment of a limit of water use;
- The order of the conclusion of the contract on water use;
- The order of registration of contracts and the control of their performance.

The governmental decisions create public structures on attraction of the interested ministries and the departments, the specialized organizations, leading scientists and experts for solution of problems of targeted and rational use, protection of water and land resources, developments, and also for further deepening of reform of a water management.

Council on rational use of land and water resources, development of irrigation and increases of soil fertility has been created at the central office of the Ministry of agriculture and water management. The structure of Council includes outstanding scientists and experts, and also practical workers in the field of use of land and water resources.

The Republican committee on irrigation and drainage has been created. The structure of Committee includes heads of the interested ministries and departments, and also leading scientific and famous experts of branches of economy, on use and protection of water and land resources.

With a view of maintenance of transparency and collective nature of the accepted decisions on establishment of limits of water use, and for operative decisions in extreme cases, like solving low water, and also flood and the mudflow phenomena, Water-economic councils are created at basin managements of irrigational systems, and at managements of irrigational system they are called Water commissions.

Except for heads of the water-economic organizations, structure of water-economic councils of basin managements of irrigational systems include heads of associations of farmer and dehkan farms, of rural and water management, etc., and heads of regional bodies of wildlife management; structure of the water commissions of managements of irrigational system include regional bodies of wildlife management, association farmer and dehkan farms, rural and a water management, some heads of WUA, etc.

In associations of water-users it is recommended to include one chairman of local self-government institutions in structure of the Supervisory council - as the representative of personal house-hold farms.

Research works

At the Ministry of Agriculture and Water management there is a scientific research institute "SANIIRI", Tashkent institute of irrigation and land improvements, "Uzgirovodhoz" which perform research works on water management. Besides, there is "Cotton Growing" institute at the Research-and-production center on an agriculture, which carries out research works on irrigation techniques, on a mode of an irrigation, etc.

Sources of financing of scientific researches are the means of MAWR, and of some enterprises on self-financed basis, and grant projects financed through the Center on a science and technologies, etc.

SANIIRI has two peripheral departments, in Fergana and Khorezm. In 1994 the Karakalpak branch of institute is created on the basis of the Karakalpak department.

The basic directions of researches are:

- Development of methods of increase of efficiency of water and the irrigated land, development of strategy and tactics, development of the irrigated land and perfection of operation of hydro-ameliorative systems;
- Studying of river processes, methods of regulation of a drain of the rivers (water-intakes, water basins, pump stations, channels and hydraulic engineering constructions), irrigation canals and drainage networks at levels of large, supplying up to a level of farms;
- Studying of ecological processes connected to use of the water resources, including estimation of consequences of drying of Aral sea, and development of proposals on its improvement;
- Questions of improvement of quality of river waters and reuse of a drainage waste drain.

The institute has developed for last years for Republic Uzbekistan:

1. Actions on management of runoff processes and bank protection constructions in areas of non-dam water-intakes, and of coastal territories from intensive washout.
2. Criteria, algorithms and programs for optimization of models of management of water-distribution process on objects of river basins, main, inter-farm and on-farm.
3. Algorithms of calculation for estimation, forecasting and definitions of necessary repair - rehabilitation works on drainage systems, on the basis of the theory of reliability.
4. A technique of forecasting of volume of irrigation-waste waters from the irrigated land. The device is developed for supply of drainage-waste waters repeatedly for irrigation in conditions of the foothill land. The recommendation on a reuse of drainage-waste waters in conditions of the foothill land is developed.
5. An optimum variant of payment of water-economic services by water-users, with the minimal losses of irrigated agriculture and decrease in state budgetary financing of a water management has been developed.

6. Technologies of furrow irrigation have been improved and the elementary methods of the water-savings and soil protection were proposed to farmers. Self-pressure head systems of a drip and sprinkler irrigation of vineyards and a vegetable - melon cultures on foothill land are developed.

Development and proposals of institutes are considered on scientific and technical council of the ministry and recommended for use in the corresponding organizations of a water management.

With account of pursued reforms in agriculture and water management, priority direction of researches include:

- Strategy of water resources management, development of legal and normative base, introduction of market attitudes in water and agriculture
- Perfection of management and the account of water resources both on basin systems, and at WUA level;
- Perfection of technical operation of water-economic systems, and land improvements of the irrigated land in new conditions of reforming;
- Development of curriculums, methodical manuals and the organization of training of experts of a water management and water-users.

Existing problems

1. Water-security of the irrigated land during the summer period has sharply worsened in connection with formation of the sovereign states in region, and change of an operating mode with irrigational on power of large water basins in Kyrgyzstan and Tadjikistan,.

Water resources are limited, population is growing, and development of branches of economy increases demand for water resources.

It demands restoration of an irrigational mode of operation of Toktagul and other cascades of water basins on Syr-Darya river.

Besides, it is required to find opportunities of construction of new water basins, for accumulation winter flows. To speed up constructions Rezak, Kengkulsay, Jidalisay and other water basins.

2. Management of irrigational systems and water resources in republic is transferred on a basin principle, and the condition for stage-by-stage realization of a market principle in water use is created. The project of the program, measures on introduction of a market principle in water use, and also the project of regulations of incentives for water-users, for economical and rational use of water resources is prepared. It is necessary to adopt the Governmental decisions, to start carrying out experiment and to start gradual realization of a market principle in water use, and also the mechanism of stimulation for economical and rational water use.

3. From the common irrigated area, about 3 million ha is a zone of an old irrigation, with not engineering irrigation-ameliorative systems. A technological level of irrigating systems across Uzbekistan is low as a whole. Efficiency of inter-farm channels, on the average makes 0.86, an on-farm network - 0.75 (in "new" zones of an irrigation Syr-Darya and the Dzhizak areas 0.89-0.90). Efficiency of irrigational systems, on the average across Uzbekistan makes 0.64.

More than 800 thousand ha of the irrigated land are equipped with canalet sprinklers; most of the sprinkles, because of non-observance of

requirements to their operation, has broken down, that leads to the big losses of irrigating water.

Major leveling of fields is not conducted almost everywhere, already for more than 10 years. Irrigation is made basically on furrows and beds, because of bad leveling of fields there is a non-uniform soil humidifying leading big losses. Efficiency of irrigation techniques - 0.59-0.70.

It demands stage-by-stage rehabilitation of irrigational systems, increase of their technical condition, introduction of water saving technologies.

4. From the general irrigated area in 4.3 million.ha, more than 75% demand construction of a drainage (3.2 mln.ha), from which the collector-drainage network is constructed on 2.8 mln.ha, including on 580 th.ha - the closed horizontal drainage, and on 413 th..ha - a vertical drainage. Construction of drainage is needed on the area of more than 400 th.ha.
5. Due to physical and chemical filling of filters, specific discharge of wells of a vertical drainage has decreased from initial on 37-79%. Besides, due to failure of a significant part of wells and pumps, deterioration of supply by material resources, the factor of useful work of systems does not exceed 0.27-0.34 on the average ha year, against 0.60-0.65 recommended, which has sharply decreased for last years. It is necessary to restore and build wells stage by stage, and also to optimize a mode of their operation.
6. Activities on clearing open collector-drainage network are lately carried out at a level of 50-70% from the specification because of economic and financial difficulties. The annual requirement, under repair of closed horizontal drainage makes 3-3.5 th.km, and actually 1-1.2 th..km is carried out. A principal cause - a weak economic condition of farms, and shortage of drain washing technical equipment.

In connection with the specified circumstances, the tendency of increase of the salted land was outlined for the last years in the area (2,087.6 th.ha in 1991, and 2,211 thousand ha in 2003). The areas with depth of subsoil waters up to 2 m make 1,267.6 th..ha. At deficiency of water resources and the limited water use the drain of drainage-waste waters across Uzbekistan makes 22-23 billion m³.

7. The majority of large objects are maintained for more than 35-45 years, which become physically and morally outdated; the repair period was sharply reduced and urgently demand rehabilitation and modernization activities.

With a view of maintenance of grain independence, operation time of water-economic objects within a year has increased for 30-40% that has sharply reduced the period for repair of water-economic systems. Stage-by-stage rehabilitation of water-economic systems is required, including development new conditions of their operation.

8. Water is provided with the help of pump stations on the area more than 2.4 million ha. There are 1.605 pump stations on balance of water-economic organizations of MAWR, where 5,097 pump units are established. On more than 80% of pumps service life has expired for a long time. The same situation is with pressure head pipelines.

As a whole radical reconstruction of all complex of pump stations is required. 11,289 pump units work on an on-farm irrigating and collector-drainage network. Because of rise in price of the electric power, the petroleum products and spare parts, and economic weakness of farms,

the question on transfer of farms on balance of the state arises everywhere.

9. 56 water basins function in system of MAWR. The general design volume makes 17,844 million m³, useful – 14,581 million in m³. For today all water reservoirs have been silted almost on 20-35%, and Tuyamuyun water reservoir is silted up to 50%. The suspended area of an irrigation makes 1530 th..ha. Increase of their safety and reliability of operation is required.
10. The water-economic object is a state ownership, the maintenance and development is carried out due to the state budget. Reduction of budgetary financing has sped up their physical and moral obsolescence. Physical deterioration of a fixed capital exceeds rates of their manufacture in 2.6-3.3 times. Significant expenses of financial and material resources are required for their maintenance in an efficient condition.
11. The unprofitable and unpromising agricultural enterprises will be reorganized, and on their base farms are created. Water-users associations (WUA) are created for the organization of operation of on-farm hydro-ameliorative systems. However, sustainable development of WUA demands their technical support, duly financing, allocation of soft loans for rehabilitation of a hydro-ameliorative network, and also maintenance with qualified personnel.

Priority directions of attraction of investments

With a view of reliable maintenance of branches of the economy, the limited water resource, preservations and improvements of an ameliorative condition of the irrigated land, it is required first of all to ensure safety and normal operation of water-economic systems.

1. Reconstruction of especially important pump stations.

From available 23 large pump stations, 19 demand reconstruction during 2005-2010, including:

- Amu-Bukhara machine channel pump stations system: Hamza-1, Hamza-2, Kuyu-Mazar, Kyzyl - Tepa, Karaulbazar;
- Karshinski machine channel pump stations system - №1-№ 7;
- managements of pump stations, power and communication in Bukhara area -pump stations Alat and Karakul system;
- system of association "Mirzachul" - pump stations DGNS, DHC-2 and DHC-3;
- system of managements of pump stations, power and communication in the Namangan area - pump stations " Namangan " on the Big Namangan main channel;
- system of managements of pump stations, power and communication in the Surkhan-Darya area - pump stations Zhajhun and Sherabad.

Except for that, from available 730 average pump stations -371, and from 847 small pump stations -267 demand reconstruction during 2005-2010.

168.5 billion sum is required on reconstruction of large pump stations: for medium pump stations - 827 billion sum, and for small pump stations - 133.6 billion sum.

Besides 1,028 pieces ameliorative and 1,280 pieces of irrigating wells also demand reconstruction during 2005-2010, on which accordingly 11,030 and 13,010 billion sum shall be needed.

The full list of above named objects is applied.

1. **Construction and reconstruction of hydraulic engineering constructions.** In republic it is required to build and reconstruct more than 45 large hydraulic engineering structures during 2005-2010. It demands altogether 39,669 million sum. The list of these constructions is applied.
2. **Construction and reconstruction of water basins.** During 2005-2010 it is also required to invest for construction and reconstruction more than 21 various water reservoirs, which requires allocation of 317,861 million sum. The list of these water reservoirs is applied.
3. **Construction and reconstruction of the main channels.** There are more than 55 objects demanding construction and reconstruction with the general required sum of expenses 86,430 million sum. The list of these channels is applied.
4. **Construction and reconstruction of the main collectors.** The nearest 5 years construction and reconstruction of 38 main diverting collectors is required. The list of these collectors is applied.
5. **Reconstruction of old irrigated land.** More than 114 thousand ha ameliorative-unsatisfactory land is in total available in republic. About 50 thousand ha out of which demands reconstruction first of all. These are the lands of Balikchi, Boz and areas Ulugnorski of the Andizhan area, Naryn and Mingbulak-the Namangan area, Bekabad and the Buka of the Tashkent area, Kattakurgan, Pahtachi and Narpai-the Samarkand area, Urtachul area of Navoi region, Karaulbazar, Kasan, Karakul, Jondor, Alat-Bukhara area, Nishan, Mubarak, Kasan and Guzar-Kashkadarinskai area, Sherabad, Kizirik, Angor - Surkhan-Darya area, separate farms of all areas of Republic Karakalpakstan, the Dzhizak, Syr-Darya and Khorezm areas.
6. **Construction of channels of runoff diversion of the rivers in shallow zones and transfer on gravity irrigation.** The list of objects is applied.
7. **Development of small-scale power structures.** Gradual construction of small-scale power structures have been envisaged by the program on development of small-scale power structures of Republic of Uzbekistan approved by the governmental decision No-476 dated 28.12.1995.

The list of Normative documents on construction water-related objects in Republic of Uzbekistan

№	Name of Cabinet of Minister's Resolution	Document №	Date of decision taking
1	On developing of small hydro-power in Uzbekistan	№476	December 28, 1995
2	On program measures on deepening of market reforms and strengthening of social-economic development in Namangan region in 1998-2000	№319	July 29, 1998
3	On approval order of temporary closing down and restarting of objects with unfinished construction and main assets	№397	August 20, 1999
4	On measures to increase safety and reliability operation of big and especially important water objects for the period 1999-2005	№398	August 20, 1999
5	On measures in improving work organization and monitoring in architecture and construction	№165	April 27, 2000

6	On immediate measures in improving ameliorative condition of irrigated land of Rishtan region of Fergana area	№485	December 19, 2000
7	On measures in improving security of water supply and rational use available water resources of SyrDarya river	№46	January 25, 2003
8	On transition to contractual current prices at implementation of investment projects from centralized capital investments	№261	June 11.2003
9	On improvement system of competitive bidding in capital construction	№302	July 3, 2003
10	On improvement mechanism of economical relations in capital construction	№395	September 12, 2003
11	On approval provisions in construction	№410	September 24, 2003
12	On improvement and renovation of cost-normative price formation principles in capital construction	№463	October 24, 2003

Targeted Program Investment projects in 2005-2007 including foreign investments and credits with Government guarantee on MAWR (mln.USD)

№	Name of projects and customers	Foreign partner/ creditor	Total sum investments credits	Balance	Forecast on			Basis to include for the
				01.01.05.	2005	2006	2007	forecast
	MAWR							
1.	Drainage project of Uzbekistan. Project of drainage diversion from southern Karakalpakstan	WB	60.00	57.79	3.00	16.42	13.12	Resolution of Cabinet Min. as of 26.01.2004. № 37
2.	Rehabilitation of AmuZang machine canal system	ADB	73.50	73.50	11.30	33.80	16.50	Resolution of Cabinet Min. as of 22.10.2004. № 494
3.	Rehabilitation of Amu-Bukhara irrigation system	US Eximbank PDC Eximbank	244.80	244.80	24.30	76.10	33.60	FR finished and submitted Min.Finance, Economy, Agency for foreign. Ec.
4.	Improving land ameliorative condition in Buhara, Navoi, Kashkadarya regions 1-2 phases	ADB	100.00	100.00		10.00	30.00	Resolution of Cabinet Min. as of 11.11.2003. №500
5.	Improving land ameliorative condition in Djizak and Syrdaryaregions	ADB	50.00	50.00		10.00	20.00	Resolution of Cabinet Min. as of 11.11.2003. №500
6.	Improving water resources management in	ADB	50.00	50.00			10.00	Resolution of Cabinet Min. as of 11.11.2003. №500
	Surhandarya region (reconstruction of canal system Hazarbag-Akkapchigay)							
7.	Buy of hydraulic dredge and spare parts	interest free loan PRC	6.00	6.00	2.00	2.10	2.40	Resolution of Cabinet Min. as of 19.07.2004. № 338
8.	Rezaksay reservoir construction with total volume of 600 mln.m3 of water(buy 8 pump units)	PRC eximbank	10.00	10.00	2.50	3.50	4.00	Resolution of Cabinet Min. as of 19.07.2004. № 338
9.	Installing 2 hydro-units (hydro-turbines and generators) for Tupolang PS of Surhandarya	PRC eximbank	25.00	25.00	6.25	8.75	10.00	Resolution of Cabinet Min. as of 19.07.2004. № 338
10.	Reconstruction of pump station "Gulbahor 1K"	PRC means for Shanhay	6.00	6.00	1.50	2.10	2.40	Resolution of Cabinet Min. as of 19.07.2004. № 338

	Andijan region	agreement countries						
11.	Improving ameliorative network of arable land in Central Fergana Buy of irrigation-ameliorative equipment	PRC means for Shanhay agreement countries	8.00	8.00	2.00	2.80	3.20	Resolution of Cabinet Min. as of 19.07.2004. № 338
12.	Ahangaran PS construction Tashkent region	PRC means for Shanhay agreement countries	6.40	6.40	1.60	2.24	2.56	Resolution of Cabinet Min. as of 19.07.2004. № 338
13.	Andijan-2 PS construction Andijan region	PRC means for Shanhay agreement countries	8.50	8.50	2.12	2.98	3.40	Resolution of Cabinet Min. as of 19.07.2004. № 338
	Total:		648.20	645.99	56.57	170.79	151.18	

Note: Volumes are subject for correction due to the approved FR of projects

Ameliorative condition of irrigated land in Karakalpakstan and regions of Uzbekistan in 2000-2004 (Th.ha)

№		Years	Total irrigated area	Including condition						Degree of salinity			
				good	statisfactory	unsatisfactory	из них			non-saline	weekly saline	medium saline	strong saline
							Ground water' level	soil salinity	Ground water' level and soil salinity				
1	Republic of Karakalpakstan	2000	500.1	41.2	355.2	103.4	27.5	47.6	28.3	47.5	246.1	158.5	48.1
		2001	500.2	48.7	351.5	100.0	8.0	61.1	30.9	50.0	215.8	172.1	62.3
		2002	500.2	66.6	332.8	100.8	28.3	60.7	11.8	73.8	169.7	192.1	64.5
		2003	500.3	57.8	328.2	114.2	55.9	28.9	30.3	78.7	173.4	190.6	57.5
	regions:												
2	Andijan	2000	265.4	86.2	165.4	12.9	11.8		1.1	245.9	10.5	8.1	
		2001	264.3	88.1	157.0	19.2	16.2		3.0	240.6	12.0	11.7	
		2002	263.9	85.4	159.7	18.8	15.8		2.9	245.7	8.0	10.2	
		2003	263.9	84.7	159.7	19.5	18.6		1.0	248.4	9.2	6.3	
3	Bhkhara	2000	273.8	10.1	218.2	45.5	22.8	6.4	16.3	10.5	142.0	89.1	32.2
		2001	274.2	10.3	217.5	46.4	23.1	6.4	16.9	11.2	131.4	94.8	36.8
		2002	274.2	16.1	212.2	45.9	22.5	7.1	16.3	16.1	140.8	85.7	31.6
		2003	273.7	24.7	203.4	45.6	22.6	7.1	15.9	25.2	148.8	76.8	22.9
4	Djizzak	2000	301.1	43.8	242.5	14.8	10.3	4.3	0.2	43.8	137.7	115.2	4.3
		2001	301.5	45.6	242.7	13.2	4.9	8.2		45.6	125.1	122.6	8.2
		2002	301.3	45.9	240.2	15.2	7.3	7.7		45.9	143.8	104.1	7.7
		2003	301.2	50.0	235.0	16.2	8.3	7.7		50.0	142.4	101.1	7.7

5	Kashkadarya	2000	497.7	251.7	214.6	31.5	13.4	17.2	0.9	255.9	164.1	59.6	18.2
		2001	498.6	246.3	221.5	30.8	11.3	18.4	1.1	250.0	166.4	62.7	19.5
		2002	504.9	246.7	227.5	30.7	14.5	15.1	1.2	252.0	176.3	60.4	16.2
		2003	505.4	247.5	225.1	32.9	17.1	14.0	1.4	255.5	174.8	59.8	15.6
6	Navoi	2000	127.4	16.8	102.6	6.0	4.2		3.8	16.8	65.6	37.2	7.8
		2001	125.9	16.8	100.6	8.5	4.5		4.0	16.8	62.3	34.3	12.5
		2002	125.4	16.8	100.6	8.0	4.5		3.7	16.8	68.3	29.3	11.5
		2003	127.2	22.7	95.5	9.0	5.0		4.0	16.8	72.9	27.4	10.1
7	Namangan	2000	278.2	211.4	58.8	8.0	4.0	0.1	3.9	235.7	27.5	13.0	1.9
		2001	278.5	211.4	59.7	7.4	3.6		3.6	244.5	22.7	10.0	1.3
		2002	279.0	225.3	46.5	7.2	2.8	2.5	1.9	242.9	20.3	13.2	2.6
		2003	279.5	226.6	45.7	7.2	2.8	2.5	2.0	246.8	17.8	12.6	2.3
8	Samarkand	2000	373.2	254.8	105.3	5.6	4.9		0.8	358.0	8.6	4.0	0.8
		2001	376.1	265.7	105.3	5.1	4.6		0.5	367.4	6.8	1.9	
		2002	376.5	264.3	107.1	5.1	4.9			371.4	4.6	0.5	
		2003	376.4	253.0	116.3	7.1	6.9			371.0	4.8	0.6	
9	Surhandarya	2000	324.6	257.1	60.6	7.0	0.6	3.9	2.5	205.4	55.1	58.1	6.0
		2001	324.6	257.4	63.2	4.0		2.2	1.8	195.5	65.4	60.0	3.7
		2002	326.6	281.2	41.6	3.8		2.3	1.4	208.8	74.0	41.2	2.6
		2003	326.1	283.3	40.3	2.5		1.4	1.0	223.6	67.9	33.0	1.6
10	Syrdarya	2000	289.3	3.6	228.9	56.7	26.3	20.0	10.7	3.8	150.3	71.0	23.2
		2001	291.6	4.2	231.6	55.8	26.3	20.2	9.3	3.3	157.2	104.4	26.7
		2002	290.7	7.0	224.3	59.4	35.0	13.8	10.6	8.7	178.6	85.4	18.0
		2003	290.7	6.5	219.7	64.9	39.2	14.2	14.6	7.7	176.6	87.4	19.0

11	Tashkent	2000	385.2	346.8	35.0	8.0	7.1		0.8	370.1	12.6	1.8	0.8
		2001	383.7	349.6	26.0	8.1	7.0		1.1	373.0	5.9	3.7	1.1
		2002	382.4	347.8	26.2	8.4	7.1		1.3	371.0	6.5	3.8	1.1
		2003	382.2	344.8	28.9	8.5	6.8		1.7	367.1	9.8	4.4	0.9
12	Fergana	2000	356.8	87.2	253.3	16.3	5.1	4.7	6.6	170.3	119.8	57.2	11.3
		2001	357.4	86.1	255.1	16.2	5.2	4.4	6.7	130.1	112.2	101.6	13.5
		2002	358.7	116.7	226.0	16.0	7.8	3.1	5.1	176.9	117.0	55.7	9.1
		2003	358.7	124.3	218.8	15.7	8.1	4.4	3.2	160.1	135.4	54.8	8.4
13	Khoresm	2000	276.0		249.3	26.6	5.9		20.7		122.8	116.9	36.2
		2001	276.0		246.4	29.6	5.9	3.0	20.7		129.7	113.5	32.8
		2002	276.3		246.9	29.4	5.4	2.9	20.6		140.8	102.9	32.6
		2003	276.5		247.1	29.4	5.7	2.9	20.0		146.8	97.3	32.4
	Total in Republic	2000	4,242.7	1,610.7	2,289.7	342.3	143.9	104.2	96.6	1,963.7	1,262.7	789.7	190.8
		2001	4,252.6	1,630.2	2,278.1	344.3	120.6	123.9	99.6	1,928.0	1,212.9	893.3	218.4
		2002	4,260.1	1,719.8	2,191.6	348.7	155.9	115.2	76.8	2,030.0	1,248.7	784.5	197.5
		2003	4,262.3	1,725.9	2,163.7	372.7	197.0	83.1	95.1	2,050.9	1,280.6	752.1	178.4

Construction and rehabilitation of diverting collectors(Current price, million Uz.sum)

	Total need in 2005-2010	Including by years							Work structure
Specification		2005	2006	2007	2008	2009	2010	2010-2015	
1	2	3	4	5	6	7	8	9	10
Total:	72,560	11,315	17,930	16,203	8,287	9,671	9,154	25,715	
<i>Including:state investments</i>	<i>3,846</i>	<i>1,040</i>	<i>3,703</i>	<i>5,991</i>	<i>8,287</i>	<i>9,671</i>	<i>9,154</i>	<i>25,715</i>	
<i>project "reconstruction of drainage &</i>									

irrigation infrastructure	34,714	10,275	14,227	10,212	-	-	-	-	
1. Change over Beruni collector in Karakalpakstan									
Change over collector from pump station "Kzil-kum"									Main Hydro Work (MHW) - 75 pcs
from point 280 to 452									Excavation work - 6176.2 th.m3
Length - 47.8 km, launched 16.51km									concrete work - 1.75 th.m3
servicing area - 75.7 th.ha									
Total:	34,714	10,275	14,227	10,212	-	-	-	-	
Including project "reconstruction of drainage & irrigation infrastructure"	34,714	10,275	14,227	10,212	-	-	-	-	
2. Reconstruction "Dengizkul" collector in Bukhara region									
Length - 74.98 km, introduced 43.58 km									MHW-26 pcs
Serviced area - 1.86 th.ha	4,450	50	400	700	900	1,100	1,300	10,952	Excavation work – 3,586.1 th.m3
									Concrete work - 2.15 th.m3
3. Reconstruction collector system "Eski Amir-Temur" in Bukhara region									
Length 127.1 km, introduced 120.9 km									MHW-32 pcs
Serviced area - 99.3 th.ha	3,110	60	250	400	600	800	1,000	1,430	Excavation work – 7,213.8 th.m3
									Concrete work - 3.07 th.m3
4. Reconstruction collector "Gurdyush" Bukhara									
Collector reconstruction with change over to main VST									MHW31pcs
Length - 29.63 km, introduced 22.8 km	407	50	120	130	107	-	-	-	Excavation work – 2,165.4 th.m3
servicing area - 6.47 th.ha									concrete work - 1.5 th.m3
5. Reconstruction collector K-18 in Bukhara region									
Located in Jondor area									MHW - 9 pcs
Length -15.61km, introduced 2 km	403	-	-	-	100	140	163	-	Excavation work - 965.3 th.m3
servicing area - 1.7 th.ha									concrete work - 0.74 th.m3
6. Reconstruction Main collector in Djizzak region									
Length - 68.0 km									MHW - 26 pcs
servicing area - 128.0 th.ha	982	-	-	200	300	300	182	-	Excavation work - 1974.2

									th.m3
									concrete work - 1.07 th.m3
7. Reconstruction collector 6-K-1 in Djizzak region									
Jizak area									MHW - 13 pcs
Length - 16.08 km, entered 5.25 km	247	-	-	-	100	147	-	-	Excavation work - 776.2 th.m3
servicing area - 1.75 th.ha									concrete work - 0.17 th.m3
8. Reconstruction collector "Sichankul" Kashkadarya region									
Length - 61.2 km, entered 38.5 km									MHW- 18 pcs
servicing area - 21.9 th.ha	3,589	120	500	700	800	900	569	-	bridges - 5
									Excavation work - 1,876.2 th.m3
									concrete work - 0.86 th.m3
9. Construction main diverting collector "Kungirtag" Kashkadarya region									
Kasan area									MHW - 9 pcs
Length - 13.3 km, entered 3 km	169	-	80	89	-	-	-	-	Excavation work - 475.5 th.m3
servicing area - 2.17 th.ha									concrete work- 0.22 th.m3
10. Reconstruction collector K-10 Kashkadarya region									
Guzar area									MHW - 3 pcs
Length - 16.2 km, entered 9.6 km	263	-	-	130	133	-	-	-	Excavation work - 148.9 th.m3
servicing area - 3.4 th.ha									concrete work - 0.18 th.m3
11. Construction collector in Khoja-Bolti area in Navoi region									
Length - 13.8 km									MHW - 12 pcs
servicing area - 2.66 th.ha	435	-	-	150	170	115	-	-	Excavation work - 22.53th.m3
									concrete work - 2.96 th.m3
12. Reconstruction Agitim collector "Dul-Dul" in Navoi region									
Length - 50.6 km, entered 3.13 km									MHW 37 pcs
servicing area - 48.9 th.ha	2071	-	300	500	600	671	-	-	Excavation work - 2044.5 th.m3
									concrete work - 2.09 th.m3
13. Reconstruction collector system GD in Navoi region									
Mirzachul area									MHW - 12 pcs
Length - 19.0 km	740	-	-	100	150	230	260	-	Excavation work - 306.6 th.m3
servicing area- 3.4 th.ha									concrete work - 0.55 th.m3
14. Reconstruction collector "Achikkul" in Navoi region									
Mingbulak area									MHW - 6 pcs
Reconstruction PC 125 overchanging	1099	-	-	200	200	300	399	-	Excavation work - 121.4 th.m3

To collector									concrete work - 0.12 th.m3
Length -3.05 km, entered 1.58 km									
servicing area - 3.2 th.ha									
15. Reconstruction collector "Karakalpak" in Navoi region									
Mingbulak area									MHW - 10 pcs+J131
Length 19.43 km, entered 1.33 km	232	-	100	132	-	-	-	-	Excavation work - 556.6 th.m3
servicing area -3.9 th.ha									concrete work - 0.32 th.m3
16. Reconstruction collector "Hakulabad" in Navoi region									
Narin area									MHW - 11 pcs
Length - 8.4 km+A137	300	-	-	-	100	100	100	-	Excavation work - 785.2 th.m3
servicing area - 2.75 th.ha									concrete work - 0.73 th.m3
17. Reconstruction collector "Shur bedona" Samarkand region									
Length - 7.3 km									MHW- 7 pcs
servicing area - 1.25 th.ha	243	-	60	80	103	-	-	-	Excavation work - 372.4 th.m3
									concrete work - 0.31 th.m3
18. Reconstruction collector K-5 Surhandarya region									
Muzrabad area									MHW - 4 pcs
Reconstruction PC 64+62 to PC 142	404	60	120	150	74	-	-	-	Excavation work - 442.2 th.m3
Length - 7.3 km									concrete work - 0.27 th.m3
servicing area - 1.37 th.ha									
19. Reconstruction collector system VST Surhandarya region									
Kizirik area									MHW - 26 pcs
Length - 42.0 km	2,800	60	400	500	600	600	640	-	Excavation work – 1,459.1 th.m3
servicing area - 15.34 th.ha									concrete work - 1.22 th.m3
20. Reconstruction Diversion collector Syrdarya region									
Length - 55.2 km, entered 43.1 km									Road brodges - 2 pcs
servicing area - 280.75 th.ha	1,270	60	120	180	250	300	360	7,280	Excavation work – 10,789.2 th.m3
21. Reconstruction collector Sardoba Syrdarya region									
Collector correction									MHW- 8 pcs
Length - 8.2 km, entered 2.0 km	643	330	313	-	-	-	-	-	Bridges -4pcs
servicing area - 10.52 th.ha									Excavation work - 704.25 th.m3
									concrete work -1.08 th.m3
22. Reconstruction collector "Suruzak" Syrdarya region									

Length - 76.5 km, entered 12 km									MHW- 68 pcs
servicing area- 43.06 th.ha	3000	-	200	400	600	800	1000	3446	Bridge reconstruction - 14 pcs
									Excavation work – 4,209.5 th.m3
									concrete work -3.79 th.m3
23. Reconstruction collector "VJD" Syrdarya region									
Length - 14.1 km									MHW- 20 pcs
servicing area - 9.66 th.ha	510	-	-	-	150	200	160	-	Bridge reconstruction - 6 шт
									Excavation work - 3384 th.m3
									concrete work -3.24 th.m3
24. Reconstruction main diversion collector in Syrdarya region									
Length - 74.6 km									MHW - 33 pcs
servicing area - 31.86 th.ha	800	-	-	-	-	300	500	1846	Bridge reconstruction - 11 шт
									Excavation work - 1523.6 th.m3
									concrete work -0.7 th.m3
25. Reconstruction collector "Urtukli" Tashkent region									
Bekabad area									MHW - 26 pcs
Length - 20.68 km	1300	-	-	200	300	350	450	-	bridges - 3
servicing area - 16.8 th.ha									Excavation work – 1,725.4 th.m3
									concrete work - 1.7 th.m3
26. Reconstruction collector "Yarlikop" Tashkent region									
Bekabad									MHW - 11 pcs
Length - 16.18 km	744	-	-	100	150	250	244	-	Bridge reconstruction - 2
servicing area - 4.5 th.ha									Excavation work - 856.4 th.m3
									concrete work -0.96th.m3
27. Reconstruction collector "Chilisay" Tashkent region									
Byka area									MHW- 4 pcs
Length - 6.40 km	1544	-	150	250	400	500	244	-	Excavation work- 764.3 th.m3
servicing area - 2.4 th.ha									concrete work -0.62 th.m3
28. Construction diverting collector Fergana region									
Rishtan area									MHW - 5 pcs
Length - 29.7 km, entered 18.38 km	142	50	92	-	-	-	-	-	Excavation work - 374.8 th.m3
servicing area - 6.85 th.ha									concrete work -0.52 th.m3
29. Reconstruction collector "Nijne Kzil-Tepa" Fergana region									

Rishtan area									MHW - 8 pcs
Length - 25.3 km	250	-	100	150	-	-	-	-	Excavation work - 485.9 th.m3
servicing area - 5.74 th.ha									concrete work -0.96 th.m3
30. Reconstruction collector "Verhne Kzil-Tepa" Fergana region									
Rishtan									MHW- 3 pcs
Length - 15.37 km	104	-	54	50	-	-	-	-	Excavation work - 238.9 th.m3
entered 7.87 km, servicing area-3.45 th.ha									concrete work -0.21 th.m3
31. Reconstruction collector "Zinbordon" Fergana region									
Bagdad									MHW - 8 pcs
Length - 16 km	44	-	44	-	-	-	-	-	Excavation work - 648.8 th.m3
servicing area - 2.74 th.ha									concrete work -0.63 th.m3
32. Reconstruction collector "Centralniy" Fergana region									
Besharik									MHW - 11
Length - 16.80 km	606	-	-	-	150	200	256		Excavation work - 761.8 th.m3
servicing area -8.5 th.ha									concrete work -0.84 th.m3
33. Reconstruction collector Ozernoye Khorezm region									
Reconstruction collector, including Turkmenistan									MHW - 8
Length - 18.0 km, entered 3.0 km	1568	200	300	350	400	318	-		Excavation work - 2494 th.m3
servicing area - 268.83 th.ha									concrete work - 1.06 th.m3
34. Reconstruction collector "Shanginski" Khorezm region									
Gurlan									Excavation work - 805.3 th.m3
Length - 32.2 km, entered 18.0 km	514	-	-	-	100	150	264	-	concrete work- 1.33 th.m3
servicing area - 9.9 th.ha									
35. Reconstruction collector "Mityanov" Khorezm region									
Khanki area									Excavation work- 468 th.m3
Length - 22.4 km, entered 6.3 km	750	-	-	-	200	250	300	407	concrete work- 386 m3
servicing area - 12.08 th.ha									reinforced concrete - 858 m3
36. Reconstruction collector "Akkum" Khorezm region									
Gurlan area									MHW - 39
Length - 16.12 km	808	-	-	150	200	200	258	-	Excavation work - 471 th.m3
servicing area - 10.99 th.ha									concrete work- 3.18 th.m3
37. Reconstruction collector "Vazir" Khorezm region									
Gurlan area									MHW- 39
Length - 16.07 km	545	-	-	-	150	200	195	-	Excavation work- 500 th.m3

servicing area - 7.77 th.ha									concrete work -2.41 th.m3
38. Reconstruction collector Daudan Khorezm region									
Shavat area									MHW- 1
Length - 27.4 km	760	-	-	-	200	250	310	354	Excavation work - 848 th.m3
servicing area - 21.6 th.ha									

Reconstruction and building main hydraulic works (MHW) current prices, mln.sum

	Total Need 2005-2010	Including by years							на	Work composition
Specification		2005	2006	2007	2008	2009	2010	2010- 2015r		
1	2	3	4	5	6	7	8	9		10
Total:	29,544	320	2,590	5,127	6,980	8,000	6,527	16,228		
1. Construction Main Hydro Work (MHW) in "Shumanay" canal Karakalpakstan										
Shumanay area										Concrete and reinforcement work
Dike in picket (PK) 317+50	190	-	90	100	-	-	-	-		hardware
										MHW-1
2. MHW construction to pump station "Bek-96" Karakalpakstan										
Kanlikul area										Concrete and reinforcement work
MHW to intake channel	738	-	-	200	300	238	-	-		hardware
to pump station										MHW-1
3. MHW reconstruction in "Harabek network" Andijan region										
Andijan area										Concrete and reinforcement work
Reconstruction of structures	914	-	-	-	250	350	314	-		hardware change
										MHW-1
3. MHW reconstruction in "Asaka network" Andijan region										
Asaka area										Concrete and reinforcement work
Reconstruction of structures	216	-	100	116	-	-	-	-		hardware change
										MHW-1
5. Reconstruction Harhur network in Zeravshan river of Buhara										
										Concrete and reinforcement work
Reconstruction of structures	170	-	80	90	-	-	-	-		hardware change

									MHW-1
6. MHW restructuring in hydrowork "Khachkab" Bukhara									
									Concrete and reinforcement work
Reconstruction of structures	200	-	-	80	120	-	-	-	hardware change
									MHW-1
7. MHW restructuring in Amu-Buhara Main Canal, Buhara region									
Reconstruction in PK 1520 Amu									Concrete and reinforcement work
Bukhara main canal	300	-	-	100	100	100	-	-	hardware change
									MHW-1
8. Overflow construction in Sanzar river Jizak region									
Jizak area									Concrete and reinforcement work hardware change
Difference in PK 1230 site №5	109	-	40	69	-	-	-	-	Overfall - 1
9. Construction in Kli river Jizak region									
Zafarabad									Concrete and reinforcement work hardware
Structure in crossing with YR-30 canal	1268	-	100	250	350	450	118	-	MHW-3
10. Bridge construction in Karshi main canal (KMC)									
In Turkmen territory									Concrete and reinforcement work hardware
in PK 64 KMK	1400	-	-	-	400	500	500	-	Bridge-1
11. Flood diversion (siphon) in Karshi Main canal									
In Turkmen territory									Concrete and reinforcement work hardware
Siphon in PK 364 KMK	980	-	-	150	200	300	330	-	Siphon-1
12. Construction MHW ib canal "Mirishkor" Kashkadarya region									
Structure									Concrete and reinforcement work hardware
PK canal 1140	160	-	-	160	-	-	-	-	MHW-1
13. MHW restructuring of Kermen hydrowork in Navoi									
Zerafshan river									Concrete and reinforcement

									work
Structure in tail of hydrowork	1007	-	-	200	250	300	257	-	hardware
									MHW-1
14. MHW construction in "Aidarkul" lake of Navoi region									
Nurata area									Concrete and reinforcement work hardware
Aidarkul water level stabilization	12300	-	1000	1600	2500	3200	4000	15700	MHW-1
15. MHW construction in "Shavat" canal of Navoi region									
Structure in crossing canals									Concrete and reinforcement work hardware
"Shavat" with "Oltinsay"	250	-	-	100	150	-	-	-	MHW-1
16. Construction in Ahunbabaev Namangan region									
Mingbulak area									Concrete and reinforcement work hardware
Canal water intake structure	2,215	100	400	600	700	415	-	-	MHW-1
17. Aqueduct reconstruction in SFK canal Namangan									
Namangan area									Concrete and reinforcement work
Aqueduct in PK of canal 403	502	-	-	150	160	192	-	-	hardware change
									Aqueduct-1
18. Escape in canal BHK Namangan									
Outlet structure in canal BHK									Concrete and reinforcement work
на дюкер через Намангансай	186	-	80	106	-	-	-	-	hardware
									MHW-1
19. "Kuchli" hydrowork construction in canal "Nijni Bulungur" Samarkand									
									Concrete and reinforcement work
Chelek area	123	-	123	-	-	-	-	-	hardware
									MHW-1
20. Reconstruction "Verhne-Zeravshan" hydrowork in Zeravshan									
									Concrete and reinforcement work
Zerafshan river	619	-	-	150	200	269	-	-	hardware
									MHW-1

21. Construction overfall Sherabbad hydrowork Surhandarya									
Flow stabilizer in lower tail									Concrete and reinforcement work
hydrowork	266	40	100	126	-	-	-	-	hardware change
									Overflow-1
22. Siphon construction in "Hazarbag" Surhandarya									
Siphon in crossing									Concrete and reinforcement work
river Upparsay	396	-	-	100	130	166	-	-	hardware change
									Siphon-2
23. Hydrowork reconstruction in Ahangaran Tashkent region									
Ahangaran area									Concrete and reinforcement work
Hydrowork for intake	387	100	287	-	-	-	-	-	hardware
in canals "Sharhiya" and "Hoja-Baland".									MHW-2
24. Aqueduct reconstruction in Morgunenkov canal via Ahangaran river									
									Concrete and reinforcement work
Aqueducts reconstruction	200	-	-	-	100	100	-	-	hardware change
(stage-1)									Aqueduct-1
25. Flood outlet construction in SFK canal Fergana									
Flood outlet PK 675+10									Concrete and reinforcement work
ПК 728	411	-	-	80	120	170	41	-	hardware change
									Mudflow outlet -16
26. Construction of emergency outlet in SFK canal Fergana									
									Concrete and reinforcement work
Emergency outlet in PK of canal 605	1,200	-	-	300	450	450	-	-	hardware change
									Emergency outlet-1
27. Liquidation of flood results in Shahimardansay Fergana									
									Concrete and reinforcement work
Flood in									hardware
30.06.2002 on rivers.	1,700	-	-	200	300	500	700	528	MHW-4
28. MHW construction in Khoresm region									
MHW for turning to self gravity									Concrete and reinforcement

									work hardware
of irrigation in 7210 ha	767	-	-	-	200	300	267	-	MHW-115
29. Check construction in Tashsak river Khoresm									
Structure is located									Concrete and reinforcement work
In PK of canal 264	200	80	120	-	-	-	-	-	hardware
									MHW-1
30. Dike construction in "Shavat" canal Khoresm region									
									Concrete and reinforcement work
Construction of dikes	170	-	70	100	-	-	-	-	hardware
									MHW-1

Reconstruction of Canals (Current price, mln sum)

Specification	Total Need 2005-2010	Including by years							Work structure
		2005	2006	2007	2008	2009	2010	2010-2015	
1	2	3	4	5	6	7	8	9	10
Total:	50,100	1,144	3,948	8,046	12,488	13,688	10,786	16,156	
1. Canal "Stariy Bozjap" in Republic Karakalpakstan									
Beruni area									
Length - 25.0 km	300	100	200	-	-	-	-	-	Canal concreteing
									construction of structures - 8
2. Canal "Suenli" in Republic Karakalpakstan									
Khojeili area									Canal concreteing
Length - 5 km	371	-	180	191	-	-	-	-	construction of structures- 4
3. Canal "Kuanish-Jarma" from Point 30 to 100 in Republic Karakalpakstan									
Length - 7.0 km	361	-	120	120	121	-	-	-	Canal concreteing
4. Feeding of canal Kirkkiz from canal HP-1 in Republic Karakalpakstan									
Ellikkala area									Canal concreteing
Length - 5.0 km	370	-	-	185	185	-	-	-	
5. Canal "Mazgilsay" from picket 0 to 225 to feed big canal									
	Canal Andijan in Andijan area								
Length - 22.5 km, entered									Partial canal concreteing

15.0 km									
	78	78	-	-	-	-	-	-	construction of structures-5
	Canal Andijan in Andijan area								
Kurganteli area									Canal concreteing
Length-31.6km, entered - 11.6 km	422	-	200	222	-	-	-	-	construction of structures-15
Canal Shahrihan in Andijan area									
Kurganteli area									Canal concreteing
Length-4.9km, entered - 4.0 km	381	90	130	161	-	-	-	-	construction of structures-6
	Canal Savay in Andijan area								
Kurganteli area									Partial canal concreteing
Length 41.3km	1,079	-	-	200	250	300	329	-	construction of structures-18
6. Reinforcing dam ABMK from picket 878 to 955 in Bukhara									
Karaulbazar area									
Length - 7.7km	5,200	100	500	800	1,000	1,300	1,500	958	Canal dam concreting
7. Canal "Varahsha" Bukhara									
Peshkun area									Canal concreteing
Length - 39.0 km, entered 12.5 km	1,800	-	-	-	500	600	700	826	construction of structures-4
8. System of canal in right bank of CV in Djizzak region									
In Arnasay complex									Partial canal concreteing
Length -32.7 km	856	300	556	-	-	-	-	-	construction of structures-24
8. System of canal in left bank of CV in Djizzak region									
In Arnasay complex									Canal concreteing
Length -14.16km	585	-	250	335	-	-	-	-	construction of structures-4
10. Canal P-1 in Djizak									
Gallaaral area									Canal concreteing
Length-10.7km, entered 2km.	1700	-	-	-	400	600	700	3,661	construction of structures-7
11. Canal "Narpay" in Navoi									
Navoi area									Canal concreteing
Length 15.46 km	1441	-	-	200	300	450	491	-	construction of structures-3
12. Switching channels "Armidjan" and "Arabsaray" Navoi									
Navoi area									Canal concreteing

Length - 9.17km	434	-	-	-	200	234	-	-	construction of structures-5
13. Canal "Buston", m-1, "TeshikTash", "Kalbuva" Namangan									
Kasansay area									Canal concreteing
Length - 6.0 km	46	46	-	-	-	-	-	-	construction of structures-4
14. Big Namangan canal									
Increase outlet capacity from 20									Canal concreteing
to 40 m3/seck., length 30 km	15,000	-	-	3,000	4,500	5,000	2,500	-	construction of structures-24
15. North Fergana canal in Fergana									
									Partial canal concreteing
Length- 30.0 km	6,000	-	-	-	2,000	2,000	2,000	4,000	construction of structures-22
16. Canal "Hamza" from picket 33 to 93 in Samarkand									
Narpay area									Canal concreteing
Concrete facing 5.1 km of canal	122	20	102	-	-	-	-	-	construction of structures-4
17. "Kora-Arik" canal in Surhandarya									
									Canal concreteing
Length - 14.79 km	393	40	150	203	-	-	-	-	construction of structures-7
18. "Akkapchugay" canal from picket 30+46 55+00 Surhandarya									
									Canal concreteing
Length 2.3 km	370	50	160	160	-	-	-	-	construction of structures-2
19. "Kokaiti" canal in Surhandarya									
									Canal concreteing
Length - 28.0 km	950	-	-	-	300	300	350	330	construction of structures-6
20. P-2 canal in Syrdarya									
Gulistan area									Partial canal concreteing
Length 21.88 km, discharge 24.6 3/s	787	25	180	250	332	-	-	-	construction of structures-12
21. Canal TSV YGK from picket 0+00 to 86+50 Syrdarya									
Gulistan area									Canal concreteing
Length 8.47 km, discharge 35.0 m3/s	1357	50	200	300	350	457	-	-	construction of structures-13
22. Right bank Dustlik canal with construction main									
	regulator of feeding canal in Syrdarya								

Length - 9.56 km	309	-	150	159	-	-	-	-	Canal concreteing construction of structures-2
23. "Ugam" canal (primary work) Tashkent region									
Bostanlik area									Partial canal concreteing construction of structures-5
Length- 1.95 km	479	30	70	80	100	120	79	-	
24. Concreting dangerous parts of Parkent									
	main canal in Tashkent region								
Parkent area									Partial canal concreteing construction of structures-6
Length - 8.09 km	1,800	-	-	300	400	500	600	1,473	
25. "Left bank" Tashkent canal Tashkent region									
Bekabad area									Canal concreteing construction of structures-12
for better water supply	1,826	40	200	300	450	550	286	-	
Length - 20.93 km									
26. "Salar" canal from head intake to join with "Burjar" canal in Tashkent									
Length - 21.27 km	3,675	175	500	600	700	800	900	4,908	Canal concreteing construction of structures-10
27. Parkent main canal from picket 582 to 689 in Tashkent region									
Parkent area									
Length - 1.03 km	951	-	-	100	200	300	351	-	Canal concreteing construction of structures-2
28. P-9 canal in Horezm									
Khanki area									Canal concreteing construction of structures-21
Concrete facing of canal Length	407	-	50	80	100	177	-	-	
5.6 km									
29. "Abdal-Yab" Horezm									
Koshkopir area									Canal concreteing construction of structures-39
Length 10.6 km	250	-	50	100	100	-	-	-	

Construction of canal for runoff diversion to low water zones and turn to gravity irrigation (Current price, mln sum)

Specification	Total Need 2005-2010	Including by years							Work structure
		2005	2006	2007	2008	2009	2010	2010- 2015	
1	2	3	4	5	6	7	8	9	10
TOTAL:	29,096	4,180	1,195	4,059	5,316	6,543	6,799	3,1942	
<i>Including for account of: State Investments</i>	<i>25,196</i>	<i>280</i>	<i>1,195</i>	<i>4,059</i>	<i>5,316</i>	<i>6,543</i>	<i>6,799</i>	<i>31,942</i>	
<i>project "food</i>									
<i>for progress"</i>	<i>3,900</i>	<i>3,900</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	
1. "Buston" canal in Republic Karakalpakstan									
Length - 69.5 km, entered -27.85km									Earth canal
	9,900	400	500	800	1,000	1,500	2,100	31,942	100 m3/s
	1								1-turn on 50.0m3/s
Including for account of: State Investments		100	500	800	1,000	1,500	2,100	31,942	
Project "Food for progress"		3,900							
2. "Parallel" canal in Karadarya river of Andijan region									
Length - 13 km									Canal construction with
	4,970	-	-	1,000	1,200	1,300	1,470	-	partial concreting, canal structures
									-18
3. Turn from machine irrigation to gravity ("Zerafshan") Bukhara									
8333 ha, Length									Construction and concreting of canal with
of canal - 14.9 km in Jondor area	1,028	50	150	250	300	278	-	-	structures - 6
4. "Tozaurug" canal Djizzak region									
Gallaaral area									Canal with discharge 1.0 m3/s
Length - 17.4 km	226	-	50	70	106	-	-	-	partial concreting
5. "Dashnagorni" in Navoi									
Navoi area									
Length 12.92 km	738	-	100	150	180	200	108	-	Construction and concreting of canal

Discharge - 2.15 m3/sec									
6. "Tinchlik" Navoi									
Karmanin area									Canal construction with
Length- 6 km discharge 1.5 m3/sec	120	-	60	60	-	-	-	-	partial concreting, canal structures-9
7. "Khodikent" Namangan									
Yangikurgan area									
Length - 6.5 km	113	-	55	58	-	-	-	-	Construction and concreting of canal
8. "Buhara" Namangan									
Kasansay area									
Length- 8.4 km	426	-	-	-	100	180	146	-	Construction and concreting of canal
9. Wtare intake canal "Iskra" to improve supply									
	lands in service area of "Zang" canal in Surhandarya								
Muzrabad area									
Length - 19.0 km, discharge- 5.0 m3/s	1064	-	-	200	250	300	314	-	Construction and concreting of canal
	15			2	3	5	5		
10. Canal with intake from "Akkapchugay" Surhandarya									
Length 14.8 km, discharge 50.0 m3/s.									
	5104	-	-	500	800	1200	1600	-	Construction and concreting of canal
11. II-turn of Parkent main canal with picket 848+10 to 885+90 In Tashkent region									
Parkent area									Canal construction with
Length 2.98 km	2266	100	200	300	500	700	466	-	partial concreting, canal structures-4
12. Gravity canal in turn of pump station "Tul" Fergana region									
Soh area									
Length - 8.13 km, discharge 2.0 m3/s	2045	-	-	350	550	550	595	-	Construction and concreting of canal
13. Merging canal from Big Fergana Canal in Fergana									
Rishtan									Canal construction with

Length - 9.5 km	560	-	-	150	200	210	-	-	partial concreting, canal structures-4
14. Feeder canal to help low water in Khoresm									
Gurlen area									Canal construction with
Length- 18.1 km	201	30	80	91	-	-	-	-	partial concreting, canal structures-3
15. Canal for feeding canals "Tuksan-Arna" and "Karakuz" in Khoresm									
Gurlen area									Canal construction with
Length- 7.26 km	335	-	-	80	130	125	-	-	partial concreting, canal structures-6

Реконструкция водохранилищ (повышение надежности эксплуатации в связи с износом противофильтрационных облицовок, оборудования и водопропускных сооружений) Current price, mln sum

	Total Need 2005-2010	Including by years						Work structure
Specification		2005	2006	2007	2008	2009	2010	2010-2015
1	2	4	5	6	7	8	9	11
TOTAL:	17,562.0	192.0	1,218.0	3,389.0	5,593.0	5,126.0	1,994.0	
1. Khojimushkent in Djizzak region								
Yangiabad area								Modernization of hydromechanical
capacity - 8.0 mln.m3								system of piezometric network
	980	-	-	-	250	350	380	Reconstruction reservoir structures
2. Sarmig in Djizazak								
Yangiabad area								Modernization of hydromechanical
capacity - 4.3 mln.m3	560	-	-	250	310	-	-	system of piezometric network
								Reconstruction reservoir structures

3. Dehkanabad in Kashkadarya								
Dehkanabad area								Modernization of hydromechanical
	290	-	100	190	-	-	-	system of piezometric network
4. Kalkaminsk in Kashkadarya								
Chirakchi area								Anti-seepage work in the
1-turn	510	-	100	180	230	-	-	bed
5. Gissaraks in Kashkadarya								
Gissarak area								Reconstruction drainage and piezometric
	1025	100	200	300	425	-	-	network and protection
								work in dam
6. Kizilsu in Kashkadarya+C71								
Yakkabag area								Improvement of operation
3-turn	2176	-	150	500	600	926	-	reservoir
7. Chimkurgan in Kashkadarya								
Kamashi area								Technical renovation
	774	-	100	150	230	244	-	
8. Pachkamor in Kashkadarya								
Guzar area								Automated management of technologic
	113	-	-	113	-	-	-	processes
9. Chartak in Namangan								
Chartak area								Reconstruction emergency

	531	-	200	331	-	-	-	outlet
10. Varzik in Namangan								
Chust								Improvement technical conditions
	618	-	150	240	228	-	-	
11. Kasansay in Namangan								
Kosansay								Reconstruction of structures
	508	-	-	150	200	158	-	
12. Koksereksay in Namangan								
Pap								Reonstrction of piezometric
	265	-	80	185	-	-	-	structures
13. Eski-Ersk Namangan								
Yangikurgan								Improvement technical conditions
	560	Developing design documents			170	190	200	Reonstrction of piezometric
								structures
14. South-Surhan in Surhandarya region								
Kumkurgan								Improvement technical conditions
	4088	Developing design documents		800	1,600	1,688	-	
15. Uchkizil Surhandarya region+C118								
Termez								Improvement technical conditions
	2128	Developing design documents			700	800	628	Reconstruction and technical
								reequipment of reservoir

16. Aktepa in Surhandarya region								
Jarkurgan								Improvement technical conditions
	2030	Developing design documents			600	700	730	Reconstruction and technical
								reequipment of reservoir
17. Ahangaran Tashkent region								
Ahangaran								Reconstruction and technical
	92	92	-	-	-	-	-	reequipment of reservoir
18. Tashkent in Tashkent region								
Urtachirchik								Reconstruction and technical
	176	Developing design documents			50	70	56	reequipment of reservoir
19. Karkidon Fergana region								
Kuva								Reconstruction of piezometric
	39	-	39	-	-	-	-	structures
20. Kurgantepa Fergana region								
Fergana area								Reconstruction of piezometric
	99	-	99	-	-	-	-	structures

Construction mudflow storages (Current price, mln sum)

Specification	Total Need 2005-2010	Including by years							Work structure
		2005	2006	2007	2008	2009	2010	2010- 2015	
1	2	3	4	5	6	7	8	9	10
Total	25,836	-	-	2,400	6,100	8,300	9,036	9,139	
1. Ilonchisay in Djizzak area									

Farish area									Construction of dam
capacity - 3.8 mln.m3									and outlet structure
new land reclamation 600 ha	5,100	-	-	-	1,000	1,600	2,500	3,219	
2. Safarsay in Djizzak									
Gallaral									Construction of dam
capacity - 3.5 mln.m3	6,131	-	-	1,000	1,500	2,000	1,631	-	and outlet structure
new land reclamation 1.55 th.ha									
3. Sassiksay in Namanagan									
Chartak area									Construction of dam
capacity - 9.3 mln.m3	2,529	-	-	-	700	900	929	-	and outlet structure
improving water supply									
of irrigated land on 6.9 th.ha									
4. Hangaransay in Surhandarya									
Boisun area									Construction of dam
capacity - 7.6 mln.m3	7,076	-	-	1,400	1,700	2,100	1,876	-	and outlet structure
improving water supply									
of irrigated land on. 1.86 th.ha									
5. Obizaran in Surhandarya									
Sariasiya area									Construction of dam
capacity - 14.0 mln.m3	5,000	-	-	-	1200	1,700	2,100	5,920	and outlet structure
improving water supply									
of irrigated land on. 15.68 th.ha									

Construction of new reservoirs

	Total need 2005-2010	Including years								Work structure
Specification		2004	2005	2006	2007	2008	2009	2010	2010- 2015	
1	2	3	4	5	6	7	8	9	10	11
Total:	338,957	10,757	22,100	45,250	62,400	71,095	76,061	62,051	771,271	
Including:										
State investments	334,657	9,395	17,800	45,250	62,400	71,095	76,061	62,051	771,271	

- project "Section-416 B"		1362	-	-	-	-	-	-	-	
- "Food for progress"	4,300	-	4,300	-	-	-	-	-	-	
1. Arnasay complex (completion) Djizzak region										
Arnasay and Dustlik areas										Submerged outlet №2
capacity - 600 mkn.m3.	5,859	2,400	-	2,500	2,500	859	-	-	-	Canal P-2 - 17.78 km
pump stations 2 water lifting										Right bank reconstruction-14.92 km
improve water supply										Left bank reconstruction-14.16km
of irrigated land in										
40 th.ha in Arnasay, Dustlik										Strengthening dam P-14
Mirzachul areas										
2. Rezaksay reserrior Namangan										
Chust area										Dam height-115 m
capacity - 600 mln.m3.										Crest length - 6300 m
improve water supply										Bulk volume - 66 mln.m3
of irrigated land in										Outlet - 496 t.m3
65.0 th.ha										
Total:	112,100	5,660	11,800	20,000	30,000	30,000	20,300	-	-	
Including:										
State investments	108,300	4,500	8,000	20,000	30,000	30,000	20,300	-	-	
- project "Section-416 B"		1,160	-	-	-	-	-	-	-	
- "Food for progress"	3,800	-	3,800	-	-	-	-	-	-	
3. Kenkulsay res. Namangan										
Turakurgan area										Dam height-65 m,
capacity - 190 mln.m3.										Crest length - 3600 m
improve water supply	34,746	1,054	1,500	7,000	9,000	9,000	8,246	-	-	earth work - 14.5 mln.m3
of irrigated land in										outlet - 100 th.m3
45.0 th.ha. inc.										Concrete work-28.2 th.m3
- "Food for progress"	500	-	500	-	-	-	-	-	-	
4. Djidalisay res. Namangan										
Pap area										Dam height 44.5 m
capacity - 46.5 mln.m3.	7,700	150	200	500	1,000	1,500	2,000	2,500	8,871	Crest length 1020 m
improve water supply										tail race 15 km
of irrigated land in										discharge 10 m3/s
19.7 th.ha.										

5. Djiblan reserervior										
Ahangaran area										Dam height 140m
capacity 400 mln.m3	30,000	Developing design documents			5,000	10,000	15,000	145,000		Tunnel outlet
Ensure perennial flow regulation										Road - 20 km
for irrigation, industry and domestic consumption										
in Angren-Almalik-Ahangaran										
industrial zones										
6. Pskem res. Tash. Region										
Bostanlik area										Reservoir with HPS.
Pskent river	25,000	-	-	-	-	-	10,000	15,000	450,000	HPS 404 Mwt
521 mln.m3										Number of aggregates - 4 pcs
Irrigated area growth 40.6 th.ha										
7. Karaman res. Djizzak region										
Karaman tract										Dam height- 42.5 m
Capacity - 550 mln.m3	25,000	-	-	-	-		10,000	15,000	145,400	Crest length - 7,800 m
improve water supply of irrigated land in										Outlet 60 m3/s
50 th.ha in Amasay, Zafarabad										Earth work 28,800 th.m3
										Bed reconstruction
Dustlik areas										30.3 km and construction - 25 km
										Diverting canal 30 km
8. Sherbulak res.in Karakalpakstan										
Turtkul area										Crest length 14,100 m
capacity – 2,800 млн.м3	13,500	Developing design documents			3,000	4,500	6,000	22,000		Dam height - 13 m
improve water supply of irrigated land in										earth work – 9,158.6 th.m3
335 th.ha										water outlet - 1 pcs
										emergency outlet - 1 pc
9. Akchobsay res. Samarkand region										
Koshrabad area										Dam height - 38 m
capacity - 7.2 mln.m3										Crest length -265m
improve water supply										Earth work-853.6 th.m3

of irrigated land in										tunnel-pipe
area 355 ha and 500 ha										outlet -1 pcs
Total:	2,921	150	100	600	1,200	1,021	-	-	-	emergency outlet-рсшт
Including:										
- State investments	2,813	42	100	600	1,200	1,021	-	-	-	
- "Section-416B"	108	108	-	-	-	-	-	-	-	
10. Kamangaran res. Samarkand area										
Urgut										Crest length – 1,044.2 m
capacity - 1.5 mln.m3										Water tract
improve water supply										- bottom outlet per 10 m3/s
of irrigated land in										- spillway 34.5 m3/s
area 1500 ha										
Total:	4,615	134	100	800	1,000	1,500	1,215	-	-	
inc:										
- State investments	4,521	40	100	800	1,000	1,500	1,215	-	-	
- "Section-416B"		94	-	-	-	-	-	-	-	
11. Ayakchisay res. Kashkadarya region										
Kitab										Crest length - 523 m
capacity - 15.7 mln.m3	12,000	-	-	-	2,000	2,500	4,000	3,500	-	Dam height - 72 m
improve water supply										outlet- 1 pcs
of irrigated land in										emergency outlet- - 1
area 7.02 th.ha										
12. Tupolang res. Surhandarya region										
Sariasiya area										Dam height- 188 m
capacity - 500 mln.m3										Tunnel outlet 300 m3/s
entered 100 mln.m3	45865	1100	8000	13000	13000	11865	-	-	-	earth work - 15993 th.m3
improve water supply										Dam type masonry-earth
of irrigated land in										clay ground
area 90 th.ha and 37.2 th.ha										emergency outlet 300m3/s
13. Koksaray res. Navoi region										
Hatirchi										
capacity - 7.2 mln.m3	4,900	-	-	-	800	1,200	1,800	1,100	-	
irrigation new land										outlet - 1
1050 ha										emergency outlet-1
14. Gizduvan res. Samarkand										

Urgut area										Length of dam -278 m
capacity - 0.8 mln.m3										Dam height - 29 m
improve water supply	2,988	-	-	-	-	500	1,000	1,488	-	Dam type-pebble
of irrigated land in										clay
area 850 ha - 350ha										Volume -343 th.m3
										Concrete work - 10.66 th.m3
										outlet-bottom - 1 pc
										emergency outlet-1
15. Sokh res. Fergana region										
Soh area										Tunnel construction completion
capacity - 50.0 mln.m3	2,100	28	100	500	700	800	-	-	-	
conserved										
16. Tuyamuyun hydrocomplex in Khoresm region										
Hazarasp										Completion Sultansnajar dam
capacity - 5470 mln.m3										
new land irrigation	2,613	81	300	350	400	450	500	613	-	
area 125 th.ha										
17. Auzkent res. Djizzak region										
Zafarabad										Construction dam
capacity - 6.14 mln.m3										outlet structure
improve water supply	4,300	-	-	-	800	1,200	1,500	800	-	
of irrigated land in										
area 8.48 th.ha										
18. Arnasay res. Navoi region										
Nurata area										Construction dam
capacity - 2.3 mln.m3										outlet structure
improve water supply	2,750	-	-	-	-	700	1,000	1,050	-	
of irrigated land in										
area 7.5 th.ha										

Analyses of pump stations' technical condition in Uzbekistan as of 01.01.2004 (piece)

№	Name of organization	Total No. pump stations	Total No installed aggregates	Servicing period	Servicing period				Types		
					till10 years	10 to 15	15 to 20	Above 20	vertical	Horizontal	Console
TOTAL:		1,605	5,097	10 лет	933	566	1,244	2,354	288	4,763	46
1.	MUA ABMK	12	142	--	5	-	96	41	40	102	-
2.	UE KMK	14	85	--	4	4	26	51	63	22	-
3.	Mirzachul amalgamation	3	16	--	-	-	10	6	16	-	-
4.	Karakalpak Pumpst station at										
	Low Amudarya	215	446	--	88	9	64	285	28	418	-
5.	Beruni Pump Dep.										
	Low Amudarya	58	159	--	9	36	42	72	11	148	-
6.	Pump De. At Narin										
	Karadarya basin	143	518	--	30	53	160	275	-	514	4
7.	Pump Dep.										
	Bukhara basin	17	103	--	6	8	32	57	22	81	-
8.	Djizzak pump dep.										
	low syardarya basin	26	96	--	21	7	42	26	-	90	6
9.	Pump Ded. At Amu										
	Kashkadarya basin	48	209	--	26	66	63	54	12	192	5
10.	Low Zerafshan	32	159	--	11	24	50	74	-	159	-
11.	Pump Dep. Narin										
	Syrdarya basin	218	718	--	158	157	180	223	8	709	1
12.	Pump dep.										
	Zerafshan basin	88	363	--	7	14	61	281	-	363	-
13.	Syrdarya pump Dep. At										
	Low Syrdarya basin	43	128	--	24	22	29	53	21	105	2
14.	Pump Dep, at Amu-										

	Surhandarya basin	118	587	--	131	49	125	282	28	559	-
15.	Pump Dep. At Syrdarya										
	Ahangaran basin	133	412	--	5	34	83	290	-	391	21
16.	Pump Dep. At Syrdarya										
	Soh basin	150	512	--	73	51	122	266	14	491	7
17.	Horesm pump station										
	Low Amudarya basin	285	420	--	311	32	59	18	25	395	-
18.	Pump Dep. Arnasay cascade	2	24	--	24	-	-	-	-	24	-

Chief of Department Kh.Andayev

Information MAWR pump stations classification

№	Name organization	Total No. pump stations	Total Noinstalled. aggregates	Including								
				Big pump stations	needing reconstruct	Total funds needed	Medium pump stations	needing reconstruct	Total funds needed	Small pump stations	needing reconstruct	Total required expenses
						bln.su m			bln.su m			bln.sum
TOTAL:		1,605	5,097	23	19	168.5	730	371	827	852	267	133.6
1.	MUA ABMK	12	142	5	4	37	6	3	7.5	1	1	0.5
2.	UE KMK	14	85	7	7	62	3	2	3	4	2	1.2
3.	Mirzachul amalgamation	3	16	3	-	-	-	-	-	-	-	-
4.	Karakalpak Pumpt station at											
	Low Amudarya	215	446	-	-	-	124	51	102	91	19	5.7
5.	Beruni Pump Dep.											
	Low Amudarya	58	159	-	-	-	34	21	42	24	10	2.7
6.	Pump De. At Narin											
	Karadarya basin	143	518	-	-	-	90	45	105.5	53	26	12
7.	Pump Dep.											
	Bukhara basin	17	103	2	2	8.5	10	7	17.5	5	2	1

8.	Djizzak pump dep.											
	low syardarya basin	26	96	-	-	-	6	4	10	20	12	6
9.	Pump Ded. At Amu											
	Kashkadarya basin	48	209	-	-	-	33	20	50	15	10	6
10.	Low Zerafshan	32	159	-	-	-	14	12	27.5	18	10	5
11.	Pump Dep. Narin											
	Syrdarya basin	218	718	1	1	8	97	51	127.5	120	32	23.5
12.	Pump dep.											
	Zerafshan basin	88	363	-	-	-	33	21	52.5	55	26	13
13.	Syrdarya pump Dep. At											
	Low Syrdarya basin	43	128	-	-	-	21	6	15	22	10	5
14.	Pump Dep, at Amu-											
	Surhandarya basin	118	587	5	5	53	58	34	68	55	22	11
15.	Pump Dep. At Syrdarya											
	Ahangaran basin	133	412	-	-	-	37	21	50	96	28	13
16.	Pump Dep. At Syrdarya											
	Soh basin	150	512	-	-	-	52	29	72.5	98	27	13
17.	Horesm pump station											
	Low Amudarya basin	285	420	-	-	-	110	44	76.5	175	30	15
18.	Pump Dep. Arnasay cascade	2	24	-	-	-	2	-	-	-	-	-

Chief of Department Kh.Andayev

Reuirement in reconstruction of medium pump stations in 2005-2010

Name organization	Medium pump stations	require reconstr.	including years and tentative cost of reconstruction												Total
			2005	Bln sum	2006	bln.s um	2007	Bln sum	2008	Bln sum	2009	Bln sum	2010	Bln sum	costs
															bln.su m
	piec e	piec e													
	730	371	60	140	68	152.5	65	144	64	144.5	61	128.5	53	117.5	827
MUA ABMK	6	3	1	2	1	2.5	1	3	-	-	-	-	-	-	7.5
UE KMK	3	2	1	1.5	1	1.5	-	-	-	-	-	-	-	-	3
Mirzachul amalgamation															
Karakalpak Pump station at	124	51	8	16	8	16	8	16	7	14	10	20	10	20	102
Low Amudarya															
Beruni Pump Dep.	34	21	4	8	6	12	4	8	3	6	2	4	2	4	42
Low Amudarya															
Pump De. At Narin	90	45	8	20	7	14	7	14	7	17.5	8	20	8	20	105.5
Karadarya basin															
Pump Dep.	10	7	1	2.5	2	5	2	5	2	5	-	-	-	-	17.5
Bukhara basin															
Djizzak pump dep.	6	4	1	2.5	2	5	-	-	1	2.5	-	-	-	-	10
low syardarya basin															

Pump Ded. At Amu	33	20	3	7.5	3	7.5	3	7.5	5	12.5	3	7.5	3	7.5	50
Kashkadarya basin	14	12	4	10	3	7.5	5	10	-	-	-	-	-	-	27.5
Low Zerafshan															
Pump Dep. Narin	97	51	8	20	10	25	8	20	10	25	10	25	5	12.5	127.5
Syrdarya basin															
Pump dep.	33	21	4	10	3	7.5	4	10	3	7.5	4	10	3	7.5	52.5
Zerafshan basin															
Syrdarya pump Dep. At	21	6	2	5	2	5	2	5	-	-	-	-	-	-	15
Low Syrdarya basin															
Pump Dep, at Amu-	58	34	5	10	5	10	5	10	8	16	6	12	5	10	68
Surhandarya basin															
Pump Dep. At Syrdarya	37	21	2	5	4	10	2	5	5	10	3	7.5	5	12.5	50
Ahangaran basin															
Pump Dep. At Syrdarya	52	29	3	7.5	4	10	5	12.5	5	12.5	5	12.5	7	17.5	72.5
Soh basin															
Horesm pump station	110	44	5	12.5	7	14	9	18	8	16	10	10	5	6	76.5
Low Amudarya basin															
Chief of Department	Kh.Andayev														

Requirement for reconstruction of big pump stations in 2005-2010

Name of organizations and pump stations	Total No. pump stations	Total No. pump aggregates	Big pump stations	requiring reconstruction	by years and tentative reconstruction sum												Total required bln.sum
					2005	bln.s um	2006	bln.s um	2007	bln.s um	2008	bln.s um	2009	bln.s um	2010	bln.s um	
			23	19	6	32	5	47	2	29.5	3	21.5	1	17	2	21.5	168.5
MUE ABMK	12	142	5	4													37
Hamza-1 pump st.	1	9			1	4	x	4									8
Hamza-2 p.st	1	10							1	4.5	x	4.5					9
Kuyu Mezar P.S.	1	6					1	3.5	x	4							7.5
Kizil Tapa P.S.	1	10									1	4	x	4	x	4.5	12.5
Karaulbazar P.S.	1	5															-
UE KMK	14	85	7	7													62
P.S. № 1	1	6			1	9											9
P.S.. № 2	1	6					1	9									9
P.S.. № 3	1	6							1	9							9
P.S.. № 4	1	6									1	9					9
P.S.. № 5	1	6											1	9			9
P.S.. № 6	1	6													1	9	9
P.S.. № 7	1	9													1	8	8
Pump St.Dep. At Amu																	
Buhara basin	17	103	2	2													8.5
Alat P.S.	1	7		1	1	4.5											4.5
Karakul P.S.	1	6		1			1	4									4
Pump St.Dep. At Narin																	
Syrdarya basin	218	718	1	1													8

P.S. "Namangan" basin	1	1		1	1	4	x	4									8
Pump St.Dep. At Amu																	
Surhandarya basin	118	587	5	5													53
Amy-Zang-1 P.S.	1	5		1	1	6	x	6									12
Amy-Zang-2 P.S.	1	8		1			1	8	x	8							16
Babatag P.S.	1	8		1							1	4	x	4			8
Jaihun P.S.	1	7		1			1	4	x	4							8
Sherabad P.S.	1	6		1	1	4.5	x	4.5									9
Chief of Department	Kh.Andayev																

Agricultural Sector Review and Planning

Policy Note 9: Status and Prospects for Water User Associations

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

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Introduction

Economic reforms in agriculture are ongoing in Uzbekistan on the basis of priority-oriented development of the farms, that have to become the principle party – agricultural product manufacturer in prospect. Currently, 613 shirkats have been restructured. The number of farms on the areas under irrigation count over 100 thousand.

According to the “Concept on the Farm Development” 1020 more shirkats will be restructured in 2004-2006.

Five hundred sixty two Water User Associations (WUAs) were established on the territory of restructured agricultural enterprises in order to control the water management interrelations. It should be specified, that WUAs established on the farmers’ initiative do not exist.

The land under irrigation in the WUAs service area occupies 1,743.5 thousand ha.

Efficiency of potential utilization (fixed assets, staff, finance), the results of the reforms on the management improvement on the top level of water sector hierarchy, as well as the natural resource management (land, water) mainly depend on the rational arrangement of water utilization and technical operation of irrigation and drainage systems on the down-stream level of irrigation system, i.e. on the WUAs’ sustainable performance.

Legal foundation for WUAs’ establishment and operation

Peculiar law on WUAs does not exist in the Republic of Uzbekistan. Nothing is mentioned about WUAs in the Law “On water and water management” adopted on May 6, 1993 either.

However, the Civil Code of the Republic of Uzbekistan (Article 77) provides consolidation of juridical persons (legal entities) into the associations (unions) to coordinate the activities as well as express their interests. It should be specified here, that a large number of dekhkan farms doesn’t have a legal status.

The Law of the Republic of Uzbekistan on enterprises (Article 3) provides their voluntary consolidation, regardless the patterns of ownership, into the unions, associations and consortiums. Their objective is coordination of the activities to express their interests to the state institutions and other agencies as well as to the international organizations.

Herewith, it’s determined that association members are not responsible for the association commitments, and association is not responsible for the incorporator’s obligations.

In accordance with the Laws of the Republic of Uzbekistan “On agricultural co-operative” (Article 28), “On Farms” (Article 25), “On dekhkan farms” (Article 22), these farms have the right to voluntary incorporate in the unions, associations and other consolidations.

The Decree #8 by the Cabinet of Ministers of the Republic of Uzbekistan of January 5, 2002 signed into law “The order of water utilization interrelation control on the territory of agricultural entities being restructured”, this Law specifies the order of WUA establishment, farmers’ water supply as well as water economy structures operation.

Water Utilization Rights

The water is the state property in the Republic of Uzbekistan (Article 3, the Law “On water and water utilization”). The enterprises, institutions, organizations with any pattern of ownership, dekhkan farms, citizens of Uzbekistan, citizens of the other

states, persons without any citizenship may be the water users (Article 18, the Law “On water and water utilization”).

Water entities may have the joint or solitary water utilization pattern (Article 23, the Law “On water and water utilization”). Water entities not transferred to the solitary pattern of ownership may also have the joint water utilization pattern. Water entities, completely or partially given to one enterprise, institution or organization ownership according to the local authorities decision, may have the solitary pattern of water utilization.

Enterprises, organizations and institutions with solitary ownership of the water entities act as the primary water users. They can allow the secondary water utilization to the rest enterprises, organizations and institutions upon agreement with water sector and nature protection authorities (Article 24, the Law “On Water and water utilization”). The purpose in concrete water entity utilization as well as the principle terms of the given entity use have to be specified in the permission on the water utilization. If necessary, the terms of the secondary water utilization, as well as the parties’ mutual rights and obligations are drawn up as an agreement between the primary and secondary water users.

According to the Decree #8 by the Cabinet of Ministers of the Republic of Uzbekistan of January 5, 2002, WUAs were given the status of the primary water users. Water supply to the other users is being provided according to the Law of the Republic of Uzbekistan “On water and water utilization”.

The share in reclamation fund establishment for funding of WUAs and associations of water entities with joint pattern of ownership is a compulsory term for all water users.

Twice a year, during vegetation and non-vegetation periods, WUAs conclude the agreement with irrigation system authorities on water-intake in order to supply the water to all water users, located on the territory of these WUAs. The limited water utilization scheme as well as the Decree #385 by the Cabinet of Ministers of the Republic of Uzbekistan of August 3, 1993 “On the limited water utilization in the Republic of Uzbekistan” serve as the basis of the agreement.

WUAs’ Ownership of Infrastructure

The right on the irrigation and reclamation infrastructure ownership is one of the principal factors of WUAs sustainable operation. According to the Decree #8 by the Cabinet of Ministers of the Republic of Uzbekistan of January 5, 2002, all irrigation and drainage infrastructure of the farm under restructuring is transferred free to the WUAs. Currently, the overall expansion of the irrigation system transferred to the WUAs balance is 69,649 km, and collector and drainage system occupies 49,375 km (Table 1).

Efficiency of WUA activities on water utilization arrangement and on-farm irrigation system operation

Until the water taken by WUAs from the irrigation system canals for farms supply is not metered and recorded there will not be improvement in irrigation water utilization.

However, the world-wide practice demonstrates that the most optimal method is the water utilization arrangement and on-farm irrigation system operation by means of the WUA establishment.

Firstly, the state budget will not be engaged in annual expenses for on-farm system maintenance, which restricts support of WUAs on the initial stage of their establishment.

Secondly, WUA is being established and run by the farmers themselves. This will allow to create the actual mechanism of water users' influence on the fair water distribution, improvement of the quality of on-farm system operation, reduction of operating costs, and, ultimately, will found the prerequisites for growth of farm incomes.

Irrigation water pricing issues

Water consumption per capita in the Republic is 2,860 m³ a year. For comparison, these rates in some countries are as follows: Jordan - 173 m³, Algeria - 180 m³, Israel - 408 m³ a year.

Over 90% of water resources in the Republic are consumed by the agriculture, accordingly, water loss shares in agriculture are the highest ones. Specific water consumption per hectare is over 12,400 m³ a year. In Israel, for comparison, this figure is – 5,590 m³ a year.

Field studies by the WUFMAS and WARMAP-Tacis projects demonstrate, that 15% of all water in-taken from the resources in the Republic are lost along inter-farm irrigation system, 48% - along on-farm irrigation system, 29% from this figure are lost due to organizational reasons (see Appendix A).

Payment for irrigation water utilization is the most effective mechanism of water conservation in agriculture.

According to the Article 6 of the Law of the Republic of Uzbekistan “On water and water utilization” the water resource pricing is under the competence of the Cabinet of Ministers of the Republic of Uzbekistan.

In 1994 the Ministry for Reclamation and Water Management of the Republic of Uzbekistan developed proposals on introduction of the payment for water supply starting from 1995 for all organizations, institutions and enterprises, regardless their departmental belonging, pattern of ownership and funding source.

Double-rate tariff was provided for agricultural water users: per hectare (for land under irrigation) and per cubic meters.

The payment tariffs were settled per 1 ha and 1 m³ with differentiation of the regional breakdown. However, due to the number of external reasons, these proposals have not been introduced.

The Decree by the President of the Republic of Uzbekistan “On the primary directions of agricultural reform enhancement” of March 25, 2003 entrusted the Ministry for Agriculture and Water Management to introduce the market principles of irrigation water utilization.

The number of factors under the current conditions are constraining the irrigation water pricing introduction in agriculture. Since the government controls the procurement price on agricultural production, purchased for the state needs, introduction of the payment for irrigation water utilization will even aggravate the financial position of agricultural enterprises.

Precise water consumption measurements are one of the crucial problems for the introduction of the water pricing in agriculture.

Accurate selection of the relative water gauge meters for the open channels, which meet commercial demands, as well as their installation at the hydro stations (both at WUA water supply points and farms water supply points) play significant role.

Particular training of the hydrometric specialists, which is time and funds consuming, is one of the most important tasks.

Principal challenges in WUA establishment and operation

At the moment WUAs in Uzbekistan are passing the generation stage.

The farmers and other water users have not been involved in the initial procedure of the WUA establishment and, thus, they do not have enough information about WUA concept and objectives. As have already been mentioned, basically WUA is being established on the territory of restructured agricultural enterprises under the initiative of the Ministry for Agriculture and Water Management.

Currently, WUA has a very poor material and technical base as well as personnel potential. Also, WUA is not experienced enough in the field of financial management, water resource management, planning, operation and maintenance of the irrigation and collector and drainage system.

Generally, since the WUA establishment the general assembly is not being held and WUA Board doesn't have the meetings.

WUAs inherited from shirkats the irrigation and drainage infrastructure with low engineering level.

For the establishment and proper operation of on-farm irrigation systems one hydraulic engineer per 500 ha of the land under irrigation is required, per 15-20 km of irrigation and reclamation system 1 technician-observer is required and per 10-15 water distribution installations 1 technician-controller is needed.

Service area of established WUAs differs from 700 up to 6,000 hectares, generally it occupies 1,500 – 3,000 hectares.

Due to the financial obstacles, most of the WUAs do not have complete personnel. Appendix B demonstrates the personnel in the WUAs of Tashkent oblast. In some cases, the specialists with different background (not hydraulic technicians) are managing the WUAs.

In order to maintain the on-farm irrigation systems, the WUA needs to have its automobile transportation, UMZ tractor with operating devices, bucket to clean small feeder as well as shovel for the ground removal.

It's not reasonable for WUA to maintain such heavy-duty reclamation machinery as excavator, bulldozer, truck crane, drainage and washing units. Operation of heavy equipment is very expensive for WUAs. Moreover, one WUA is not able to provide enough load for above machinery for entire year for its effective operation. For instance, annual capacity of excavator with the bucket cubic capacity of 0.4 m³ is 72 th.m³. If the mean capacity of the ground removal while cleaning the collector and drainage system of II size is 2 m³ per 1 running meter, 36 km of collector and drainage system should be cleaned annually. If the mean capacity of the ground removal while cleaning the collector and drainage system of III size is 1.5 m³ per 1 running meter, 48 km of collector and drainage system have to be cleaned annually. The capacity of the drainage and washing unit PDT-125 is 96 km a year. No one WUA requires annual cleaning of the collector and drainage system in such volume.

Reclamation machinery is required for the proper operation and maintenance of the irrigation and collector and drainage system, but, unfortunately, only 30% of WUAs in the Republic have this type of equipment (Table 1). Most of reclamation equipment received by WUAs from shirkats, is worn out. At present, the activities of the most WUAs include only water supply and distribution. Due to the lack of the financial and material and technical recourses on-farm irrigation system maintenance is not being run on a proper level.

The mean tariffs for irrigation services in the oblasts differ from 321 sum (Djizak) to 3,723 sum (Republic of Karakalpakstan) per hectare, which is obviously not enough to maintain the on-farm irrigation systems in operating mode.

Insufficient maintenance will cause the rapid deterioration of the irrigation systems, significant aggravation of the reclamation system, severe reduction of productivity of the areas under irrigation, and, as a result, it will require very expensive updating activities.

To maintain the on-farm irrigation systems in operating mode as well as to efficiently manage the water resources the annual expenses for the system operation and maintenance in the new irrigation area with engineering systems have to be 7,650 sum per hectare, and in the old irrigation area – 9,000 sum per hectare (Appendix C).

Besides, WUAs are facing the number of objective and subjective difficulties:

- Misunderstanding by the financial, tax and banking agencies. With franch system of the farmers – agricultural manufacturers financing they are not able to timely pay the WUAs services. Despite the issue of the payment requests, certified by the agreement and revised by the certificate on the services provided, the banks do not make the transactions, and the payment requests are kept in the filing system for a long time. For instance, during 9 months of 2004 the WUAs provided irrigation services to the farmers on 5,142.66 million sum, but only 9% of this amount was paid to them.
- According to the Decree by the President “The Concept of the farms development for 2004-2006» of October 27, 2003, the WUAs are exempted from the added value tax, profit tax and property tax. However, there are some cases when the added value tax is being collected from the WUAs.

In accordance with the standard Charter, developed by the Ministry for Agriculture and Water Management, the WUA is considered as a non-governmental, un-commercial institution. By its goals and objectives, WUA completely meets the statements specified in the sector “The Concept of non-governmental and un-commercial institution” (Article 2 of the Law of the Republic of Uzbekistan “On non-governmental and un-commercial institutions”).

Non-governmental and un-commercial institution pays the taxes, charges and other fees to the budget and off-budget funds, and has the privileges in the order, specified by the legislation (according to the Article 32 of the Law “On non-governmental and un-commercial institutions”).

In accordance with the Tax Code of the Republic of Uzbekistan, un-commercial institutions are exempted from the profit tax (Article 31), property tax (Article 92) and land tax (Article 102).

Most of the WUAs have been established on the hydrographic principle, - their activity area completely covers command zone of inter-farming canals. However, there are no agreements among WUAs and irrigation systems authorities (ISAs) on the commitments and responsibilities sharing on operation and maintenance of canals, being before under the different farms ownership.

According to the Decree #290 by the Cabinet of Ministers of the Republic of Uzbekistan of June 29 2003 “On improvement of the performance of the Ministry for Agriculture and Water Management of the Republic of Uzbekistan”, the water use departments and on-farm hydro and reclamation systems of oblast and regional branches of the Ministry have the following functions:

- To make proposals on the WUA development and provide assistance in implementation of the development programs, to arrange the activities on the WUA establishment and operation;
- To monitor the WUA performance.

According to this Decree, the budget allocations serve as the source of the oblast branches of the Ministry (Oblselvodkhoz) funding in terms of the water resource management. Still, this issue has not been settled yet. Thereby, the water use departments in the most of the regions do not have complete staff of the specialists. The water use departments and on-farm hydro reclamation systems of Oblselvodkhoz do not operate in their absolute capacity due to the lack of qualified specialists.

Moreover, the water use departments and on-farm hydro and reclamation systems of oblast and regional branches of the Ministry have the number of the other objectives.

The absence of the WUA Law is the main problem in the WUA long-term development.

Recommendations

The following is required for the WUA development:

Public awareness campaign conducting through media aimed on improvement of the farmers' awareness about necessity of the WUA establishment and their functions;

- Adoption of the WUA Law, which will create for WUAs more secured legal basis and allow to avoid the current situation with "accumulative search" of related articles from various legislative acts;
- Obtainment of the status of non-governmental and un-commercial institution through the State registration in the justice agencies;
- Creation of the WUA development possibilities via training activities;
- To give the farmers the rights to command finance themselves;
- To set up the state order on the cotton and wheat production in tons, excluding obligatory targeted cultivated area, which will create incentives on increase of the agricultural crop yield and, thus, will lead to the irrigation water productivity;
- To sign the Agreement between WUA and irrigation system Authority on transfer authority on operation of the canal, being used by the different farms before;
- To create the teams on the WUA support in Oblselvodkhoz and the Ministry for Agriculture and Water management for the technical assistance provision.

Teams on the WUA support should have the following principal functions:

- Assistance in WUA establishment and registration;
- WUA recording (national register);
- Monitoring and evaluation of the WUA performance;
- Assistance in signing the agreement between WUA and irrigation system Authority on transfer authority on operation of the canal, being used by the different farms before;

- Initiation of the required guidelines, regulation documents and other additional legislative acts development;
- Conflict resolution between WUA and irrigation system Authority.

The National register has to comprise the following information on each WUA:

- WUA title;
- WUA map in 1:10000 scale;
- Name of the irrigation system supplying water to the WUA;
- WUA address;
- Territory size and its infrastructure description;
- Overall number of the water users in the WUA service area as well as the number of water users – WUA members;
- Date of the WUA establishment (date of the constitutive agreement signing);
- Date of application on registration to the justice division;
- Date of the official registration in the justice division;
- Liquidation date.

Monitoring on the WUA performance evaluation has to be implemented according to the following indicators:

- Reliability of water supply by the dates and volumes;
- Conflict resolution among the water users;
- Water utilization ratio;
- Uniformity of water distribution at the beginning and end of the irrigation system;
- Level of the irrigation and drainage infrastructure service;
- Technical condition of the irrigation and drainage system;
- Reclamation condition of the areas under irrigation;
- Agricultural crop productivity;
- Percent of payments collected for the irrigation services. According to the assessments by the international experts, if WUA collects 70% of payments for its irrigation services, it can be considered as a sustainable one.

Appendix A

The comparative data of water-security and use of water resources in Uzbekistan and Some countries of Asia and Africa (*" World resources, the urban Environment "*, 1996-1997 at. / 1. 10.2, p. 240-241. Table 13.1. N.. 306-307.)

Parameters	Uzbekistan	Egypt	Israel	Saudi Arabia	Iran	Turkey	Algeria	Jordan
1. Territory of the country, mln.ha	47.8	100	1.4(2.0)	225.3	44.4	78.1	238	9.6
2 Arable land, th.ha	4,200	2,800	435	3,740	18,150	27,535	7,850	405
inc.per capita	0.17	0.05	0.08	0.22	0.28	0.46	0.29	0.08
3% of the irrigated land from the general cultivated arable land	92	100	42	12	51	13	7	16
4. Water resources, km3/year	63	58.1	2.2	4.6	58	193	14.8	1.7
Including per capita, m3	2,860	923	382	254		3,117	528	314
5. Annually used (water consumption), км3 (1995).	63	56.4	1.85	3.6	45.4	33.5	4.5	0.45
Inc. Per capita, m3	2,860	95.6	408		1,362	586	180	173
6. Use of water resources on branches, (%):								
- Household needs	4.0	6	16	45	4	24	26	29
-The industry	6	9	5	8	9	19	15	6
- An agriculture	90.0	85.0	79.0	47	87	58	60	65

Continuations appendix A

Comparison of parameters of specific water consumption in the countries of the Central Asia and Israel (Substantive provisions of regional water strategy in Aral sea basin)

Parameters	Unit of measurements	Israel	On the average on Aral sea	В том числе:				
				Southern Kazakhstan	The Kirghiz Republic	Tajikistan	Turkmenistan	Uzbekistan
The specific consumption of water on soul								
by population in a year in all branches								
Economy	m ³	345	2,875	4,199	1,128	2,490	5,605	2,540
The specific consumption of water on soul								
by population in a year in municipal								
Water supply	m ³	56.6	91	55.1	6.74	89.5	70.6	116.4
Specific production in industrial								
Manufacture (with the account								
Of power) - for a year on 1 m3 of water	\$	55.6	29.1	12.5	44	50	19	20
The specific irrigated area on								
Per capita	ha	0.04	0.2	0.3	0.14	0.12	0.41	0.19

The specific consum. of water on 1 ha								
Of Irrigation in a year	m ³	5,590	12,887	12,354	11,150	15,860	13,355	12,478
The same in view of natural								
Deposits	m ³	10,390	14,690	14,130	17,680	18,055	15,028	14,900

Structure of losses of water in various parts of an irrigating network(project WUFMAS)

Sections of an irrigating network	The reasons of water loss	Water-intake, thousand m3/ha.	Losses of water		Losses of water from a water-intake, %
			Th. m ³ /ha	%	
Inter-farm channels	At delivery	12.9	1.9	15	15
On-farm channels	At delivery	11.0	2.5	22	19
On-farm channels	Operational	11.0	3.8	34	29
Field	At irrigation	4.7	2.0	43	15

Appendix B

Data about staffing of WUA in the Tashkent area by the non-production personnel

The name of areas and WUA	The area of service, ha	Irrigating networks, km	CDS, km	Constructions, pices	Need in Non-prod.personnel, men.	Actually Work, men.
Akkurgan						
Kanka	1,441	11.7	38.2	18	8	3
H. Alimjan	1,682	26.1	56.6	15	8	4
Nuryunsuv	1,368	15.3	8.6	21	6	6
Madaniyat	1,599	37.9	14.1	17	8	8
Ahangaran						
Shodmalik	575	22.6	15.8	15	4	3
Bekabad						
Uyaz-Achamayli	2,870	121	49.6	11	15	2
Dehkanobod-Jumabozor	2,639	88	28.7		12	2
Hayot manbai	2,969	105	42.5	16	14	2
Avangar	2,170	72.6	43	11	11	1
Irrigator	2,223	103	57	12	12	2
Buka						
Kukorol-Chilanzar	2,690	56	41	20	12	3
Bahmal-Zafarbobo	1,304	34	25	10	7	2
Turkiston-Gijikent	1,695	46	29	20	9	3
Ulugbek-Sharshara	818	21	30.5	10	5	1
Kuyi-Chirchik						
Kora-Suv	1,538	35.3	30.4	43	9	3
Urta-Chirchik						
Zangoriy Tulkin	1,497	14	4	16	5	5
Yukori-Chirchik						
Navruz	947	57.7	11.8	11	6	5
Ananay	1,888	80	8.43	21	9	3
Meliorator	1,240	60.4	24.2	16	7	2
Jambul ota	1,283	81.6	19.9	18	8	5
Karashna	1,400	61.9	28.9	19	8	3
Piskent						
Yangi Yordam	622	18.6	1.7	4	3	2
Ettiboy Obihayot	1,468	32	1.7	14	5	5
Koriz Obihayot	1,180	30.8	9.1	12	5	5
Yangi Yul						
Obihayot	1,166	34.5	14.7	12	6	2
Ozod	1,497	90	7.6	26	8	2

Calculation of costs

For the operation and maintenance of irrigation-drainage systems in WUA.

The primary goal for the technical operation of irrigation-drainage systems (IDS) is the creation of conditions for rational use of water and land resources on the irrigated lands, and for economically efficient production of agricultural crops.

With this aim, WUA should carry out the following actions:

- Organizational - technical actions to maintain the working condition of all IDS elements and ensure their protection;
- Water - intake from sources and delivery of water to farmers in conformity with the plan of water use;
- Improvements and extension of the capacity of IDS, and the resultant improvement to the condition of irrigated lands;

The basic actions on operation IDS are supervision and maintenance. Supervision includes inspection and protection, and if necessary periodic instrument surveys of the operating condition IDS.

Technical maintenance is, as a rule, combined with technical supervision and consists in preventing damages to the serviceability of IDS. Common actions in technical maintenance are:

- Clearing water weeds, the silt, sediment, and extraneous objects from irrigation and drainage channels;
- Cleaning banks and berms of irrigation and drainage channels;
- Preventing slips and slumps damaging slopes, erosion gullies in land construction, and repairing damaged constructions;
- Clearing deposits in the waterway area of bridges and pipe crossings;
- Painting of metal parts of hydraulic engineering constructions to protect them from corrosion;
- Clearing silt from inspection wells in piped drainage;
- Elimination of autocratically established crosspieces, bridges and transitions;
- Greasing a cement mortal of joints of canalet networks and cracks in a concrete part of constructions

The purpose of technical supervision and maintenance is to protect the IDS from premature deterioration, by carrying out preventive actions.

Irrigation in the Republic of Uzbekistan can be divided into old and new zones based on design features. The number of water outlet points and areal extent of the irrigation network in the new zone of irrigation is less than in the old zone of irrigation. This irrigation network is mainly constructed with a concrete lined network.

The irrigated area in the Republic is distributed between steppe (flat) and sierozem (foothill and the dismembered relief) zones. In steppe zones the environment requires construction of drainage. In sierozem zone drainage is not needed. The drainage network is in fatter terrain, and the channels are of a small size, accordingly requires less clearing.

A preliminary calculation of the annual charges required to finance the operation and maintenance of the IDS, have been based on the WUA "Ung-tarmok" in Akaltyn (located in a new zone of irrigation on the Hungry Steppe) and WUA "Madaniyat" in Akkurgan, Tashkent area is given below.

The service area of WUA " Ung-tarmok " is 3,539.4 hectare. The water supply is from two diversion points on the right branch of the interregional channel. There are 90 member farms in the WUA.

The inventory of the WUA is:

- Channel PR-5 in concrete facing - 8.3 km
- Minor canal network - 38.6 km
- Inspection road - 8.3 km
- Opened drainage - 25.6 km
- Piped drainage - 26.2 km plus of 72 km
- Regulators on PR-5 - 4 pcs
- Water offtakes - 14 pcs
- Gauge boards - 6 pcs

Specific length (length per hectare) of the irrigation network is 13.2 m/ha, drainage network 14.6 m/ha. The project «Development of an agriculture of Akaltyn area», which is to re-construct the vertical drainage pipes, (vertical drainage wells constructed in 1970 have broken down) specifies the specific length of the drainage network be increased to 35 m/ha in the "Ung-tarmok" WUA service zone.

The operation of the inter-farm collector network which passes along the WUA borders is carried out by the Hydrogeology ameliorative expedition and the operation of vertical drainage wells by pump station management.

Operational expenses are listed in table 2.

Consistent with Uzbekistan regulations for maintenance, service and repair of on-farm ameliorative system and related constructions, (authorized by the Assistant to the State Agricultural Committee and by the Minister of land Improvement and Water Management in 1987, and was also reviewed by the Assistant to the Ministry of Finance) irrigation channels (those in use) are to be cleared and repaired each year, channels of a collector-drainage network - 3 years, piped drainage - 5 years.

Thus the annual volume of work for mechanized clearing of the irrigation network is 8.3 km. Open drainage - $25.6 / 3 = 8.5$ km. Closed horizontal drainage - $26.2 / 5 = 5.2$ km.

The cost of mechanised clearing is 250 sum/m³. The cost of washing of 1 km of piped drainage is 850,000 sum.

A calculation for the maintenance and repair of the irrigation and collector-drainage network is shown in the table.

Table 3. Annual expenses on maintenance service Of irrigation and collector-drainage network in WUA "Ung-tarmok"

Work	Type the size	Specific volume, m ³ /meter	Length m	Volume, m ³	Cost, sum/m ³	Total 10 ³ sum
Mechanical Clearing of irrigated Channels	III	1.5	8,300	12,450	250	3,112.5
Mech. Clearing CDS	II	2	8,500	17,000	250	4,250.0
Washing CHD			5,200		850.0	4,420.0
Total						11,782.5

We determine the tariff of the current payments at

$$15,309.016 \text{ sum} / 3,539.4 \text{ ha} = 4,325 \text{ sum/ha}$$

We determine the tariff of payments for development of ameliorative fund at

$$11,782.500 \text{ sum} / 3,539.4 \text{ ha} = 3,329 \text{ sum/ha}$$

The annual tariff of payments of members WUA on 1 ha is then

$$4,325 + 3,329 = 7,654 \text{ sum/ha.}$$

The zone of service WUA "Madaniyat" is 1,599 hectare. The water-intake is from inter-farm channels -Morgunenko, P-5 and P-7. The WUA has 54 water user members, from 52 farms.

The inventory of WUA is:

- Earth channels - 33.46 km
- Channels with concrete facing - 2.87 km
- Minor canal network -1.57 km
- Open drainage - 14.1 km
- Regulators 5 pcs
- Water offtakes -20pcs
- Gauge boards - 41 pcs

Operational expenses are given in table 5.

In conformity with «Regulations for maintenance, service and repair of inter-farm ameliorative system and related constructions», the annual volume of work, for mechanized clearing the irrigation network is 33.46 km. Closed horizontal drainage system - $14.1 / 3 = 4.7$ km.

Now cost of development of a land at clearing of 1 m³ makes 250 sum. Cost of washing of 1 km of piped drainage is 850,000 sum.

Results of calculations for repair of the irrigation and collector-drainage network is shown in the table.

Table 6. Annual maintenance service expenses for the irrigation and collector-drainage network in WUA "Madaniyat"

Work	size type	Specific volume, m ³ / m.	Length, m.	Volume, m ³	Cost,	The sum, 10 ³ .sum
Mechanical Clearing of irrigation channels	II	0.5	33,460	16,730	250	4,182.5

Mech. Clearing CDS	I	1	4,700	4,700	250	1,175.0
Total						5,357.5

We determine the tariff of the current payments at

$$9,028,702 \text{ sum} / 1,599 \text{ ha} = 5,646 \text{ sum/ha}$$

We determine the tariff of payments for development of ameliorative fund at

$$5,357,500 \text{ sum} / 1,599 \text{ ha} = 3,350 \text{ sum/ha}$$

The annual tariff of payments on 1 ha is then

$$5,646 + 3,350 = 8,996 \text{ sum/ha.}$$

Agricultural Sector Review and Planning

Policy Note 10: Assessment of Ability to Pay for Irrigation Services

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Assessment of WUAs

The policy of transferring management on-farm irrigation system (Irrigation Management Transfer) to newly created Water-users Associations is carried out in Uzbekistan since 2002. It is caused by increasing deficiency of water resources in Central Asia; moral and physical deterioration hydro-ameliorative systems and hydraulic engineering structures; lack of producers' motivation in economical use of water resources.

Technical parameters. 562 WUA serving 1,743.5 thousand ha, totaling 41% of the irrigated land operate in Uzbekistan as of October 1, 2004. The greatest share of the areas served by WUA is observed in the Dzhizak 80% and Samarkand areas - 98%. The average area served by one WUA on republic has made 3102 ha.

The greatest loading of the irrigated areas on one WUA is marked in the Samarkand area, where the average served area has made 28.4 thousand ha. Such high specific area is explained by the fact, that WUA' in the Samarkand area are created on the basis of administrative area, instead of former aerial water departments. The least area served by WUA falls at the Andizhan area, where loading on one WUA has made 495 ha.

Among members of WUA the great bulk of 96% is made with farms in Bukhara area, where members of WUA are only farms. (Enc. 1)

The serious limiting factor of development WUA is technical equipment and heterogeneity of security on regions. From 79 excavators available at WUA 81% falls at the Khorezm area and Karakalpakstan. 79% of bulldozers also serve the same two regions. The great bulk of tractors - 71% is concentrated in WUA of Kashkadarya area. On the average the percent of security WUA by ameliorative technical equipment is low and makes 31%.

The state has solved the problem of financing operational actions at a level of farm by transfer of ameliorative funds on balance of farms. It is necessary to note, that this is extremely difficult task if to take into account, that average length of irrigating systems falling on one WUA has made 124 km, and drainage systems - 88 km.

Basis of long-term stability WUA is its financial viability. Payments made by WUA members should cover expenses completely connected with service and management of hydro-ameliorative systems at an economic level. However a share of paid for water-economic service for December 31, 2003 has made only 12%.

Results of sociological research. WUA is voluntary association of farmers, however sociological inspection in regions has shown, that the majority of farmers - 64% count, that WUA is created under the initiative from above, whereas 19% consider, that farmers were initiators of creation, and 16% of farmers did not know about existence WUA at all. It testifies that yet not all farmers refer to WUA as to own organization, called to protect rights of the water-user.

Absence of representation all layers of water-users in WUA management becomes one of problems of its sustainable development. Members WUA' auditing commission and council often become elite - former heads and experts of farm. Former main hydro-engineer of farm is elected in a role of the manager of association almost in all surveyed WUA.

There are no vehicles, office, a communication facility, and ameliorative technical equipment on balance WUA, that complicate service of farmers. In result that WUA' referred as the organization only occupied with water-distribution and collecting a payment for water. Lack of any technical help from WUA, makes it un-authoritative and weak in opinion of the farmer.

Problems with introducing paid irrigation services

Payment for used irrigation water is carried out on double rate tariff - for hectare of the irrigated area or for cubic meter of the supplied water. In Uzbekistan, payment for hectare of the irrigated area is used now in farms where WUA' are created. Depending on region payment varies from 6,000 up to 8,000 sum/ha.

Experiment on introduction of paid water use in Uzbekistan was carried out in 1986 in area Bekabad of the Tashkent region. However the accepted principle of payment of water use due to budgetary funds and non-development of mechanism of financial mutual relations between participants of experiment has led to significant difficulties. Conditions of experiment on paid water use have not led to saving of irrigation water, and to decrease in the cost price of production.

Creation of water-users association had the purpose transfer of charges on operation of on-farm systems on shoulders of farmers. However non-profitability of cotton growing, which made in 2003 - 3%, and low profitability of grain production (0.04%) makes collection payment for water-economic services problematic.

Water related services. The analysis of expenses has shown, that the tendency of decrease in a share of the operational expenditure (from 88% in 1999 up to 65% in 2001) and accordingly increase in a share of capital charges (with 16.1 up to 35% accordingly) is observed in a water management. Such decrease in the operational expenditure and increase in capital expenses is caused by necessity of replacement out-of-date and failed pump-power equipment. Now the degree of deterioration of water-economic objects of MAWR system makes 42%.

In structure of operational costs there is a tendency of increase in charges on the electric power from 40% in 1995 up to 59% in 2003. It is caused basically by increase of cost of the electric power which has grown for last four years more than in 3 times, with 4.1 sum/kwt.h in 2000 up to 13.3 sum/kwt.h in 2003 (the Appendix 2.) Charges on operating repair works have decreased from 34% in 1995 up to 3% in 2003; accordingly charges on major overhaul were reduced from 10% up to 6% in 2003.

Pump stations supply irrigating water on more than 60% of the irrigated areas of Uzbekistan. Expenses for submission of 1m³ water vary on areas, but on the average on republic in 2003 have made 0.93 sum (Tab. 3). The cost price of crop production does not include an expense connected with use of pump stations. Estimates have shown, that increases in expenses at inclusion of charges on machine water-rise in the cost price of production, makes 8%. However average profitability on the areas with a machine irrigation makes -3%, addition of charges on machine water-rise in the cost price of production will increase non-profitability of agricultural productions up to -11%)

Principal cause of non-profitability of agricultural productions is the low prices for the basic kinds of crops – raw cotton and wheat. World bank estimates have shown, that if forecasted prices fall to 10%, 12% of the irrigated land will be unprofitable. In this case negative influence will affect on one million people, from them more than half inhabitants of the Kashkadarinskai area. Inclusion in these estimates charges on reconstruction hydro-ameliorative systems (on the average at a rate of 123 \$/ha) will lead to non-profitability of all irrigated land without dependence from a kind of made production.

Provisional cost of rehabilitation hydro-ameliorative systems on the area of a machine irrigation in 1,721 thousand ha will make 211.7 million dollars. For realization of the program of reconstruction the international organizations can allocate a loan with the privileged interest rate.

Model of influence of payment for water and reconstruction of Hydro-ameliorative systems on financial parameters of farms

Models of farm and shirkat farms budget on cotton and grain production have been developed in 2003. The Model has shown balance behavior (profits / losses) of a sample farm at different *price* scenario, like with increase of the prices for raw cotton and grain on 10% and 30%, that for a farm increase of the price for a raw cotton on 10% has led to increase in proceeds from realization on 10%; increase in the income at 7% that has led to increase payment balance on 34%.

Family Farms

Increase of the price for 10% for grain has led to increase in proceeds from realization on 21%; increase in the income at 8% - to increase of the balance of payments on 61%. A difference in improvement of balance between two cultures testimonies about the greater sensitivity of prices on grain production balance. However despite of increase of the income in raw cotton production, the balance of payments nevertheless remains negative (-5.915 thousand sum at estimate on 100 ha), that shows insufficiency of ten-percentage increase in the prices. (Tab. 1)

Positive balance is achieved by production of raw cotton at increase of prices for 30%, whence increase in the income reaches 21%. The balance of payments for grain improves in 2.3 times. The cost price of production, non-productive charges and capital investments remain constant at the price scenario.

Per-hectare method payments for water, and charges on rehabilitation of irrigating and drainage systems were used at *water scenario*. Irrigating norm for a raw cotton of 7,115 m³ / ha, for grain of 3200 m³ / ha is accepted as a basis; estimated cost for water-submission was accepted in 2003 by MAWR on operation of water-economic systems - 4.4 sum/m³. The behavior of model at introduction of a payment for water has shown, that the cost price of production grows for raw cotton by 11%, for grain on 12%, payment balance accordingly worsens for a raw cotton on 35%, for grain on 37%.

Volumes recommended by World Bank - 150 \$/ha¹, not including operation charges have been accepted for *the scenario with inclusion in the farm budget of charges on rehabilitation hydro-ameliorative systems*. The farm model has reacted sharply like deterioration payment balance in 2.7 times on raw cotton, and 2.9 times on grain. Non-productive charges and capital investments have accordingly increased on 28 and 62%. In both scenarios there was no increase in the proceeds and income.

Shirkats

The model of change of financial parameters shirkats was calculated on six economic regions (ER) of Uzbekistan: NijneAmudarya (Khorezm area and Republic Karakalpakstan); Central (Bukhara, Navoi and Samarkand areas), Syr-Darya-Dzhizak; Tashkent; Fergana (the Andizhan, Namangan and Fergana areas); Southern (the Surkhan-Darya and Kashkadarinskai areas).

The model has shown, that increase in the price of wheat at 10% leads to minor improvement of the farms payments balance. Though, it is necessary to note, that in Southern and Central ER balance of payments became positive.

In Nijneamudarya, Syr-Darya - Dzhizak and Fergana (for a raw cotton) ER increase in the price at agricultural products at 30% have not led to significant changes; the balance of payments has remained negative. To make balance positive, the prices should be raised at least on 150%. (Tab. 2 and 3)

¹ Irrigation in Central Asia: Social, Economic and Environmental Considerations. The World Bank, February 2003. p. 31

Introduction per-hectare payment for water services (7000 sum/ha) leads to decrease in the cost price of a raw cotton and grain on 2-4%, and to deterioration of the payments balance on 7%.

Introduction per m³ payments for water services increases the cost price of production by 5-8%, and up to 12% by production of raw cotton in Syr-Darya Dzhizak ER. The balance of payments has worsened at cultivation of raw cotton on 20-30%, and at cultivation of raw cotton on 10 - 15% in Tashkent ER the balance of payments became negative.

Inclusion in the budget of farms charges on reconstruction hydro-ameliorative systems (150 \$/ha) leads to negative balance of all without exception ER of republic regardless of production type.

Testing of a model for "sensitivity" has been carried out - the degree of necessary changes of financial parameters for increase farms profitability on 10% is determined. Farms of Southern, Central and Tashkent ER showed low «sensitivity». For increase of the profit of farms on 10% in Nijneamudarya and Syr-Darya - Dzhizak ER it is necessary to increase proceeds from realization on 10 - 11%, or to lower the cost price on 5-6%.

Thus, approbation of payment balance model for a farm and shirkat has shown that the increase in a procurement price at 10% will not bring essential change to solvencies - the farms engaged in cotton growing remain non-profitable. Whereas 30% increase in procurement prices will considerably improve economic condition and improve financial parameters of farms. Introduction paid water use at modern prices for a raw cotton and grain will increase the cost price and worsen payment balance of farms by production of both cultures. Though production remains profitable at irrigation of grain. The model has shown, that carrying out of reconstruction irrigating and collector-drainage systems at on-farm and inter-farm level due to farms will result the last to bankruptcy. Reconstruction is expedient for carrying out due to the state or donor organizations.

Conclusions and Recommendations:

1. In all surveyed farms, repair of hydro-ameliorative systems was not carried out for last 10-15 years, and existing systems are in a pitiable condition. All irrigating and collector - drainage networks have been divided between farmers after beginning of re-structuring of large-scale enterprises.
2. It is necessary to create legal base of the water use, taking into account new forms of managing, new institutional forms of WUA management. It's necessary to determine legal status of private water-users, to give legal substantiation of the water right. Besides, there is no legal base for introduction of paid water use, and a technique of calculation of a payment for water.
3. If to reorient agricultural production on the land of machine irrigation from wheat in a direction of more economic profitable cultures, like cotton, vegetables and fruit, losses from reduction of prices will be much lower. A conclusion which was derived by experts of World Bank was the following: whence agricultural production is profitable, producers can pay expenses connected with a machine irrigation and reconstruction of irrigating systems.
4. A necessary condition of steady development WUA is reconstruction of the worn out irrigating systems, supply ameliorative technical equipment, and training of WUA professional staff. Experience of Turkey, where the

international donor organizations carried out financial support and training of the personnel of again emerging Associations, can serve as model for realization of these actions. At rendering technical assistance on the part of donors, it is necessary to define particularly the contribution of Association of Water-users, and its members to the program of rehabilitation. The contribution of members WUA can be by means of the organization "volunteer work" that is by proposing their work. Such approach will allow in to reduce some times labor-consuming operations on rehabilitation of hydro-ameliorative systems and improvement of the irrigated land. That will allow making the greater amount of works with the limited financial help.

5. At the initial stage of introduction of paid water use as basis for calculation of a payment for water in irrigated agriculture, it is necessary to accept budget WUA, which is formed only for covering on-farm operational expenses. At the modern prices for production of the state order, cotton and grain will lead to deterioration of financial parameters of farms. Increase in procurement prices at least 30% is necessary for introduction of paid water use.
6. Development of market attitudes in Uzbekistan creates conditions for establishment of the water market. The right for using water resources (license) in the long term should be on sale, and should be exchanged and left in a pledge. Universality of licensing consists in the greater flexibility and variety of forms of the state regulation, allowing to raise payment for the right of water use not only from volume of water, but also from the area of the irrigated land, and from direct tax in view of structure of agricultural crops.
7. The state has essential constant role on maintenance of long-term stability WUA. Functions of the state, include: definition and updating of the water rights; tracking and regulation of external factors on the organization of water use; maintenance of technical training of WUA personnel; rendering assistance in development, construction, financial assets for large water-economic projects on reconstruction; activity connected to protection of water resources.
8. WUA Stability is possible only at farmers' interest in an economical use of water and reception of higher incomes. Thus, for maintenance of viability of Association of water-users in Uzbekistan it is necessary to:
 1. Create economic conditions for profitable agricultural production;
 2. Fix the property right to industrial production and the right of the free disposal;
 3. Liberalize selling production and system of pricing;
 4. In the first years of WUA establishment, to carry out state support as preferential crediting and taxation of WUA members.

Table 1 Financial parameters of agricultural production per 1 ha in farm (1,000 sum)

	Sales proceeds, sum			Production cost, sum			Profit , sum		
	before	after	%	before	after	%	before	after	%
1. Scenario of increasing procurement price per 10%									
Cotton	30,888	33,977	10	28,254	28,254	0	-9,004	-5,915	34

Grain	11,088	13,416	21	12,187	12,187	0	3,828.3	6,157	61
2. Scenario of increasing procurement price per 30%									
Cotton	30,888	40,154	30	28,254	28,254	0	-9,004	262	
Grain	11,088	15,856	43	12,187	12,187	0	3,828.3	8,596	22 5
3. Scenario of introducing water charges (per-hectare method)									
Cotton, (31263 sum/ha)	30,888	30,888	0	28,254	31,380	1 1	-9,004	-12,130	- 35
Grain, (14061 sum/ha)	11,088	11,088	0	12,187	13,593	1 2	3,828.3	2,422	- 37
4. Scenario of increasing costs for reconstruction of hydro-ameliorative systems (150,000 sum/ha)									
Cotton	30,888	30,888	0	28,254	28,254	0	-9,004	-24,004	- 26 7
Grain	11,088	11,088	0	12,187	12,187	0	3,828	-11,172	- 29 2

Table 2 Financial parameters of cotton production per 1 ha in shirkat by economic areas (1,000 sum)

	Sales proceeds, sum			Production cost, sum			Profit, sum		
	before	after	%	before	after	%	before	after	%
1. Scenario increasing procurement price per 10%									
South Ec. Rayon	567.7	624.5	10	461	461	0	77	134	74
Low Amudar Ec. Rayon	262.8	289.1	10	376	376	0	-131	-104	-20
Sirdarya- Djiz Ec. Rayon	209.1	230.1	10	267	267	0	-109	-88	-19
Fergana Ec. Rayon	383.1	421.4	10	511	511	0	-153	-115	-25
Central Ec. Rayon	558.9	614.8	10	432	432	0	92	148	61
Tashkent Ec. Rayon	423.2	465.5	10	405	405	0	1	43	4760
2. Scenario increasing procurement price per 30%									
South Ec. Rayon	567.7	738	30	461	461	0	77	247	221
Low Amudar Ec. Rayon	262.8	342	30	376	376	0	-131	-52	-60
Sirdarya- Djiz Ec. Rayon	209.1	272	30	267	267	0	-109	-46	-58
Fergana Ec. Rayon	383.1	498	30	511	511	0	-153	-38	-75
Central Ec. Rayon	558.9	727	30	432	432	0	92	260	182
Tashkent Ec. Rayon	423.2	550	30	405	405	0	1	128	14280
3. Scenario of introducing water charges (per hectare method 7,000 sum/ha)									
South Ec. Rayon	567.7	567.7	0	461	468	2	77	70	-9
Low Amudar Ec. Rayon	262.8	262.8	0	376	383	2	-131	-138	5
Sirdarya- Djiz Ec. Rayon	209.1	209.1	0	267	274	3	-109	-116	6
Fergana Ec. Rayon	383.1	383.1	0	511	518	1	-153	-160	5
Central Ec. Rayon	558.9	558.9	0	432	439	2	92	85	-8
Tashkent Ec. Rayon	423.2	423.2	0	405	412	2	1	-6	-787
4. Scenario of introducing water charges (m3 method)									
South Ec. Rayon	567.7	567.7	0	461	493	7	77	46	-41
Low Amudar Ec.	262.8	262.8	0	376	408	8	-131	-162	24

Rayon									
Sirdarya- Djiz Ec. Rayon	209.1	209.1	0	267	298	12	-109	-140	29
Fergana Ec. Rayon	383.1	383.1	0	511	542	6	-153	-185	20
Central Ec. Rayon	558.9	558.9	0	432	464	7	92	61	-34
Tashkent Ec. Rayon	423.2	423.2	0	405	436	8	1	-30	-3521
5. Scenario of increasing costs for reconstruction of hydro-ameliorative systems, (150,000 sum/ha)									
South Ec. Rayon	567.7	567.7	0	461	493	7	77	-73	-195
Low Amudar Ec. Rayon	262.8	262.8	0	376	408	8	-131	-281	115
Sirdarya- Djiz Ec. Rayon	209.1	209.1	0	267	298	12	-109	-259	138
Fergana Ec. Rayon	383.1	383.1	0	511	542	6	-153	-303	98
Central Ec. Rayon	558.9	558.9	0	432	464	7	92	-58	-163
Tashkent Ec. Rayon	423.2	423.2	0	405	436	8	1	-149	-16871
6. Scenario of increasing farm incomes on 10%.									
South Ec. Rayon	567.7	584.8	3	461	461	0	106	123	16
South Ec. Rayon	567.7	567.7	0	461	445	-4	106	123	15
Low Amudar Ec. Rayon	262.8	273.0	4	376	376	0	-114	-103	-9
Low Amudar Ec. Rayon	262.8	262.8	0	376	366	-3.0	-114	-103	-9
Sirdarya- Djiz Ec. Rayon	209.1	215.0	3	267	267	0	-57	-52	-10
Sirdarya- Djiz Ec. Rayon	209.1	209.1	0	267	260	-3	-57	-51	-11
Fergana Ec. Rayon	383.1	395.0	3	511	511	0	-128	-116	-9
Fergana Ec. Rayon	383.1	383.1	0	511	499	-2	-128	-116	-9
Central Ec. Rayon	558.9	572.0	10	432	432	0	126	140	10
Central Ec. Rayon	558.9	558.9	0	432	419	-3	126	140	11
Tashkent Ec. Rayon	423.2	465.5	10	405	405	0	18	20	11
Central Ec. Rayon	423.2	423.2	0	405	403	0	18	20	11
Scenario reduction of world prices on 20% (reduction of earnings on 20%)									
South Ec. Rayon	567.7	473.0	-20	461	368	-25	106	105	-1
Low Amudar Ec. Rayon	262.8	219.0	-20	376	333	-13	-114	-114	0
Sirdarya- Djiz Ec. Rayon	209.1	174.0	-20	267	230	-16	-57	-56	-3
Fergana Ec. Rayon	383.1	319.0	-20	511	447	-14	-128	-128	0
Central Ec. Rayon	558.9	466.0	-20	432	340	-27	126	126	0
Tashkent Ec. Rayon	423.2	353.0	-20	405	335	-21	18	18	0

Table 3 Financial parameters of grain production in 1 ha in shirkat on economic calculations (1,000 sum)

	Sales proceeds, sum			Production cost, sum			Profit, sum		
	before	after	%	before	after	%	before	after	%
1. Scenario increasing procurement price per 10%									
South Ec. rayon	206.4	227.0	10	204	204	0	-7	13	-277
Low Amudar Ec. Rayon	116.4	128.1	10	251	251	0	-145	-133	-8
Sirdarya- Djiz Ec. rayon	88.9	97.8	10	202	202	0	-126	-117	-7
Fergana Ec. Rayon	443.2	487.5	10	328	328	0	102	146	44
Central Ec. Rayon	261.6	287.8	10	256	256	0	-8	18	-340
Tashkent Ec. Rayon	210.1	231.1	10	186	186	0	16	38	127

2. Scenario increasing procurement price per 30%									
South Ec. rayon	206.4	268.29	30	204	204	0	-7	54	-831
Low Amudar Ec. Rayon	116.4	151.38	30	251	251	0	-145	-110	-24
Sirdarya- Djiz Ec. rayon	88.9	115.55	30	202	202	0	-126	-99	-21
Fergana Ec. Rayon	443.2	576.19	30	328	328	0	102	235	131
Central Ec. Rayon	261.6	340.12	30	256	256	0	-8	71	-1020
Tashkent Ec. Rayon	210.1	273.14	30	186	186	0	16	80	382
3. Scenario of introducing water charges (per hectare method- 7,000 sum/ha)									
South Ec. rayon	206.4	206.4	0	204	211	3	-7	-14	94
Low Amudar Ec. Rayon	116.4	116.4	0	251	258	3	-145	-152	5
Sirdarya- Djiz Ec. rayon	88.9	88.9	0	202	209	3	-126	-133	6
Fergana Ec. Rayon	443.2	443.2	0	328	335	2	102	95	-7
Central Ec. Rayon	261.6	261.6	0	256	263	3	-8	-15	91
Tashkent Ec. Rayon	210.1	210.1	0	186	193	4	16	9	-42
4. Scenario of introducing water charges (m3 method)									
South Ec. rayon	206.4	206.4	0	204	218	7	-7	-21	188
Low Amudar Ec. Rayon	116.4	116.4	0	251	265	6	-145	-159	10
Sirdarya- Djiz Ec. rayon	88.9	88.9	0	202	216	7	-126	-140	11
Fergana Ec. Rayon	443.2	443.2	0	328	342	4	102	88	-14
Central Ec. Rayon	261.6	261.6	0	256	270	5	-8	-22	182
Tashkent Ec. Rayon	210.1	210.1	0	186	200	8	16	2	-85
5. Scenario of increasing costs for reconstruction of hydro-ameliorative systems, (150,000 sum/ha)									
South Ec. rayon	206.4	206.4	0	204	204	0	-7	-157	2012
Low Amudar Ec. Rayon	116.4	116.4	0	251	251	0	-145	-295	103
Sirdarya- Djiz Ec. rayon	88.9	88.9	0	202	202	0	-126	-276	119
Fergana Ec. Rayon	443.2	443.2	0	328	328	0	102	-48	-148
Central Ec. Rayon	261.6	261.6	0	256	256	0	-8	-158	1950
Tashkent Ec. Rayon	210.1	210.1	0	186	186	0	16	-134	-909
6. Scenario of increasing farm incomes on 10%.									
South Ec. rayon	206.4	207.0	0	204	204	0	2	3	30
South Ec. rayon	206.4	206.4	0	204	203	0	2	3	46
Low Amudar Ec. Rayon	116.4	129.0	11	251	251	0	-134	-122	-9
Low Amudar Ec. Rayon	116.4	116.4	0	251	238	6.0	-134	-122	-10
Sirdarya- Djiz Ec. rayon	88.9	98.0	10	202	202	0	-114	-104	-8
Sirdarya- Djiz Ec. rayon	88.9	88.9	0	202	193	5	-114	-104	-8
Fergana Ec. Rayon	443.2	455.0	5	328	328	0	115	127	10
Fergana Ec. Rayon	443.2	443.2	0	328	316	4	115	127	10
Central Ec. Rayon	261.6	263.0	0	256	256	0	6	7	23
Central Ec. Rayon	261.6	261.6	0	256	255	0	6	7	10
Tashkent Ec. Rayon	210.1	212.0	1	186	186	0	24	26	8
Tashkent Ec. Rayon	210.1	210.1	0	186	184	1	24	26	7
7. Scenario reduction of world prices on 20% (reduction of earnings on 20%)									
South Ec. rayon	206.4	172.0	-20	204	170	-20	2	2	-13
Low Amudar Ec. Rayon	116.4	97.0	-20	251	231	-9	-134	-134	0
Sirdarya- Djiz Ec. rayon	88.9	74.0	-20	202	188	-7	-114	-114	0
Fergana Ec. Rayon	443.2	369.0	-20	328	254	-29	115	115	0
Central Ec. Rayon	261.6	218.0	-20	256	212	-21	6	6	0
Tashkent Ec. Rayon	210.1	175.0	-20	186	151	-23	24	24	-2

Appendix- 1.

Basic parameters of WUA development in Uzbekistan.

Name of regions	Total irrigated area.th. ha	WUA No.	Serviced area th.. ha	Services area, in %	No. WUA members	Inc. farms	Average WUA area	Collector-drainage system, km	Inc. closed horizontal drainage	Irrigation network, km	в т.ч. бетонной облицовке и лотковая сеть	наличие мелиоративной , шт.	Кол-во АВП имеющей мелиор. Технику	Процент АВП обеспеченной мел. техникой.
Republic Karakalpakstan	500.3	72	198.3	40	4,236	4,110	2.754	7,697		7,980		174	52	72
Andijan	263.9	19	9.4	4	411	403	0.495	159		148	52	11	2	11
Buhara	273.7	50	87.1	32	3,504	3,504	1.742	1,599	169	4,359	1,061	62	15	30
Djizak	301.2	70	239.7	80	5,067	5,012	3.425	2,782		5,154	4,519	4	3	4
Kashkadarya	505.4	109	328.6	65	11,671	11,287	3.014	9,732	5938	11,899	7,110	95	31	28
Navoi	127.2	30	81.8	64	2,448	2,307	2.725	983		2,364	206	27	12	40
Namangan	279.5	12	17.9	6	786	747	1.49	624	366	572	53	5	1	8
Samarkand	376.4	13	369.5	98	7,185	7,000	28.425	7,835		17,238	1,902	5	4	31
Surhandarya	326.1	32	43.4	13	1,648	1,590	1.355	1476	307	5,879	4,993	34	13	41
Syrdarya	290.7	65	200	69	5,342	5,207	3.076	11,524		6,042	3,883	12	7	11
Tashkent	382.2	34	48.7	13	2,391	2,228	1.432	804		1,515	322	21	13	38
Fergana	358.7	27	58	16	6,590	6,055	2.149	2,711	94	3,264	3,126	40	6	22
Khoresm	276.5	29	61.3	22	3,367	3,267	2.114	1,449	138	3,236	49	33	13	45
Republic	4,261.8	562	1,743.5	41	54,646	52,717	3.102	49,375	7012	69,650	27,276	523	172	31

Appendix 2.**Cost structure of operation – maintenance charges
on 2000-2003 (forecast 2004), %**

Types of costs	2000	2001	2002	2003	2004 forecast
Wages	11.4	11.1	12	11.7	9.8
Power	47	46.2	53.2	59.1	68.1
Machine cleaning	7.6	5.7	8.4	7.5	5.7
Current repair	10.6	8.4	7.2	2.6	3
Maintenance and rent of transport	2.8	2.1	1.8	1.1	0.8
Fuel and lubricant	3.5	3	2.4	1.8	1.5
Guards	0.4	0.5	0.5	0.8	0.5
Buy main capital assets	6.2	12.6	5.8	5.9	4.4
Major overhaul	3.6	7	7.1	6.5	5.7
Other operation costs	6.8	3.3	1.6	3.1	0.5
Total	100	100	100	100	100

Appendix 3.
Machine irrigation in regions of Uzbekistan in 2003

Regions	Irrigated area.th. ha	Supplied by pumps. mln m3	Costs for machine irrigation. Mln.sum	Crop' production cost, mln. sum	Costs for irrigation 1 ha at pump sum/ha	Costs for supply 1 m3 at pump sum/m3	Production cost of 1 irrigated ha sum/ha	Increasing costs in pump irrigation in production cost, %	Чистая прибыль (убыток) в% к реализованной продукции
Karakalpakstan	228.2	1,543	2,745.319	36,138	12,030	1.78	158,361	7	-33
Andijan	219.6	2,711	2,440.206	61,264	11,112	0.90	278,980	4	3.7
Buhara	291.8	2,248	3,711.,86 6	54,489	12,721	1.65	186,734	6	11.4
Djizzak	455	5,580	740.441	5,537	1,627	0.13	12,169	12	-37.8
Kashkadarya	323.6	2,807	3,064.611	55,861	9,470	1.09	172,624	5	14.1
Navoi	271.6	2,653	2,807.087	17,251	10,335	1.06	63,516	14	14.8
Namangan	368.3	5,379	2,220.448	52,957	6,029	0.41	143,788	4	-8.6
Samarkand	248	2,733	4,125.936	42,282	16,637	1.51	170,492	9	7.4
Surhandarya	517.9	7,424	1,845.928	56,553	3,564	0.25	109,197	3	8
Syrdarya	544.8	4,434	2,215.153	14,878	4,066	0.50	27,309	13	-9.2

Source: MAWR

Agricultural Sector Review and Planning

Policy Note 11: Supply of Inputs and Farm Chemicals

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

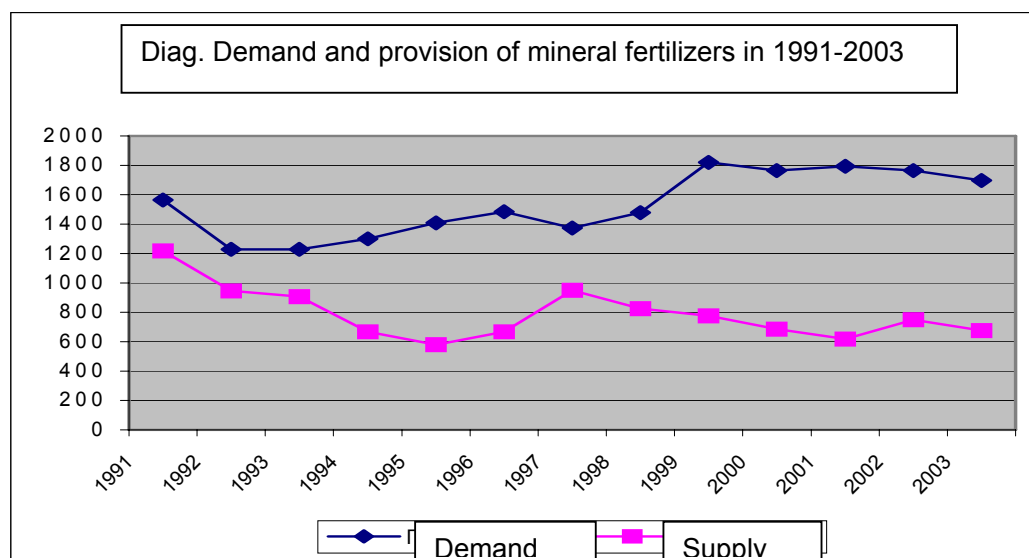
Fertilizers

There are 5 factories in republic for maintenance of agriculture with mineral fertilizers, which make nitric and phosphoric fertilizers. For manufacture of phosphoric fertilizers, 40% of phosphoric raw material is delivered from Kazakhstan (Karatau), other part due to local raw material. Potash fertilizers are not made in republic and fully imported.

Manufacture of nitric fertilizers, in comparison with 1991, has decreased in republic in 1.6 times, phosphoric in 5.7 times, import of potash fertilizers was reduced more than 10 times, that had a negative effect on maintenance of an agriculture with mineral fertilizers.

MAWR annually considers the requirement in mineral fertilizers, depending on accommodation of agricultural crops, their productivity on regions, in view of soil type, mechanical structure, salinity, erosion, and level of subsoil waters, agro-chemical cartograms and other normative parameters.

Balance of manufacture and distribution of mineral fertilizers is approved on the basis of these calculations (in January - March) by decision of the Cabinet of Ministers, in which standard items of fertilizers for agriculture are determined, including, for performance of treaty obligations of agricultural commodity producers with the state.



Determined by decisions of the Cabinet of Ministers, underestimated supplies of fertilizers for agriculture are carried out not completely.

So 85% from the stipulated standard items of mineral fertilizers were actually allocated to agriculture in 2003, from them nitric 86%, phosphoric-89% and potash 46%.

On MAWR data, approximately 90% of mineral fertilizers are applied for cotton and grain for last years.

According to recommendations of Uzbek cotton research institute and other research establishments, on the average on republic phosphoric and potash fertilizers should be applied in the ratio 1:0.7:0.5 under cotton, and under grain 1:0.7:0.3, in view of soil differentiation under the contents of mobile phosphorus and exchange potash. The actual ratio of the fertilizers applied for cotton has made 1:0.28:0.02, and under grains-1:0.21:0.02 in 2003. The optimum ratio of application of nitric-phosphoric and potash fertilizers, in strictly agro technical terms, positively affects increase of

productivity of agricultural crops and renders essential influence on quality of production.

Funds on mineral fertilizers are distributed on areas by MAWR together with joint-stock company "Uzkhimprom". Then divisions of joint-stock company "Uzkhimprom" carry out delivery of fertilizers to shirkats and farms, according to signed with them contracts. For the farms organized on base of restructured, unprofitable farms, there are now 488 points on realization of mineral fertilizers, from them 288 is organized in 2004.

Dehkan farms have no access to mineral fertilizers, practically getting it illegally. Basically, on the sites, they apply organic fertilizers. 90% of cattle, a plenty of goats and sheep, poultry and other animals are concentrated in dehkan farms now. It allows them to prepare and use annually the organic fertilizers (manure), received from domestic cattle, at the rate of on one hectare of crops of-44 tons, the content of nutrients in which makes: nitric 215 kg, phosphoric 120 kg and potash 240 kg.

According to the decision of the Cabinet of Ministers as of 05.02.2004 №57 «About further introduction of market mechanisms of realization of high liquid kinds of production, raw and materials» the order on the organization and carrying out of the exchange tenders is determined on realization of the mineral fertilizers, which is conducted by commodity raw stock exchanges. Only one percent of nitric and phosphoric fertilizers, from total amount of the allocated fertilizers are stipulated for market realization in balance of manufacture and distribution of mineral fertilizers to 2004.

Organic fertilizers

For maintenance of sufficient balance in ground humus and nutrients, it is necessary to apply 20-30 tons of organic fertilizers annually on the average on 1 ha arable lands. They are a source of carbon for reproduction of humus losses, improve physical properties of soil, and raise buffer action of soil, and by that the best conditions are created for application of mineral fertilizers. Actual applying of organic fertilizers, in the agricultural enterprises, on 1 ha agricultural crops in 2003 has made 1.3 tons, of them under cotton - 1.9 tons and under grain-1.5 tons. In comparison with 1997 applying of organic fertilizers under agricultural crops has decreased almost in 2 times. It is first of all connected to significant decrease number of cattle and poultry, and accumulation of organic fertilizers in the agricultural enterprises.

Pesticides

Application of pesticides in Uzbekistan has essentially decreased for last years, mainly for the economic reasons, the most part of pesticides is bought on import. The volume of use of pesticides, in comparison with 1990, was reduced six times. It has taken place for the account of its more ordered application, transition to more effective pesticides which demand considerably smaller dozes of application and quickly decay in an environment.

Table №1. Use of pesticides, herbicides and defoliants for 1985-2003

Parameters	Unit	Years					2003 in (%) to	
		1985	1990	1991	2002	2003	1985	1990
Insecticides	Tons	30,083	6,392	2,586	410	709	2.4	11.1
Fungicides	Tons	359	295	405	20	20	5.6	6.8
Herbicides	Tons	9,384	3,157	1,117	260	261	2.8	8.3
Defoliants	Tons	27,030	38,790	34,653	8,073	7,685	28.4	19.8

Total	Tons	66856	48634	38761	8763	8675	13.0	17.8
Cultivated area	Th.ha	3,980	4,157	4,168	3,865	4,110	103.3	98.9
On one hectare	Kg	16.8	11.7	9.3	2.3	2.1	12.6	18.0

Source. The MAWR of Republic Uzbekistan

In comparison with 1990 insecticides application was reduced in 9 times, fungicides in 15 times, herbicides in 12 times, defoliants and desiccants in 5 times. Reduction of defoliant use, which is applied only in cotton growing is caused by decrease in areas under crops and sharp reduction of the mechanized harvesting.

The volume of use of biological means of plant protection from pests has considerably increased. 810 biological laboratories on manufacture entomophags are available in republic now. In 2003, in comparison with 1995, the area under crops treated by a bio-method has increased in 2.5 times, frequency rate of treating, has increased with 3 up to 7 times for this period. In the most part the biological method is used in cotton growing for control of sucking and gnawing pests, and is insignificant in vegetable growing and gardening.

Agricultural Sector Review and Planning

Policy Note 12: Farm Equipment and Machinery Services

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Introduction

After transition to the mixed economy and various systems of management in the rural area (shirkats, dekhkan farms with their small areas), the issue of improvement of the equipment procurement to the farms and its operation became extremely crucial.

In order to concentrate the new high-productive equipment and to keep the achieved mechanization level in the cotton production industry and other sectors of crop production, the Cabinet of Ministers of the Republic of Uzbekistan issued the Decree #95 of March 24 1995 «The arrangements on contractual relations development in the field of production and technical services in agriculture», which led to establishment of the state joint stock companies – machinery and tractor parks (SJS MTP)– in the system of former “Uzselkhozchabremont” (now “Uzagromashservice” Association) intended to provide services to the agricultural manufacturers, regardless the ownership pattern and form of management.

According to the Decree #438 by the Cabinet of Ministers of the Republic of Uzbekistan of November 10, 2000, SJS MTP was transformed to the Joint Stock machinery and tractor parks (JS MTP). Currently, 184 of JS MTP are operating in the country.

As of February 1, 2003 JS MTP of the Republic have 1.946 plough tractors “Magnum”, 32 row-crop tractors “Case”, 1,701 grain harvesters «Case-2166» and 782 cotton harvesters «Case-2022».

If in 1995 only 4.3% of overall arable lands were tilled and 4.2% of wheat were harvested, due to the material and technical base strengthening with high-productive foreign tractors and harvesters in 2003 these indicators were 72% and 75% accordingly.

The study demonstrated that in 2003 the actual mean annual capacity of the tractors “Magnum” in the Republic was 926 hectares, capacity of the grain harvesters was 560 ha, whereas the standard capacity for the “Magnum” tractors has to be 2,000 ha and for the grain harvesters - as minimum as 750 ha, depending on the land productivity.

The monopoly of JS MTP in the system of the equipment maintenance caused the raise in price of the technical services, their quality is going down, and the work accomplishment dates are delayed.

In order to prevent the current situation with the technical services the Government of the Republic adopted the Decree #106 of March 10, 1998 “The arrangements on the further strengthening of material and technical base and expansion of the services of machinery and tractor parks”. According to this Decree, the process of creation of alternative forms of service entities started up. At the moment, alternative MTP’ provide mechanized services in various regions of the Republic. Their performance analysis revealed the number of advantages of these structures compared to JS MTP.

In system of company “Uzselkhoz mashholding” the technical centers were established in all 13 oblasts. During the recent years MTP Ltd. were established under these centers. At present, 16 of such MTP Ltd. exist.

Besides, a leasing company “UzCaseAgroleasing” was established in 1997 jointly with the American corporation “Case”, and “Uzselkhoz mashleasing” – in 1999. In 1999 the Supreme Council (Oliy Majlis) of the Republic of Uzbekistan adopted the Law “On leasing”. On November 2, 2000 the Cabinet of Ministers of the Republic of Uzbekistan issued the Decree “Arrangements on the rural areas provision with agricultural equipment on the leasing basis”; according to this Decree the corporation

was taken out of the “Uzselkhoz mashholding” membership and transformed to the independent joint stock leasing company “Uzselkhoz mashleasing” under the Cabinet of Ministers of the Republic of Uzbekistan. Currently, the branches of this joint stock leasing company are operating in all 13 oblasts of the Republic.

“UzCasemash” Joint Venture was established according to the Decree #75 by the Cabinet of Ministers of the Republic of Uzbekistan of February 11 1997.

In accordance to the Decrees # 8 of January 5, 2002 “The arrangements on agricultural enterprises restructuring to the farms” and #476 of October 30, 2003 “The arrangements on implementation the concept of the farm development for the period 2004 – 2006” by the Cabinet of Ministers of the Republic of Uzbekistan, 575 alternative MTP have been established on the basis of the former farms, transformed to the farms (as of 01.09.2004).

In spite of the activities, implemented during 1991 – 2003, the level of agriculture provision with equipment hardly fell down, and this negative trend is being kept.

The level of all types of equipment availability per 1000 ha of arable lands fell down. Availability of the tractors of all types in 2003 decreased by 54%, of cultivators – by 13%, forage harvesters – by 67%, cotton harvesters – by 94%, cotton sowing machines – by 14% and the ploughs – by 72%, compared to 1991. Only the level of the grain harvesters’ availability in 2003 grew up by 14%, to compare with 1991.

The agricultural equipment stock available with agricultural manufacturers is physically and morally obsolete. Thus, 50-60% of available equipment is worn out, in some farms this indicator is 70-85%.

Due to the financial condition deterioration, break-off the economic links among the CIS countries, seasonal fluctuation of agricultural production, size reduction of areas belonged to the agricultural enterprise, monopoly of supplying and servicing structures, price disproportion between industrial and agricultural production and other factors, the level of updating the agricultural equipment stock hardly fell down. According to the standard rates this level should be 15% annually. In spite of the fact, that the number of the main types of agricultural equipment has decreased, its updating level is lower ones in 1975 and 1980.

In 1980 the equipment updating level in terms of the tractors of all types was 11%, the cotton harvesters – 15%, the grain harvesters – 18%, the lorries – 13%, the ploughs – 22.8% and cultivators – 22.4%. In 2003 these indicators were accordingly 10%, 11%, 8%, 7%, 10% and 13%

As a result of the above facts, the mechanization level of raw-cotton production decreased. For instance, if overall mechanization level of raw-cotton production in 1996 was 59%, in 2003 it was 46%. And if the mean level of cotton harvesting mechanization all over the Republic in 1990 was 57%, in 2003 this indicator was 3%.

At present, JS MTP operating all over the country within the system of “Uzagromashservice” Association artificially increases the service prices, being monopolies in this field. Generally, MTP are not responsible for untimely and low-grade agritechnical arrangements. This fact causes the negative influence the agricultural crop production and financial condition of agricultural enterprises.

Together with advantages, alternative MTP established on the basis of tractor parks of the former shirkats have the number of shortcomings. In general, the material and technical base of alternative MTPs is physically and morally obsolete, they are not receiving the lubricants, and lack funds provided by the founders for the MTP development. Due to these reasons, alternative MTPs are not able to compete with JS MTP.

Comparative analysis of the principal services provided by the alternative MTPs, demonstrated much lower service tariffs of alternative MTPs, compared ones for the same services provided by the JS MTP. The service tariffs of alternative MTP are lower by 16-70%, depending on the type of mechanized activities.

The study showed that the large share in the costs on depreciation, repair, maintenance and profit rate is the main reason of the high tariffs for mechanized services provided by the JS MTP.

Calculation analysis of the tariff for the wheat harvesting of one ha with the harvesters "Case" shows that the share of the depreciation allocations cost is 76%. It's a result of the high level of the annual depreciation allocations settled by the "Tax Code" of the Republic of Uzbekistan, regardless the life time of agricultural equipment, i.e. 15% of its balance cost.

The poor financial status of the farms, impossibility to freely command their funds as well as the other reasons lead to untimely payment for the mechanized services provided by the JS MTP. For instance, in 2001 JS MTP provided services to the farms on 62,048 million sum, but were paid only 25,706 million sum, or 41%; in 2003 this indicator was 85%, and in 2004 -78%, for the services were paid (as of 01.12.04).

This situation is one of the reasons on "Uzagromashservice" Association's impossibility of timely pay-back of the credit. The credit amount for acquisition of imported equipment during 1996 – 2000 was 520 million US dollars or 97%. Indebtedness achieved 14.6 million US dollars.

The mean mechanization level of the raw-cotton harvesting all over Republic was 3%. The high tariffs of the mechanized raw-cotton harvesting by the "Case-2022" harvesters compared to the manual cotton picking is one the reasons of such a situation. In 2004 the manual picking per 1 ton of cotton was, on the average, 35 thousand sum, and the tariff of the machine harvesting per one ton of cotton was from 33 up 37 thousand sum.

Apart from the technical centers under the "Uzselkhozmasholding" the local plants-manufacturers have their dealing centers on the sale points, as well as the centers on the service and spare parts provision. Most of such dealers provide the mechanized services as well.

The leasing company "Uzselkhozmasleasing" has the significant position in equipment procurement to the agricultural enterprises on the leasing basis. During the recent three years (2001-2003) the company procured 4315 tractors of different brands. This includes 8 ploughs, 3,629 row-crop and 638 transport tractors. Moreover, during these years 302 cotton harvesters and 1,003 agricultural units of different types were also procured.

Equipment acquisition is funded by the credit by "The Fund of the state promotion of the rural area provision with agricultural equipment" under the Ministry for Finance of the Republic of Uzbekistan (Decree #424 by the Cabinet of Ministers of the Republic of Uzbekistan of October 2, 2004). As of 01.12.2004, the credit allocated by the Fund has been 119.4 billion sum. In general, all credit amount is paid-back on the timely basis.

From year to year, the share of the leasing services for shirkats and farms is growing. If in 2001 the overall amount of the leasing services was 986 million sum, the JS MTP share from this figure was 76 million sum or 8%, shirkats' share was 383 million sum or 39%, farms' share – 26 million sum or 3% and other entities - 501 million sum or 51%, in 2003 the overall amount of the leasing services was 40.990 million sum. The share of the entities from this amount was accordingly the following: JS MTP –

13,172 million sum (32%), shirkats – 20,193 million sum (49%), farms – 6,756 million sum (17%) and others – 868.5 million sum (2%).

The payment of the leasing services is made on the timely basis. However, there is the liability for the leasing of 295 cotton harvesters «Case-2022» purchased by JS MTP during 2000-2002. Overall leasing amount is 10.937 million sum, and the payment was made for 2,394 million sum (22%) of this amount. As of 01.11.2004, JS MTP indebtedness is 8,542 million sum. The payment of 7,495 million sum from this money was postponed by January 1 января 2005 (Minutes #03-12-35 of the Session of the Cabinet of Ministers of the Republic of Uzbekistan).

It is necessary to point out, that on the basis of the Decree #424 by the Cabinet of Ministers of the Republic of Uzbekistan of 02.11.04 «The arrangements on the rural area provision with agricultural equipment on the leasing basis» the leasing transactions are being implemented only for the equipment manufactured by the local plants and joint ventures of “Uzselkhoz mashholding”. Such situation constrains the expansion of the leasing company operation as well as selection of the agricultural production manufacturers.

“UzCasemash” Joint Venture was established in accordance with the Decree #75 by the Cabinet of Ministers of the Republic of Uzbekistan of February 11, 1997.

At present, the cotton harvesters with horizontal spindle “Case-2022” are mainly produced. The level of domestic production of the “Case-2022” unit parts is 40%, which made it possible to reduce the price from 153,550 USD in 1997 to 115,000 USD in 2003, i.e. by 25%. However, the number of the cotton harvesters produced is getting down from year to year. If in 2000 rody 204 cotton harvesters were manufactured, in 2004 rody there were produced only 6 units, and in 2003 no harvesters were produced.

Comparative analysis of the plough tractor prices shows that the price of second-hand equipment of the same brand is half cheap compared to the new one. And this used equipment will serve few more years with its efficiency. Thus, it's reasonable to develop the market of the second-hand equipment and spare parts under the conditions of the farms development, due to their poor financial status.

Currently, the following obstacles are constraining improvement of the agricultural equipment procurement and services development:

- Imperfection of the credit mechanism, soft loan deficit;
- High risk rate of the industry funding;
- Scarcity of privileges in the state credit system and leasing transactions, their insufficient utilization;
- Scarcity of the financial assets of the founders;
- Seasonal fluctuation of agricultural production, relatively low rates of the capital turnover;
- Lack of experience and professional skills of the employees in the service provision;
- Low solvency of the service customers;
- Lack of the state support;
- Low level of the investment attraction to the agrarian sector compared to the other industries;
- Fixed assets deficit, their physical and moral depreciation, etc.

The following can be pointed out as a complement:

1. the monopoly structures keep their dominating position in the sector, due to the small number of competing entities and poor assortment of the services provided;
2. high tariffs for the service provided to some extent limit the possibility of their utilization by the economic entities;
3. lack of the mechanism of the interested motives of institutions to provide the services in terms of the final outputs of the operation of agricultural enterprises' – main service customers;
4. unsatisfactory service level, in terms of the dates and volumes;
5. imperfection of the contractual relationship.

Conclusions and Recommendations

1. To create the free competition in the service sector through the state support, to found the new one-field service agencies regardless the patterns of ownership.
2. To arrange the special training courses on education and capacity building the specialists for the service agencies on the basis of agricultural colleges located directly in the rural regions.
3. To strengthen the technical base of the service agencies through allocation of the targeted long-term soft credits for the fixed assets acquisition.
4. When making eliminations with the product manufacturers, it is necessary to consider the depreciation life of the machinery and tractor stock and apply the varied approach of the cost deduction for depreciation, repair and maintenance.
5. Based on the experience of the developed countries, to develop the system of the technical services by the plants-manufacturers through the dealing networks. This kind of technical service provision allows the farms to improve the quality of equipment repair and maintenance, reduce repair cost, to avoid the numerous agents when provision with equipment and spare parts.

**Dynamics of maintenance of agricultural enterprises by basic types of machinery
in Republic of Uzbekistan in 1991-2003**

Type of Machinery	Maintenance in computation to 1,000 ha*													2003 г. по сравнению с 1991 годом, %
	Normative	1991		1993		1995		1997		1999		2003		
		Actual	Compared to normative, %	Actual	Compared to normative, %	Actual	Compared to normative, %	Actual	Compared to normative, %	Actual	По сравнению с нормативом, %	Фактически	По сравнению с нормативом, %	
Tractors*, all types	44.7	56.8	127.1	50.4	112.7	42.4	95.0	37.1	83.0	29.9	67.0	26.0	58.2	45.7
Grain harvesters	3.7	7.9	213.5	5.9	159.5	5.3	143.2	5.3	143.2	4.4	119.0	4.2	114.0	53.1
Forage harvesters	15.5	11.0	70.9	18.5	119.4	14.7	95.0	14.6	94.2	8.2	53.0	3.6	23.5	32.7
Cotton combines	21.9	19.0	86.7	17.8	81.3	12.2	55.7	8.5	38.8	2.6	11.9	1.1	5.3	5.7
Ploughs*	11.1	12.0	108.1	11.5	103.6	8.7	78.4	7.0	63.1	5.1	46.0	3.3	30.3	27.5
Cultivators	17.5	16.4	93.7	17.4	99.4	17.0	97.1	20.1	114.8	16.9	96.6	14.2	81.2	86.5
Cotton planters	17.2	14.2	82.5	14.0	81.4	12.8	74.4	12.7	73.8	12.7	73.8	12.2	70.9	85.9
Grain planters	4.7	4.1	87.2	2.7	57.4	1.8	38.3	2.0	42.5	2.0	42.5	2.0	43.1	48.7

* Maintenance of all types of tractors and ploughs in calculation per 1,000 ha of arable land, the rest equipment for plating of crops

Source: State Committee for Statistics of Republic of Uzbekistan

Appendix 2.

Dynamics of renovation of main types of agricultural machinery in 1975-2003

Type of machinery	1975			1980			1998			2001			2003		
	Available th. pcs.	Received th.	%	Available th. pcs.	Received th.	%	Available th. pcs.	Received th.	%	Available th. pcs.	Поступило тыс шт.	%	Наличие тыс. шт.	Поступило тыс шт.	%
Tractors, all types	145.2	18.4	12.6	157.3	17.3	10.9	164.7	9.6	5.8	120.7	8.1	6.7	101.9	10.6	10.4
Cotton harvesting	28.4	4.7	16.5	36.3	5.5	15.1	1.8	0.068	3.7	4.0	0.3	7.5	1.8	0.2	11.1
Grain harvesting	6.8	1.0	14.7	8.5	1.5	17.6	10.5	1.4	13.3	7.5	0.8	10.6	6.4	0.5	7.8
Trucks	46.1	7.5	16.2	52.6	6.7	12.7	44.3	1.9	4.2	38.3	1.5	3.9	32.3	2.2	6.8
Ploughs	31.3	5.8	18.5	35.4	8.1	22.8	26.4	1.2	4.5	16.7	1.1	6.5	12.5	1.2	9.6
Cultivators	51.0	11.9	23.3	50.3	11.3	22.4	33.5	1.4	4.2	26.9	1.6	5.9	24.6	3.2	13.0

Source: State Committee for Statistics of Republic of Uzbekistan

Appendix 3.

Dynamics of mechanisation level in cotton growing in Uzbekistan 1990-2003 (%)

	Years													
	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Total mechanisation level in raw cotton production	-	-	-	-	-	59.4	65.0	63.2	57.0	53.9	51.2	50.6	48.7	46.4
Total mechanisation level in raw cotton harvesting(cotton harvesting without bolly cotton)	57.1	56.2	41.0	28.0	21.5	13.2	5.6	3.8	3.1	3.5	2.7	4.2	3.7	3.4

Source: State Committee for Statistics of Republic of Uzbekistan

Appendix 4

Comparative analyses of service costs of JS company MTP, and alternative MTP (Ulugnar rayon of Andijan region)

Type of work	Service prices, sum/ha		Alternative MTP compared to JS MTP	
	JS MTP	Alternative MTP	Balance (+,-)	%
Ploughing	21,748	15,964	-5,781	73
Harrowing	5,002	850	-4,152	16.9
Chizelling	9,114	2,347	-6,762	25.7
Sub-soil tilling	5,002	699	-4,303	13.9
Disking	8,560	1,782	-6,778	20.8

Data: Alternative MTP of Ulugnar rayon of Andijan region

Appendix 5

Comparative analyses of cost of new and used ploughing tractors (2004)

Type of Tractor	Price in USD		Average productivity in a shift at ploughing, ha	Used tractor in relation to new, %
	New	Used		
«Magnum 7.240»	155,170	80,000	10	51.5
T-4 A	25,000	12,000	3	48.0
BT –150 (DT-75)	27,000	14,000	4	51.8

Data: Association «Uzagromachservice»

Appendix 6

Level of paymentst and services JSC MTP by producers in 2001-2004 (mln. sum)

	2001			2002			2003.			2004 (December)		
	Executed	Paid	%	Execute d	Paid	%	Execute d	Paid	%	Executed	Paid	%

Cost of executed work, mln.sum	62,048.8	25,706.6	41.4	91,978.3	65,505.1	71.2	100,797. 0	86,005 .0	85.3	89,726.0	70,202.0	78. 2
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Data: Association «Uzagromachservice»

Appendix 7

Return of credits for foreign machinery In Association «Uzagromachservice» as of 01.10.2004 (Mln.USD)

Total bought foreign machinery in 1996-2000	Paid as of 01.10.2004	Debt as of 01.10.2004	Return rate %
520.4	505.8	14.7	97.2

Data: Association «Uzagromachservice»

Appendix 8

Payment level for cotton harvesters bought on leasing in 2000-2001, (Mln.sum)

Total Leasing payments for 295 pcs. «Case-2022»	Paid	Payment level, %	Debt
10,936.8	2,394.2	21.9	8,542.6

Data: Association «Uzagromachservice»

Appendix 9

Dynamics of leasing service's volumes by various types of farms in 2001-2003

Years	Total leasing services		Out of which							
			JSC MTP		Shirkat farms		Farms		Other	
	mln.s um	%	mln.s um	%	mln.s um	%	mln.s um	%	mln.s um	%
2001	985.6	100.0	75.6	7.7	382.8	38.8	25.9	2.6	501.3	50.9
2001	30,711.6	100.0	11,753.2	38.3	13,850.0	45.1	4,973.0	16.2	135.3	0.4
2003	40,990.2	100.0	13,171.8	32.1	20,193.2	49.3	6,756.6	16.5	868.5	2.1

Data: «Uzselkhozmasleasing»

Agricultural Sector Review and Planning

Policy Note 13: Slow Progress in Privatization of Agroprocessing Industries

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Overview of the Privatization Process

When Uzbekistan became independence in 1991, almost all enterprises were government owned. Since then particular attention has been paid to the development of legal and regulatory environment for privatization and private property. However, the legal and regulatory environment, while important, is insufficient to ensure progress in the privatization of state enterprises. Much more is needed in order to implement the privatization program including:

- Set up a clear direction and political support for the privatization process;
- Adopt a special program to set up efficient the privatization steps;
- Establish efficient institutions to analyze and to monitor the privatization process.
- Development of private enterprise could be realized either through buying state properties in auctions and competitions or through the development of entrepreneurship and individual business start ups. In any case, according to official statistics, about 76% of GDP 2004 is generated by the private sector.

The goals of the privatization program for 2003 and 2004 were established as follows:

- Increase the role of the private sector and diminish the share of the state through transfer of state-owned enterprises to the private sector;
- Improve management of privatized enterprises; and
- Restrict interference by associations and local authorities into corporate management.

About 66% of all enterprises were privatized in 1992-1993 during the period known as "small privatization". Nearly all retail trade, consumer services, light and food industry, construction, and a number of other sectors have been privatized during that period.

Privatization of large-scale enterprises in strategic industries is continuing in a more deliberate manner on a project by project basis³. According to the resolution of the Cabinet of Ministers of April 17, 2003, №185, in 2,036 enterprises the state share was to be fully divested; in 683 enterprises the state share was to be retained at 25%; and in 644 enterprises 51% of the state share was to be retained. At this time, this goal is almost realized.

The above mentioned Government resolution had a positive effect on speeding up of the privatization process and attracting foreign investments. Although still tiny, the share of foreign investors and foreign investments on the stock market of Uzbekistan has increased somewhat from a very low base. In 2003 foreign investors accounted for about 70% of shares of privatized enterprises on the primary stock market, exceeding this indicator for 2002 by 43 points. The volume of transactions with foreign investors grew more than seven times. The number of enterprises whose assets were sold to foreign investors increased 1.8 times over the same period⁴.

³ Berkinov B.B. "The Conditions and Directions of the Development of the Denationalization and Privatization Process in the Republic of Uzbekistan," Uzbekistan Economy, Sep. 2004: 76.

⁴ Berkinov B.B. "The Conditions and Directions of the Development of the Denationalization and Privatization Process in the Republic of Uzbekistan," Uzbekistan Economy, Sep. 2004: 77.

Proceeds from privatization have become an important source of government budget. Total proceeds from the sale of state property amounted to about 74.7 billion Soum in 2003, and 52.8 billion Soum in the first half of 2004. At the same time, the share of foreign investors in the total volume of transactions for the sale of privatized enterprises' shares has increased from 70% to 75% respectively⁵. Pecuniary gains from privatization have enabled solutions of a number of financial, social, and ecological problems.

Success of all economic transformation in Uzbekistan directly depends on the effectiveness of the agrarian sector's development, because 27% of Uzbekistan's GDP (2004 statistics) comes from agriculture and 63% of its population live and work in rural areas.

Basic economic theory suggests private sector development plays a key role in any country's general economic development. Therefore privatization in agriculture and agroprocessing positively affects the economic growth and living standards of the population.

Lack of Progress in the Privatization of Cotton Processing

The cotton processing and marketing industry remains in Government hands. The Government buys the entire production of raw cotton from shirkats and family farms at prices set by the Ministry of Finance.

Raw cotton is processed exclusively by enterprises belonging to Uzhlopkoprom, a Government monopoly. According to 2004 statistics, Uzhlopkoprom consists of 182 enterprises: 151 stock companies (83%), 1 private (0.5%), 1 joint venture (0.5%) and 28 other forms of property (16%). The government's share in stock companies is between 25-51%. About 80% of processed cotton is exported by the Government, the rest is used by local textile industry exclusively marketed through "Uzbekengilsanoat" and some independent enterprises, including those belonging to "Mahalliy sanoat."

Cotton seed as a byproduct of cotton processing is used in part as seed for next year planting, in a much larger part for processing into cotton oil. Cotton seed oil processing is an exclusive domain of enterprises belonging to "Maslozhirtabakprom," a government monopoly.

Cotton used for local textile industry through "Uzbekengilsanoat" consists of 127 enterprises: 66 stock companies (52%), 4 private (3%), 39 joint ventures (31%) and 18 other forms of property (14%). In addition, there are 556 enterprises (including independent enterprises and those which belong to local branches of "Mahalliy sanoat") dealing with cotton fiber processing: 12 stock companies (the state holds shares in only 11 of them, 2%), 319 private (57%), 64 joint ventures (12%) and 161 other forms of property (29%).

Cotton seed destined for oil processing is called technical cotton seed. Technical cotton seed is processed exclusively by "Maslozhirtabakprom". According to 2004 statistics, it has 64 enterprises: 22 stock companies (34%), 22 private (34%), 19 joint ventures (30%), one other form of property (2%).

Cotton fiber of domestic producers is sold either directly for hard currency only by Government and enterprises with special permission or for national currency domestically. About 124 thousand tons of cotton fiber marketed by domestic enterprises for national currency was sold through Tashkent Commodity Exchange (birzha) in 2004.

⁵ Yaushev R.I. "State Property Management in the Corporate Sector of the Economy of Uzbekistan," *Uzbekistan Economy*, Dec. 2004: 100.

Most important equipment and parts for the enterprises of “Uzhlopkoprom” are imported from abroad and are financed by proceedings from cotton fiber export.

Direct foreign investment participation in the cotton processing and marketing cotton and grain processing sectors is negligible. The main reason is that foreign investors are prohibited by the government to sell their products made out of cotton and grain themselves.

Some Progress in the Privatization of Grain Processing

Grain is processed mainly by enterprises of “Uzhleboprodukt”, a government monopoly. According to 2004 statistics, it has 57 enterprises: 45 stock companies (79%), 4 private (7%), 3 joint ventures (5%), 5 other forms of property (9%).

In addition, there are a rather large number of small private enterprises dealing with grain processing. According to 2004 statistics, there are 407 such enterprises: 4 stock companies (1%), 327 private (80%), 32 joint ventures (8%), and 44 other forms of property (11%). So far wheat is not sold on the Tashkent Commodity Exchange.

Direct foreign investment participation in grain processing is negligible. The main reason is that foreign investors cannot sell their products made out of cotton and grain themselves.

Privatization in Canning and Wine Processing Industries

Canning and wine processing is mainly the domain of “Uzplodoovoshvinprom,” a Government conglomerate.

Total number of canning enterprises is 25: 12 stock companies (48%), 3 private (12%), 10 joint ventures (40%).

There are 56 wine processing enterprises: 27 stock companies (48%), 1 private (2%), 15 joint ventures (27%), 13 other forms of properties (23%).

In addition seven canning and wine processing belong to the Ministry of Agriculture and Water Resources (MAWR): one joint venture (14%), 6 other forms of property (86%).

In addition, there are 343 of small independent enterprises specializing in fruit and vegetable processing including: 219 private (64%), 49 joint ventures (14%), 75 other forms of property (22%).

Example of a Successful Privatization

“Yangi Toshkent konserva” was established in October 1994 with state participation. The state ownerships stake was fully divested in 2003. Now fully private, Yangi specializes in canning with revenue of 432.26 million Soum in 2004, an increase of 100% compared to 2003. It produced consumer products for 499.66 million Soum in 2004, an increase of 100% compared to 2003.

Conclusions and Recommendations

The Resolution of Cabinet of Ministers from the 17th of April, 2003, №185, directs that all stock companies be divided into three groups as follows:

- Stock companies' state share is fully sold;
- Stock companies' state share is kept 25%; and
- Stock companies' state share is keep 51%.

Currently, there are 1,824 agri-industrial stock companies with 217 (12%) with state share. Another 19 stock companies of “Maslozhirtabakprom”, 45 stock companies of “Uzhleboprodukt”, and 11 stock companies of “Mahalliy sanoat” have 25% of state

share. According to Resolution №185, state share in 11 stock companies of “Mahalliy sanoat” will be sold very soon.

Another 142 stock companies of “Uzhlopkoprom” have 51% of state share and their privatization plans are yet to be announced.

In many cases certain mistakes in the privatization process prevented the realization of the full benefits of expected higher efficiency. The main reasons include:

- Complexities in the valuation and sale of state assets;
- Inexperienced corporate management;
- Complexities of relationships between partial state ownership and corporate management;
- Absolute majority of authorized shares held by government dampened attractiveness for foreign investors;
- Complexities of the corporate tax system;
- Absence of secondary capital market; and
- Government resistance to even partial foreign control of cotton and grain processing.⁶

Progress in the privatization of agri-complex enterprises is important for the overall economic development of the country. Demonopolization and privatization is likely to lead to increased competition, reduced cost of processing, and overall substantial gains in economic efficiency.

Progress in privatization could be expedited by the following measures:

- Improvement of the legislative and institutional framework for privatization;
- Development of secondary capital market;
- Promotion of the Tashkent Commodity Exchange for marketing agricultural commodities and as the main point of price formation;
- Permit foreign investors/traders to handle cotton and grain;
- Limit cotton, grain and cotton purchases by Government monopolies; and
- Permit foreign investors to acquire a controlling share in privatization of state enterprises.

⁶ Berkinov B.B. “The Conditions and Directions of the Development of the Denationalization and Privatization Process in the Republic of Uzbekistan,” Uzbekistan Economy, Sep. 2004: 79.

Agricultural Sector Review and Planning

Policy Note 14: Agricultural Credit

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Introduction

Historically, the agriculture has played a significant role in ensuring economic and social stability. Its condition predetermines opportunities for improving the well being of people, absence of deficit in economy and a consumer market balance. This branch has a priority value throughout the spheres of material and non-material production.

The agricultural sector accounts for 30% of Gross Domestic Product, the greater share of foreign currency earnings; at the same time, it employs 53% of the total workforce (63% of the population of Uzbekistan lives in the countryside). The agricultural sector, delivering foodstuffs to the population, is the major source of raw material for the majority of sectors of economy. It provides 90% of domestic production of foodstuffs and 70% of commodity circulation.

The industry of Uzbekistan substantially depends on agriculture. Special dependence is revealed in industries, such as processing of cotton, meat, milk, wool, karakul (astrakhan fur), silk cocoons, raw stock, and also in branches of mechanical engineering and agricultural chemistry which, in turn, depend on domestic market of agricultural sector.

In this connection, major significance is attached and great attention is paid to effective development of agriculture, increase of its efficiency and introduction of modern methods of management, development of farmer movement.

The major task of development of agriculture is the resolution of issues of financing of agricultural enterprises and farms. In the process of implementation of economic reforms issues of financing, crediting and support of an agricultural commodity producer need special attention. In this direction, a number of Governmental resolutions on banking system reform have been adopted in the Republic of Uzbekistan. On the basis of former "Agroprombank" three commercial banks - "Pahta Bank", "Galla Bank", "Mevasabsovotbank" (which was later merged with "Savdogarbank") have been created. Besides with a view of providing water-economic enterprises with financial resources "Turonbank", while for financing of dehkan (peasant) and farmers, small and medium sized enterprises - "Tadbirkorbank" and "Zaminbank" have been created.

In the light of growth of number of farming enterprises, mini-banks, which are ought to provide fast and effective financing of farmers and other private entrepreneurs, have been organized universally.

With a view of improvement of the financial situation in agriculture, Governmental resolutions attract financial resources of "World Bank for Reconstruction and Development", "Asian Development Bank" and investment of other financial institutions.

During transition to market economy with a view of maintenance of agricultural commodity producers with financial resources alongside with banks trust funds have been formed. The following are among them:

- "Fund for support of dehkan (peasant) and farming enterprises", formed by a Decree № 486 of Cabinet of Ministers of the Republic of Uzbekistan, dated 25 October 1995;
- "Business – Fund" formed in accordance with the Decree of the President of the Republic of Uzbekistan, dated 26 July 1995, "On formation of Fund for support of private entrepreneurship and small business". At the end of 2003, resources and tasks for support of development of private entrepreneurship and small business, assigned to the given Fund, with a Decree № 563 of the President of the Republic of Uzbekistan, dated 24

December 2003, are transferred to joint-stock-commercial bank "Turonbank".

With an aim of state support for agricultural commodity producers and financing of expenses for production of basic kinds of agricultural products (grain and raw cotton), the Decree № PF-2165 of the President of the Republic Uzbekistan, dated 31 December 1998, created the "Fund for payments for agricultural products purchased for state needs", attached to the Ministry of Finance.

For further perfection of the mechanism of supply of financial resources to farming entities involved in manufacturing products, sold through state purchases, the Resolution № 383 of the Cabinet of Ministers dated 7 November, 2002 introduced the mechanism of crediting through commercial banks instead of advancing expenses (by farming enterprises) through procurement organizations.

Also with a view of support of agricultural commodity producers the "Fund of state support of agriculture on supply with agricultural machinery " is created.

Moreover, state support to agriculture is provided with establishment of a mode of preferential crediting, establishment of prices for certain kinds of maintenance resources and services with exemption of VAT payment, establishment of extra purchasing charges of raw cotton, produced over forecasted volumes.

Financing of agriculture through trust funds and commercial banks

1,784 shirkats, 87,552 farming and 1,537 of other types of agricultural enterprises that have area under crop were operating in Uzbekistan (according to statistical bulletin).

The main agricultural crops were sown in 2003 on the area of 3,369.16 thousand hectares, (6 kinds of crops), including in shirkats on 1,767.9 thousand hectares, and in farms on 1,495.5 thousand hectares, whereas in 2004 on 3,288.1 thousand hectares in total, in shirkats on 1,347.3 thousand hectares and on 1,613.3 thousand hectares on farms.

For production of crops on all specified fields, it was necessary to involve financial resources at the payment rate of 1,119.7 billion sum in 2003, and – 1,330.7 billion sum in 2004.

Sources of financing of these expenses are own means of agricultural commodity producers, advance payments of consumers of agricultural products, resources of trust funds and bank credits.

From the analysis of financial results of shirkat enterprises of the system of the Ministry of Agriculture and Water Management, it is visible, that in 2002, 707 out of 1716 enterprises have completed their activity at a loss for the sum of 76.0 billion sum, and 1009 enterprises with a profit of 28.1 billion sum; on the whole the year has been completed at a loss of 47.9 billion sum.

According to statistics bodies, 2098 enterprises were producing agricultural products as a whole in the Republic in 2003. Profitable enterprises have generated profit for the sum of 65.21 billion sum, and losses of unprofitable facilities have constituted 72.16 billion sum; on the whole the year has been completed at a loss of 6.96 billion sum.

The activity of 1739 shirkat enterprises is identified as follows: profitable enterprises the activity has been completed with a profit of 56.7 billion sums, whereas in unprofitable – at a loss of 71.3 billion sums; on the whole the year has been completed at a loss of 14.6 billion sum.

At such financial results, agricultural commodity producers practically didn't have private means for crop financing in 2004, whereas the profit of certain profitable enterprises provided need of only 3.5-4% for financial resources.

Under such financial condition of agricultural commodity producers, trust funds and credits of the banks remain to be the main sources of financing.

In 2003, expenses for agricultural commodity production, purchased for the state needs, were in the form of advance payment for cotton at the amount of 60%, and for grain at the amount of 56% of the cost of factually purchased products. In 2004 payments for cotton were at the rate of 58%, and 54% for grain.

The resources received by enterprises within calendar year for grain and cotton, sold for the state needs, provide the need for payment of basic expenses of 6 kinds of products totaling 70-75%; and 20-25% of expenses should be financed through credits of banks and other sources.

Presence of credit liabilities of agricultural commodity producers (shirkat enterprises of the Ministry of Agriculture and Water Management account for 299.3 billion sum as of 1 January 2004, and 335.1 billion sum as of 1 October 2004) against service industries characterizes their financial situation and is the result of insufficiency, as well as inaccessibility of credits and other alternative sources of financing for forming turnover resources.

Resources of the Fund (for payments for agricultural products, purchased for state needs) formed in accordance with Decree of the President of the Republic of Uzbekistan dated 31 December 1998, are allocated in the form of advance payment of financial resources to agricultural commodity producers for production of raw cotton, grain and rice within the range of state purchases.

Advance and regular payments for given agricultural products are completed by the Fund through financial agents (commercial banks), which direct the funds to the commercial agents of the Fund ("Uzkhlopkoprom" and "Uzkhleboprodukt" enterprises) on the basis of payments and trilateral General agreements.

Financial resources, accumulated at bank accounts of commercial agents, are allocated to agricultural commodity producers based on expense norms foreseen by technological charts.

With a view of making an advance payment to agricultural commodity producers, funds are allocated in the amount of 50% of the cost of contracting agreement by certain trust fund tranches prior to harvesting. Tranche funds, accumulated at special trust fund accounts for advance payments for agricultural products, are used in accordance with regulation, established by the Ministry of Finance in concordance with Central Bank for: paying wages and related payments, pressing needs, fuel, chemical fertilizers and pesticides, agricultural machinery and spare parts, electricity, gas, fees to National Joint-Stock Insurance Company "Uzagrosugurta", and also clearing of credit liabilities before other suppliers, based on established limits and standard costs. Unused part of the advance payment remains on special trust fund accounts at the disposal of enterprises, and is utilized henceforth for above-mentioned purposes.

The tasks of advance payments

Advance payment to all agricultural commodity producers, who have signed an agreement with commercial agents of the Fund ("Uzkhlopkoprom" and "Uzkhleboprodukt" enterprises) for supply of products for state needs, is fulfilled in accordance with "Procedure for making advance payments for grain, rice from financial resources of the Fund, for paying for agricultural products, purchased for state needs".

Given Procedure was registered by the Ministry of Justice of the Republic of Uzbekistan, № 656 dated 1 March 1999 (changes and additions № 656-2 dated 31 January 2002) and “Regulation for procedures of advance and regular payments with producers of raw cotton, from resources of the Fund for payments for agricultural products, purchased for state needs”, registered as № 1062 on 15 August 2001 by the Ministry of Justice of the Republic of Uzbekistan.

The above mentioned procedure is an effective mechanism of advance payment with decreasing debts of agricultural enterprises before suppliers of inventories (services), when unprofitable and low profit enterprises account for the main part of sown fields and produced commodities. These enterprises are managed by large state, collective and other structures, which are not direct owners and not interested in final financial results. They strive for achieving production figures, by incurring unjustified material, labour and financial expenses. As a result of program activities lead by the Government on readjustment and restructuring of unprofitable and low profit shirkat enterprises, on development of farming enterprises, efficiency of the existing mechanism of advance payments is being reduced.

The farming enterprises formed on competitive (tender) basis, instead of unprofitable and low profit enterprises going through reorganization invest their own resources into production and find possible alternative variants on purchasing cheap resources and services.

The increase in profitable enterprises and growth of a number of farmers is accompanied by reduction of expenses in enterprises, liquidation of credit liabilities to certain suppliers of inventories and services. In the regard such shirkat and farming enterprises can not fulfill the conditions of tranches of the Fund, since received trust fund resources are not allowed to be utilized for other purposes and accounts are frozen. At the same time, enterprises have unliquidated debts before other suppliers and it loses possibility of purchasing material resources and services, which are necessary for carrying out required agricultural-technical activities in corresponding terms.

In conditions of reduction of effectiveness of the mechanism of advance payments, connected with a change of the structure of agricultural commodity producers, a new mechanism for advance payments for production expenses for state needs, that meets the requirements of the new structure and market principles is necessary.

In this connection, in accordance with Decree № 383 dated 7 November 2003 of the Cabinet of Ministers, as an experiment beginning from 2003, a new mechanism of crediting through commercial banks, that replaced the system of advance payments for the expenses of farming enterprises, was introduced.

The tasks of crediting

For implementation of the given mechanism, “Regulation of procedure of crediting expenses of farming enterprises for production of grain-crops and raw cotton, purchased for state needs by commercial banks” № 1295 was developed and registered by the Ministry of Justice on 6 January 2004.

The given Regulation foresees application of the mechanism of crediting for farming enterprises, beginning from:

2003 – in Bukhara, Namangan, Fergana, Khorezm regions;

2004 – in Andijan, Jizzak, Navoi, Samarkand regions;

2005 – in the Republic of Karakalpakstan, Kashkadarya, Syrdarya and Tashkent regions.

In accordance with this mechanism, commercial banks issue credits based on the agreements concluded between farmers and “Uzkhlopkoprom” and “Uzkhleboprodukt” enterprises, which are product suppliers for state purposes, in the amount of up to 50% of the cost of products, indicated in the agreement for the following purposes:

1. for paying wages and allocation from the Fund of remuneration of labour;
2. for acquisition of chemical fertilizers, pesticides, fuel, sowing pellicle for cotton plants, spare parts for agricultural machinery;
3. Machinery depot services, agricultural machinery leasing payments, for electricity, collecting-drainage system and payment of a uniform ground tax.

For receiving credit, the farmer addresses the servicing bank with a written request, by attaching: contracting agreement (prior to sowing), concluded with supplier organization; business plan, certified by tax authorities; balance sheet for the last reporting date; information on debit and credit liabilities; revision statement on overdue (more than 90 days) debts and report on financial condition.

The risk of repayment of the credit is insured by bodies of “Uzagrosugurta” at the expense of fees of the commercial bank in the amount of 1.25% from the total credit sum.

In 2003, contracting agreements with 10,510 farming enterprises have been concluded for supply of 203.5 thousand tones of grain, and with 11,544 farmers on supply of 350.4 thousand tones of raw cotton, in Bukhara, Namangan, Fergana and Khorezm regions that switched to the mechanism of crediting by banks in 2003.

Out of the total number of farmers, who have signed contracting agreements and addressed the servicing banks with formal requests for issuing credit for the expenses of the future harvest in grain-crops 4,997 or 48% of enterprises, and in cotton-growing 9,453 or 85%. Funds for crediting worth 17,223 million sum, including for expenses of raw cotton 15,371.8 million sum and grain-crops 1,851.3 million sum, were allocated to farms under preferential rates of 5% per annum.

The rest of the farming enterprises (in grain-crops 5513 and in cotton-growing 2135) financed expenses for commodity production with their own resources and alternative sources, at an estimated of 15,985.4 million sum, that accounts for 48% of the total expenses.

In 2004, out of 31,502 farming enterprises, that signed agreements on supply of raw cotton for state purposes and 33,157 farmers on supply of grain, 24,675 farming enterprises and 11,190 farmers correspondingly, addressed the servicing banks for receiving credit for the expenses of the future harvest. They were issued 68,824.9 million sum.

The rest of the farming enterprises financed expenses for commodity production with their own resources and alternative sources, at an estimated of 37,656.6 million sum, or 35% of the total expenses, incurred prior to harvesting.

Crediting of agricultural commodity producers by commercial banks through financial means of “Business-Fund” and “Fund for support of dehkan (peasant) and farming enterprises” for turnover resources, including financing of expenses of the future harvest, commodity production that is not purchased for state needs and for investments for all enterprises is made in generally established procedure irrespective of ownership type.

For receiving a credit, agricultural commodity producer must appeal to the servicing bank with a formal request, and attach the following documents:

1. Stock of orders of the credit;
2. Business-plan;
3. Balance sheet for the last reporting date, accepted by tax authorities and information on debit and credit liabilities with attached revision statement on debts, with expired 90 days;
4. Report on financial condition;
5. Information on participation with own capital in activity of other enterprises;
6. Information on advance payments (loans), received from other creditors and spare money, kept in other banks.

Credit is issued to those enterprises that ensure high level of guarantee (liquidity) of the credit and that possess factual valuables for pledging. Any property, valuable and others, identified by the "Law on pledges" of the Republic of Uzbekistan and insured at the expense of pledge provider. At the same time, the cost of the property, valuables and other property rights, put forward as a guarantee of repayment, must constitute not less than 120% of the amount of the issued credit.

Besides, while insuring risk of repayment of the credit, insurance policy can be accepted, but at the same time the insurance premium can not be paid for at the expense of the issued credit.

Crediting by financial institutions

In 2003, "Pahta-Bank" that serves the principal part of agricultural commodity producers, financed the following:

Dehkan (peasant) and farming enterprises for strengthening inventories and development of production on processing of agricultural products worth of 6.5 billion sum, including 5.3 billion sum – the resources of the bank and 1.2 billion sum resources of off-budget Funds. Besides, farming and other agricultural enterprises were issued credits at preferential rates worth 7.9 billion sum in total, 3.0 billion sum out of which were issued to farming enterprises. For this purposed, the financial resources of the "Business Fund" in the amount of 1.3 billion sums and resources of the "Fund for support of dehkan (peasant) and farming enterprises" in the amount of 486 million sum have been utilized; 65% of these funds were issued to newly organized farming enterprises for formation of turnover capital and initiate production; 789 shirkat (cooperative) enterprises in the amount of 9.3 billion sum, out which 77% were spent on acquisition of spare parts, 9% on seeds, and 14% on chemical fertilizers and other needs. In 2003, agricultural commodity producers acquired 195 units of agricultural machinery worth 1.5 billion sum, by drawing credits of "Pahta Bank", on leasing conditions.

As of 1 October 2004, start-up capital of dehkan (peasant) and farming enterprises was formed with the resources of the "Fund for support of dehkan (peasant) and farming enterprises" in the amount of 201.6 million sum. The soft credits of this fund, put into turnover of enterprises, amounted in 504.5 million sum, out of which 199.1 million sum were used on purchase of agricultural machinery.

Analysis of need of agricultural commodity producers in financial resources for production of primary types of agricultural products and availability of a large sum in debit liabilities, testifies about inadequacy of the market of credit resources of commercial banks and other financial institutions. Such situation gives rise to necessity to attract foreign creditors and loans and alternative sources of financing.

At present, agricultural commodity producers have access to foreign credit resources, attracted by the Government in agricultural sector and in projects carried

out in cooperation with “World Bank for Reconstruction and Development”, “Asian Development Bank” and other financial institutions. These resources are obviously not sufficient and purposeful activity is necessary in this direction.

In the process of development of farming enterprises and increase in their number through reorganization of low profit and unprofitable enterprises, the necessity to serve them requires expansion of the network of servicing banks, supply of information, consulting and other structures.

In 2004, for servicing newly formed farming enterprises: 191 mini-banks, 244 fuel stations, 197 chemical fertilizer and pesticide sale stations, 275 alternative machinery depots, 235 associations of water consumers were formed.

As of 1 October 2004, the following self-financing structures for serving farming enterprises have been formed in the Republic: 442 mini-banks, 514 fuel stations, 471 chemical fertilizer and pesticide sale stations, 579 – alternative machinery depots, 516 – associations of water consumers (financed through fees paid by farming enterprises) and other servicing structures.

Resolution of financing issues

Direct subsidizing of production of certain types of commodities is not foreseen by current legislation.

State support for agricultural commodity producers is completed through mechanisms of pricing on supplied inventories (services), budgetary financing of water supply expenses and preferential taxation.

The following mechanism of indirect subsidizing of agricultural commodity producers is applied:

1. In accordance with Tax Code and other legislative acts, VAT is excluded from the price of chemical fertilizers, fuel and services of machinery depots. Thus the price is decreased by 20%.
2. All agricultural products are freed from added value tax, which stimulates its successful sale at market prices. The sum of such benefits in 2002 for six primary products was estimated at 141.7 billion sum, and in 189.8 billion sum in 2003.
3. Starting with 2003 harvest, a 20% increase in the purchasing price of raw cotton, grown above the predicted volumes was introduced.
4. Budgetary financing of water supply organizations and free supply of irrigation water to agricultural commodity producers is carried out. In 2002 147.7 billion sum, and 192.9 billion sum in 2003, were allocated from state budget for management structure maintenance and covering expenses of waterworks facilities and collecting-drainage system between enterprises.
5. New land cultivation and soil reclamation is financed from state budget. The budget expenses for this purposes constituted 12.8 million sum in 2002, and 2.6 million sum in 2003.
6. Farming enterprises are freed from paying ground tax for the period of 2 years, from the time of state registration and for the period of 5 years on newly cultivated and irrigated lands, and land in melioration stage.

The total sum of all above-mentioned benefits (with an exception of points 2 and 6) was estimated at payment 199.9 billion sum in 2002 and 239.6 billion sum in 2003. This fact made it possible to reduce expenses by 56.5-63.2 thousand sum per each hectare.

Beginning from 1999, the agricultural enterprises have been paying uniform ground tax, which was introduced instead of the VAT, the excise tax (with an exception of alcoholic products), the ecological tax, the tax for utilization of water resources, the tax for using bowels, the property tax, the ground tax, infrastructure tax and other local taxes and dues.

Introduction of uniform ground tax payment simplifies accounting and reporting in agriculture, and since the sum of the tax is not concerned with revenues of the producer, conditions for acquisition of additional profit through increase in production and reduction of expenses are established.

Calculation of uniform ground tax is carried out based on the following figures:

1. Area under crop;
2. Type and class (yield class) of irrigated land;
3. Basic rates of uniform ground tax (fixed in the Republic of Karakalpakstan and the regions based on irrigated estates, administrative regions and cities taking into account the correction factor).

Calculation and payment of uniform ground tax is regulated by an instruction "On procedure of computation and payment of uniform ground tax by agricultural commodity producers", approved by the Ministry of Finance and State Tax Committee.

The Instruction was registered by the Ministry of Justice on 5 March 2002, with the registration number № 1102 (until 2002, instruction had the following registration number № 609, dated 22 January 1999). The above stated acting procedure of computation of the tax is a difficult mechanism, since every enterprise has several types and classes of land. At the same time, basic rates and correction factor, which takes into account the differences between regions has to be applied.

At the same time, the tax amount, paid by one enterprise per 1 hectare doesn't have a significant deviation from the amount of tax paid by another enterprise. The tax has been set taking into consideration the class of the land, while the tax rate and correction factor take into account peculiarities of the region. The tax amount in all enterprises for the current year, increases by coefficient of increase in basic rate against the rate of the previous year.

From 2004 as an experiment, the uniform ground tax in Samarkand and Tashkent regions, was identified based on normative cost of agricultural estates.

"Temporary regulation on computation procedure and uniform ground tax payment of agricultural commodity producers in Samarkand and Tashkent regions" was registered by the Ministry of Justice, №1324 dated 15 March 2004. The matter of uniform ground taxation is normative cost of agricultural estates and lands, occupied by public construction, identified by State Committee on Land Resources, Geodesy, Cartography and State Cadastre in cooperation with State Tax Committee.

This mechanism is a simpler mechanism of calculation of uniform ground tax than the existing procedure.

The fault of this mechanism, in our opinion, is incompleteness of the principle of identification of normative land cost. When calculating the normative land cost, the land class, the estate type, the sown area and productivity per each crop, the price per each product, based on the prices on markets of the region (grain and cotton by established purchasing prices), and other criteria is taken into consideration.

Under such approach, the type of agricultural crops, productivity and price formed at regional markets, significantly effects calculation of normative land cost. Normative

cost in enterprises that are located in the same region and have the same land area with equal class can be 1.5-2 times higher or lower.

For instance, one of the enterprises is conducting land treatment activities in a timely manner, collecting good harvest, and is located close to the market, where prices for agricultural products are high – has a higher normative land cost, than the other enterprise with similar environmental condition, but due to land mistreatment has a small harvest, and sells his products at a market with relatively low prices. These enterprises have land of identical class and similar environmental condition, but will pay taxes of different amount.

The forthcoming years these enterprises, through paying ground tax based on normative land cost, in conditions of structural change in sown area, productivity and state of the market, will have different financial results, because normative land cost is not accordingly adjusted, taking into account the above mentioned changes.

Problems of agricultural commodity producers related to financing

The majority of agricultural commodity producers, after having made spending foreseen by norms of technological charts for production of agricultural commodities, as a result of objective and subjective factors collect small harvest and don't have possibilities for forming turnover resources that remain at their disposal and are sufficient for financing commodity production.

1. Due to financial condition, and lack of possibilities for attracting credits under conditions of the commercial banks, the primary consumers of these products (processing, supply and other enterprises) do not conclude contracting agreements for advance payment of future harvest production.
2. The majority of commercial banks, serving agricultural commodity producers, do not possess sufficient resources for crediting all of the expenses for production of agricultural products.
3. Foreign credits, loans and other alternative sources of financial resources are extremely insufficient.
4. The majority of farming and shirkat enterprises credits are not accessible, due to conditions of crediting, such as:
 - a) presence of highly liquid-asset provisions of credit repayment, through depositing main resources and property and other real valuables not less than 120% of the amount of the issued credit.
 - b) at one's own expense, insuring property and property rights, put forward as a pledge;
 - c) to newly created and economically unformed farming enterprises, which do not possess main resources and other property sufficient for securing credit.
 - d) impossibility of putting forward as a pledge of agricultural and other machinery bought on leasing conditions bank credits.
5. Effectiveness of the mechanism of advance payments for shirkat enterprises for production of commodities for state needs, in connection with expansion of farming enterprises and increase in the number of profitable farming enterprises, decreases, while resources, purposefully allocated are frozen on the accounts of enterprises that do not have debt for inventories and services, for which these resources were meant, according to the conditions of the tranche. At the same time, it is impossible to pay off the debt and acquire other resources and services, necessary for conducting land treatment activities in a timely manner.

6. The mechanism of calculation of uniform ground tax, based on the normative land cost is more simple; but there are shortcomings in the mechanism of its calculation, because objective and subjective factors, which effect productivity such as possible structural changes in area under crop and state of the prices in other regional markets in not taken into consideration.

Conclusions and Recommendations:

Based on the aforementioned, it is necessary:

1. To improve crediting conditions of agricultural commodity producers, regardless of types and objectives of utilization of grown products, acquired primary resources and other inventories; at the same time, making provisions for the following:
 - a) issuance of credit on the security of future harvest or agricultural machinery being acquired and other property, instead of providing credit liquidity, property or other rights' pledge, in the amount not less than 120% of the amount of the credit being issued;
 - b) compulsory insurance of future harvest and property being acquired, against natural disasters and effect of other incidents;
 - c) possibility for paying insurance premium at the expenses of credits to the bank and other sources of financing;
2. To expand the network of commercial banks that serve agricultural commodity producers, open regional branches of major banks that serve other sectors, and conduct more targeted activities for attracting credit resources and loans of foreign financial institutions.
3. Taking into consideration positive aspects of direct crediting of expenses of farming enterprises for producing agricultural products, purchased for state needs, spread the given mechanism to shirkats and other commodity producers, which have concluded contracting agreements on commodity supply for state needs.
4. Continue the experiment of ground tax calculation, based on normative land cost, further elaborating the mechanism of normative land cost identification, taking into consideration:
 - a) definition of the whole tillage cost for two primary cultivated crops, based on productivity, formed in the last three years, and formed average cost of one hectare based on figures of these two crops;
 - b) application of unified average price in all enterprises, identified based on formed prices across the Republic (during the year, when calculating normative land cost, different prices are formed at the markets in the regions). For crops, products of which have fixed purchasing prices, estimation has to be carried using given prices.
 - c) application of correction coefficients that take into account impact of production infrastructure – remoteness of the enterprise from the center, from the market, transport services and other factors..
 - d) application of separate correction coefficient, that takes into account irrigation methods, which is natural flow or using pumping equipment, since expenses when applying pumping irrigation are much higher and that effects the product price.

Agricultural Sector Review and Planning

Policy Note 15: Commercial Credit in Agriculture

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

Introduction

The commercial banking sector is evolving gradually. 13 banks with participation of state, 5 banks with participation of the foreign capital and 16 private banks operate in Uzbekistan. The bank sector is supervised rigidly enough by the state, which has more than 90 percent of bank shares.

The analysis of dynamics of a credit portfolio of commercial banks shows, that mainly Pahta bank, the Galla bank, Tadbirkorbank and Savdogarmank carried out financing of agriculture until the year of 2000. Subsequently transition of commercial banks to multiple services, and a cancellation of the centralized credits have led to that now almost 50 percent of financing of an agriculture is carried out by other banks (see fig. 3)

In structure of gross national product the volume of manufacture of agricultural production makes about 30 percent, this parameter is almost 2 times more, than manufacture of an industrial output (16%). However crediting by commercial banks of industrial sector exceeds almost in 20 times volume of the credits allocated to agricultural enterprises.

The system of de-centralized financings of agriculture actually began to be formed since 2002. Credit volumes have grown in several times for last three years. As a result of 2003, the volume of credits has made 56.4 billion sums. The statistics of financing de-centralized agricultural products in a section of credit institutes shows growth of an essential share of credits of commercial banks in total amount of crediting. Despite of some decrease for commercial banks, it remains significant, and in 2003 has made more ¼ from total amount of the credits given for the account of de-centralized sources.

Table 1. Distribution of agricultural credits from decentralized sources (%)

	2001	2002	2003
<i>Business - fund (3% of interests)</i>	6.1	8.6	7.6
<i>Fund of dehkan and farms (3%)</i>	1.0	0.7	0.8
<i>Fund of assistance of employment (3-6%)</i>	9.5	10.8	12.7
<i>Commercial banks (20-30%)</i>	80.0	70.0	71.7
<i>The credit unions (3-5%)</i>	3.4	9.9	7.2
Total amount, million sum	23,684.4	38,608.1	56,355.5

If to consider this statistics in a section of separate banks, largest of them «Pahta bank» in 2002 has allocated credits to shirkat farms for the sum of 6,261 million sum, in 2003 – 9,242 million sum.

Farms on the basis of their applications in 2003 were given credits for the sum 8,987 million sum, out of which 26% made short-term, and 74% medium and long-term credits. For October 1, 2004 these farms were allocated credits for 7,940.3 million sum, from which 74% is directed on purchase agricultural machinery (technical equipment), spare parts and seeds.

Objectives and solutions

Despite of significant growth of crediting for last years by banks of shirkat and farms, its level remains still low. In structure of gross national product of Uzbekistan the share of agricultural production makes about 30 percent, and this parameter is

almost in 2 times more, than a share of an industrial output (16%). However, crediting by commercial banks of industrial sector by an expert estimation exceeds almost in 20 times volume of the credits allocated to agricultural subjects.

Access of farms to the specified sources of financial resources is possible in case if foreign banks or the international financial institutions, other donor organizations open demand lines of credit, or micro-crediting programs for farmers.

Resources of programs "Section-416 B" are used in Uzbekistan for rendering assistance to farmers in purchase of agricultural machinery; according to the program credits for the sum of an equivalent 6 million US dollars are allocated in 2004 for purchase of agricultural machinery.

About 0.5 million US dollars is planned to direct for sphere of crediting for processing of agricultural products. Also agricultural researches, training of agricultural businessmen abroad (in the USA) are financed. As a whole, due to this program it is proposed to direct about 14 billion sums as grants.

Resources of programs «Foodstuffs in the name of progress» (about 7 billion sums in 2004-2005) are intended on the similar purposes

The credit unions start to play the certain role. 7 of them have been registered so far. However, taking into account that the law on the credit unions was passed only in 2003, it's difficult to state now of a practical estimation of their activity.

In total resources for micro financing in Uzbekistan are estimated in 39 million US dollars. Banks understand micro-credits as credits to the amount of less than 10,000 US dollars equivalent. So, for agriculture the micro-financial portfolio of Pahta-bank makes 5 million dollars in an equivalent, intended for 5 thousand clients. It is necessary to note, that rather volumetric portfolio of agricultural credits to banks became possible due to the program of crediting of the European Bank Reconstruction and Development and ADB.

Besides, since 2002 subjects of small business in agricultural areas (actually, farmer and Household plots) began to receive means for investment projects due to foreign demand lines of credit. If in 2002 only one bank - the National bank of foreign trade activities has given such credits, in 2003 5 banks gave such credits. Thus, Pahta bank acted as the basic creditor, which share in financing of agricultural producers has already made 71%.

Table 2. Allocation of investment foreign credits to small and medium business (%)

	2002	2003
<i>National bank of foreign trade activities</i>	100.0	2.9
<i>Uzpromstroybank</i>	-	10.1
<i>Pahta bank</i>	-	70.9
<i>The Galla bank</i>	-	11.2
<i>Bank Ipak Juli</i>	-	4.8
Total (US\$ 000')	1,936.0	4,386.0

In the performance of the Decision of the Cabinet of Ministers from August, 11, 2003 № 348 «About measures on realization of the project «Development small and macro-financings» with participation of the Asian Development Bank», Project

agreement for the sum 7.5 million US dollar was signed between Pahta Bank and the Asian development bank on September, 25, 2003 according to the Loan agreement between the Government of Republic Uzbekistan and ADB.

The Contract on re-crediting on the given demand line of credit is signed on June 7, 2004 between Pahta Bank and the Ministry of Finance. 800,000 US dollars are received for today. 112 branches of Pahta Bank are chosen to participate in the given project.

Credits are allocated to subjects of small business including farms on enterprise activity, including for working capital only in national currency up to 10,000 US dollars at the rate of the Central bank.

Pahta Bank has developed the internal order regulating delivery of credits on the given demand line of credit, and credit contracts of projects between branches of bank and subjects of small business, based on credit policy of Pahta Bank, Loan, Project agreement and the re-crediting Contract.

Grace periods (if they require it) are given to farmers. Except that, Pahta Bank can participate with its resources in financing the project at delivery of micro-credits to farmers, but no more than 50% from the sum of the project. For example, if for account ADB the micro-credit is given out at a rate of 10,000 US dollars at the rate of the Central Bank, Pahta Bank can participate in financing up to 5,000 US dollars. In this case, the total sum of the micro-credit will make 15,000 US dollars at the rate of the Central Bank.

Mini-banks, serving farms, their efficiency, problems, extension services

432 mini - banks (branches of commercial banks), serving farms operate in Uzbekistan at present.

191 mini-banks have been created as of October 1 2004. The network of bank service of farms has considerably become stronger. The greatest amount of mini-banks is created in Republic Karakalpakstan (30), the Kashkadarinskai area (25), Bukhara and Tashkent areas (20). 701 mini banks should be created in 2004-2006 according to the program of development, and market infrastructure on village for the period of 2004-2006.

From higher resulted total of mini-banks share of «Pahta Bank» makes 70%. For October, 1, 2004 quantity of mini - banks included in «Pahta Bank» has made - 312 units, by which credits for the sum of 17,284 million sum were given to clients (in quantity 19,818 men) on contractual basis.

Taking into account that from this total of clients of bank more than 80% make farms, for this time one farm's share in allocated credits make 850 thousand sum, that testifies insufficient efficiency of mini-banks for the present.

Mini banks now experience difficulties, related to their technical equipment; on occasion untimely return of the received credits, reason of which is non-profitability of farms frequently connected with market fluctuations of the prices, a supply and demand on these or those produced products.

56 centers of consulting service are created in Uzbekistan as of October 1, 2004. The greatest quantity is created in the Namangan area-9, 6-in the Dzhizak area, 5 - in Syr-Darya, Samarkand, Kashkadarinskai, Bukhara areas and in Republic Karakalpakstan.

According to the program of development of an industrial and market infrastructure on village for the period of 2004-2006, 160 information and consulting centers should be created, including 61 in 2004.

The centers should function on conditions of self-maintenance, with payment of their services by farmers. Donor means are also involved. Use of resources of programs «the Foodstuffs in the name of progress» and "Section-416 B", realized with participation of Department on an agriculture the USA are also envisaged.

Estimation of the land tax in agriculture, in view of experiments in 2004

The unified land tax «About introduction of the unified land tax for agricultural commodity producers» is entered by the Decree of the President of Republic Uzbekistan from 10.10.1998. № UP-2086.

The decision of the Cabinet of Ministers of Republic Uzbekistan from 25.12.2003. №567 «About parameters of the State budget of Republic Uzbekistan for 2004», establishes, that since January, 1, 2004, calculation of the unified land tax for agricultural commodity producers of the Samarkand and Tashkent areas by way of experiment is made proceeding from normative cost of agricultural land under the rate of 2 percent.

The State committee on land resources, a geodesy, cartography and the state cadastre, defines normative cost of agricultural land on each farm.

More detailed study of carried out experiment results in the Samarkand and Tashkent areas have shown, that there are some discrepancies in definition of normative cost of agricultural land. So, for example, water-security and ways of irrigation (machine or self-gravity) were not taken into account at definition of normative cost, though it indirectly influence productivity and rate of return of agricultural commodity producers.

At calculation of the unified land tax under the established rate of 2 percent from normative cost of land without application of lowering factors, the sum of the tax will make 24.2 billion sums, or growth in comparison with earlier working system of the taxation on the Tashkent area - in 2.8 times, on Samarkand - 2.4 times. Thus, tax loading at agricultural commodity producers of the above-named areas increases in comparison with the similar payers, located in other regions of republic.

With a view of preventing un-profitability of agricultural commodity producers, maintenance of optimum level of the taxation with the unified land tax, and also simplification of the mechanism of its calculation, application of lowering factors to the established rate is necessary.

Conclusions and Recommendations:

1. Realization in practice of the international norms and rules of the bank control, first of all, refusal of actually working cash quoting system of the Central Bank of Republic Uzbekistan.
2. Increase share of private banks (without participation of state share), the credit unions, the nongovernmental financial organizations in the market of financial and bank services, first of all, crediting.
3. Granting direct crediting to farms not only producing grain and raw cotton, but also producing all other types of agricultural products.
4. Development of advisory services in countryside on the organization of bank crediting.
5. Assistance in creation large nongovernmental financial organizations to carry out state programs in supporting development crediting system of agricultural producers, including both long-term programs, and micro-financing, with use of donor financial sources.

6. It is necessary to take into account, that farms have their own specificity of crediting which cannot be carried out on the general conditions of crediting. Organizational registered specialized system of the commercial farmer credit combining market principles of bank crediting with a preferential percentage policy of the state is needed.
7. The State intervention to farmer activity should be directed mainly on financial support and to insurance upon possible risks and granting them full entrepreneurship freedom.
8. Procedure of reception of credits has an adverse effect on activity of farmers; Allocation of credits by banks for needs of production on months does not cause of special interest in the farmer to such mechanism of crediting;
9. The Application for credit reception should act to bank not from Fund of support of farms, or from the buyer of production, as it frequently happens, but directly from the farmer - commodity producer.

Agricultural Sector Review and Planning

Policy Note 16: Role of Women in Agriculture

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

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Introduction

More than 63% of population lives in countryside of Uzbekistan, about 50% making woman, out of which about 36% in the age of till 18 years. With a view of social protection of women, the quantity of the allowances given to women (on care of children in the age of till 2 years, and also to needy families), was increased in 1.3 times in 2004 in comparison with the last year, and has made about 140 billion sum. Women play important role in economy of Uzbekistan as a whole, and in rural economy in particular.

More than 43% of an aggregate number of the working population in agriculture make woman, and their big part is represented in sphere of public health services, education, culture and service. Work of the woman on village is connected to manufacture of agricultural products (horticulture products and animal industries).

Women make the basic part of labor in dehkan farms, where manual skills also prevail. However, even in these conditions women not always have an opportunity to find a permanent job, as the agricultural production has a seasonal nature. Female work is used basically during vegetation of plants (weeding, loosening of land and harvesting).

The payment is low, however it is paid out of time; there are cases when payments are made by agricultural product. Situation is not better in sphere of education (68% from a level of the average salary on the country) and public health services (61%). Besides, proceeding inflation also worsens a financial position of women that has a negative effect in family farms. Women, performing all work on care of animals, are also occupied with realization of livestock products (milk), for which they spend 7-8 hours per day.

The factor of unemployment among women is higher, than with men (among women 63% of the unemployed). The majority of jobless women in rural regions has no professional skills and are capable to perform basically underpaid agricultural works. For some women unemployment is a symptom of relative economic vulnerability: the domestic duties assigned on women, alongside with the tendency of an early marriage make women less competitive on a labor market.

Woman - living in rural area plays the role of family keeper and her basic function - to give birth to children, to look after the house, housekeeping, elderly parents, etc.

The big share of female work is applied in branch of animal industries. The basic part of animal industries (more than 80%) is concentrated in dehkan farms. As the processing enterprises buy milk under the prices below market, women are compelled to bring milk to urban population and to go on streets in searches of buyers at retail in regions closer to the big cities.

Re-structuring of the agricultural enterprises and reduction of number working in shirkat and farms, first of all have affected women. As low qualified employees, they first of all fall under reduction of workers.

The government takes measures on development of not agricultural branch on village; the enterprises on cotton processing and other rural products for creation of new workplaces are under construction. However, these measures do not render essential influence on increase of employment on village and payments of women at present.

In many cases woman face additional barriers, trying to take advantage of primary opportunities of new time with a view of increase of living standard. Women not only have insufficient skills for using their work in small and medium business, but also have the limited access to credits.

On a labor market in a private sector the preference as a rule is given to men, in part it is connected to charges on payment of maternity leaves. On demand of women and the positions guaranteed by the Labor Code, the Government plan is directed on farms development.

Men are heads in the majority of farms. A share of women - farmers is low, however, if women head farms, they achieve good industrial and financial results.

More than 100 thousand farms conduct activity in Uzbekistan now, however only 4,854 (about 5% from their general quantity), are headed by women.

In Bukhara, Kashkadarinskai and Syr-Darya areas this parameter makes 2%, and in the Khorezm area - 44%.

G.Lapasova organized farm "Akdarya" on cultivation of wheat and cotton in Akdarya area of Samarkand region on 400 ha of the irrigated land in 2000. In 2004 she has received on 6 tons of crop of wheat from each hectare on 75 ha, on 31.8 ha she has sown a cotton, and collected on 3.48 tons raw cotton from each hectare.

These parameters exceed in 1.5-1.6 times parameters Samarkand region and Republics as a whole that has enabled to improve financial condition of farm and to create 50 workplaces.

Due to own means she assists in the organization of summer rest camp for children of high school, and also to agricultural college of Akdarinsk area.

Many women adapt to market conditions, create the enterprises on production, processing and realizations of agricultural products, and try to apply the work in not agricultural branch. It allows them to combine seasonal agricultural works with other kinds of economic activities.

However they meet the big difficulties connected to reception of the credit, tax burden, custom barriers and converting of sum.

R.N.Ashrapova organized a farm "Ashrap-ota" of cattle-breeding direction on 5 ha irrigated land in Zangiota area Tashkent region in 2001, having taken the credit at a rate of 3.14 million sum. The farm functions profitable and now she has received in addition 2 ha of land area and the credit at a rate of 6.0 million sum for the organization of a greenhouse farm. However, such examples are individual.

This fact explained as many women have low legal, economic and technological educational level.

Insufficiency of workplaces and low payment force efficient men to search for more highly paid work outside the farm and area, they frequently leave outside of republic in searches of work for the long period, leaving all work on a farm and in the house on women. In these cases woman replace men on field works. Thus, women practically do not have time for care of themselves.

Recommendations

With a view of increase of a women's role in agricultural production and development of not agricultural and enterprise activity on village, it is necessary to solve the following problems:

- Simplification of process of access to the credit resources, special target credits of banks, with the certain privileges for expansion on village of female enterprise activity;
- Questions of a preferential payment of the women working equally with men on heavy field works (or reduction of duration of the working day, or increase in a payment at 20% in comparison with men on equal works);

- Tax exemption for the certain period (4-5 years) or decrease in the rate of the tax to 50% for the rural enterprise not agricultural firms, that will allow involving more women in enterprise activity;
- Questions of increase number of women in the state structure;

Organization of trainings for rural women with scope of questions of rural business, "know-how" and processing agricultural products, management, rights, marketing, use of finance and credits.

Conclusions

The role of women in an economic life of the country is huge, especially in development of agrarian sector. More than half of manpower (on the official data 43% of men who have left outside the country in searches of work were not included in statistics) in village make women, who performing heavy field works, receive insufficient compensation for the work. The big migration of men, difficulty of reception of the credit for development of not agricultural activity on village, low payment of field works creates additional difficulties for rural women.

Would be expedient to develop the special project on an effective utilization of female work on village and to improvement of a material condition of rural families.

Agricultural Sector Review and Planning

Policy Note 17: Review of Policy on Rural Environment

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

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Introduction

Years past after gaining independence became the period of intensive development of the nature protection legislation, formation of normative-legal base of preservation of the environment. Development of the National Action Plan on preservation of the environment became significant event in a life of the country. Leading experts and scientists of the country have been involved in preparation of the Plan, which among others used experience of similar activity in other countries.

It is possible to count, that the beginning of realization of ideas and principles of sustainable development of society, in view of national features and conditions, started in Central Asian region after signing of the declaration of 1995, and all countries of Aral sea basin became its participants.

In this document Heads of the states of the Central Asia have confirmed their obligations on full cooperation in the name of overcoming consequences of ecological crisis in the sea basin, and have declared support of the international agreements - Declarations on sustainable development and the World Nature Charter.

All these actions became components of a general action plan in achievement of the purposes of sustainable development of the country.

The problem of ecological crisis of Aral Sea basin is the most acute problem inherited by Uzbekistan in particular, and all Central Asia regions as a whole from the Soviet ruling. Prior to the beginning of 60th, Aral sea was the fourth reservoir on size on a planet with water area in 66 thousand sq. km. Economic and political interests of former USSR have transformed Aral sea basin into a single-crop (cotton) agrarian complex on the basis of irrigated agriculture and agrarian orientation of economy. About 94% of a drain of the rivers of Aral sea basin were used for needs of irrigation, therefore inflow of water to the sea to the beginning of 80th has practically stopped; processes of desertification have started developing intensively on the dry bottom of the sea; deltas' eco-systems are degrading. Aral sea has completely lost its former fishing, transport and recreational value.

Agricultural activity is adjusted by corresponding statutory acts. Legislative and normative documents in Uzbekistan render direct influence on the issues connected to the land and water, and consequently the agriculture establishes requirements concerning allocation, eviction and uses of the lands, rational use of resources, and protection of the land and water sources against pollution by fertilizers and pesticides.

The following refer to number of the most significant documents: the Decree of the President «About measures of the state support for agricultural production» (1996) Land Codes (1998), Laws: «About Nature Protection» (1992), «About small private farms» (1992), «About the property» (1990), «About water and water use» (1993), «About especially protected natural territories» (1993), «About the state cadastres» (2000), «About ecological examination» (2000), «About radiation safety» (2000), «About waste products» (2002), etc.

Laws «About agricultural co-operatives (shirkats)», «About farms», «About dehqan farms» have been developed and accepted with a view of improvement of work of the agricultural enterprises in modern conditions.

Questions of improvement of supply of consumers by ecologically clean foodstuffs, and achievement of food independence refer to national priorities of Uzbekistan.

The state monitoring system of natural systems' condition operates in Uzbekistan; the circuit, the list, periodicity and terms of representation of the operative information for decision-making have been established. The lands evaluation is carried out on

the basis of complex monitoring of meteorological, hydrological and agro-meteorological facts.

Remote methods with use of the satellite NOAA information system for evaluation of various changes in hydro-meteorological and agro-meteorological conditions have been developed and are widely used. The information for preparation of forecasts of conditions of development and efficiency of the basic agricultural crops (cotton, grain crops, vegetables, melons, etc.), including growths of pasture vegetation is widely used.

Activity of the ministries, departments, enterprises and organizations in the field of environment protection is regulated by the Law of Republic Uzbekistan «About Nature Protection», «About water and water use», «About protection and use of atmospheric air», «About protection of flora and fauna» and a number of other laws, sub-law certificates and the statutory-legal documents, called to provide preservation of the environment and rational use of natural resources.

State committee of Republic Uzbekistan on Nature Protection is special authorized inter-institutional and coordinating body, carrying out control and inter-branch management in the field of nature protection, use and reproduction of natural resources.

The law «About nature protection», adopted in 1992, became the basic document at formation of a policy in the field of environment protection. The concept establishing scientifically stipulated and legal mechanisms on use of natural resources in Republic Uzbekistan has been approved by the Cabinet of Ministers in 1996, and the decision to develop the State program on protection of environment and rational use of natural resources was accepted in 1997 by Resolution of Oliy Majlis (Parliament) of Republic Uzbekistan.

Primary Objectives

The State program on environment' protection and rational use of natural resources was developed in 1999, and authorized by the Resolution of the Cabinet Ministers of Republic Uzbekistan from October, 20, 1999 № 469 «About the program of actions on preservation of the environment of Republic Uzbekistan on 1999 - 2005», which includes as priorities:

- Acceptance and perfection of laws on nature protection;
- Preparation of the statutory act about indemnification for ecological damage with the purpose of development methodology for definition of such damage;
- Development of ecological norms and allowable limits of an environmental impact; improvement of mechanisms of economic incentives' provision;
- Creation of the center on cleaner manufacture;
- Development of projects of cleaner and safe manufacture in oil, chemical, machine-construction, food and other industries.

One of the important directions of environment' protection is maintenance of ecological safety, which has the following basic priorities:

- Rational and complex use of all kinds of natural resources - water, land, mineral-raw, biological;
- Reduction of pollution level of the surrounding natural environment on all territory of republic up to ecology-hygienic and sanitary norms;

- Maintenance of the population of republic with qualitative potable water, foodstuffs, medical products;
- Strengthening scientific and technical potential, use of science and technology achievements in sphere of ecology, introduction non-polluting and resource-saving technologies;
- Perfection of legal and economic mechanisms of regulation of interaction of the state bodies of various levels and nature users, inclusion of ecological requirements in procedure of an estimation of social and economic efficiency of accepted administrative decisions;
- Creation of uniform system of ecological monitoring;
- Perfection of fast reaction system in conditions of extreme situations of natural and man-caused character;
- Development and perfection of ecological education system of the population;
- Deepening of cooperation with the world community on solution of environmental problems.

The following documents have been developed and accepted by the Government as directive documents: National Action Plans on Nature Protection, on hygiene of an environment, on preservation of a biodiversity, on combating desertification, the Program of measures on reduction of use ozone breaking substances, National reports on possible consequences of climate' change, Strategy on decrease of greenhouse gases' emission, and other documents.

The state committee on nature protection together with the interested ministries and departments has developed the Concept of introduction scientifically proved economic and legal mechanisms of nature protection, and using natural resources, where economic and legal mechanisms are realized in three stages, and due to be finished and introduced by 2010. The normative basis and system of payments for environmental contamination over the established limits and specifications has been developed at the first stage, which was completed in 1992 with introduction of payments for above permitted standard emissions, dumps and disposal of waste products. The second stage provides introduction of payments for normative and above permitted standard pollution of the surrounding natural environment. At last stage, introduction of system of payments for irrational use of natural resources and perfection of the mechanism of collection of payments is planned by 2010.

Information about environmental condition and nature protection activity is formed in Republic of Uzbekistan on the basis of information blocks:

- Package of statistical forms containing the information on environment condition on spheres (except for water resources) - Goskomstat Republic of Uzbekistan.
- The information on supervision over a condition of water and land resources, atmospheres is formed in Uzhydro-met and State committee on nature protection;
- Blocks of the departmental information of an ecological direction are formed in State committee on nature protection, Ministry of Health, State Land Committee, State Geology Committee, the branch ministries and departments.

Quality of water and land, adverse external influences on environment

From all geophysical environments land takes a special place in biosphere, being to the greatest degree subject to anthropogenesis influence, and besides the land plays dangerous role in circulation of polluting substances.

Insignificant changes of chemical, physical, biological, microbiological character, as a matter of fact, are not significant, but at duration they are capable to cause serious consequences. For countryside, soil pollution influences not only on quantity and quality of food production, but also on functioning of soil system as a whole.

Environment of Uzbekistan creates potential danger of emergence of different kinds of soil erosion. Substantially the reasons of its emergence are misuse of lands, non-observance of necessary requirements of soil protection. In most cases it is connected to accommodation on the erosion-dangerous lands of crops, poorly protecting land from erosion, wrong processing of soils on the arable lands, non-controllable grazing cattle on pastures, destruction of soil-protective plantings, and frequently with infringement of ecological requirements at irrigation-ameliorative preparation of the lands.

Wind erosion is prevailing; about 73% of all farmland is subject to wind erosion, including 56% of irrigated territories. Southeast parts of Hungry steppe, Karshi steppe and the Bukhara oasis refer to active wind zones, including the western and central part of Fergana.

18% of all farmland is subject to water erosion, and on the irrigated lands –to irrigational erosion, and in Surkhan-Darya, Samarkand, Kashkadarya the figure reaches 50-80%. Water erosion is distributed on slopes of mountains, foothill slopes and adyrs. In especially dangerous sizes this kind of erosion is shown on slope lands occupied by an arable land or pastures.

Water erosion carries away on the average 40-80 t/ha of the most fertile layer of land for the vegetative period. Irrigational erosion is consequence of wrong irrigation on bad-leveled fields, use of big norms of water while irrigation. Erosion also happens at making irrigation furrows with a significant longitudinal slope, when speed of water movement on a surface exceeds speed of land absorption. Frequently wrong outlet of irrigation water is the reason of ravine formation, which also refers to one of forms of display of water erosion.

With intensive reclamation of the irrigated lands for manufacture of agricultural products, tugai flood-plain forest in Republic Karakalpakstan were cut down during last years, shrub plantings in Bukhara, Fergana, Kashkadaria areas were also cut down, therefore processes of wind erosion got strengthened, and biodiversity was intensively reduced.

The huge Aral-Caspian lowland is inland internal-drainage territory (where Uzbekistan is also territorially located), whence there is no exit to Open Ocean and consequently, all salts, transformed from hillsides, concentrate here. Salts are brought here together with an atmospheric precipitation and by other ways.

Intensive development of the new lands, reckless use of water resources finally has led to that more than 50% of the irrigated lands in Republic are subject to a various degree of salinity.

Salt accumulation process in soils progresses in conditions of weak draining because of close subsoil waters of a various salinity.

From the end of 70-th they began to direct collector-drainage waters of oases to Amu Darya, Syr-Darya, Zeravshan and in process of increase in volume of returnable waters in basins of the rivers of Amu Darya and Syr-Darya, quality of water in the rivers began to worsen, and as aggravating result use of this water on an irrigation has led to additional receipt of salts on the irrigation lands.

Positive salt balance of regions, like Khorezm, Bukhara, Hungry Desert and other oases intensifies in conditions of insufficient effective operation of collector-drainage networks. Networks are not used in some places at all.

About 2 million ha of highly productive lands are to some extent subject to salinization processes in Uzbekistan now, from which about 0.85 million ha are medium and strongly salted. Practically 90-95% of lands of Karakalpakstan, Bukhara and Syr-Darya areas are salted, the lands of the Kashkadarinskai and Khorezm areas are salted on 60-70%, in the Fergana region the area of the salted lands has increased more than twice. The content of the main parameter of fertility - humus has gone down on 40-50%.

Surface and underground waters are polluted because of low effectiveness ratio of chemicals, it results in washing of mineral combinations.

Agro-chemicals and fertilizers have dual influence on an environment. Local pollution of the natural environment objects because of use of agrochemicals, and also the large-scale pollution of natural objects caused by carry of polluting substances in air, superficial and a collector-drainage flow, causes problems in the downstream of the rivers, penetrating into underground waters, causing pollution of fresh underground waters.

Dry Aral Sea ground refers to the category of largely scale polluters. The zone of falling (80-90%) of the salt particles, taken out from the drained bottom of the sea and saline soils, has practically captured all delta of Amu Darya up to Nukus. Aral Sea zone is now subject to an exposure by salty soils of the drained ground of the sea; land' salinization; loss of wood plantings, tugais and a vegetative cover; drying of lakes and reservoirs; degradations of the lands; strengthening of a deflation and salt transfer; increase of a mineralization of superficial and underground waters; flooding irrigated and adjoining lands; soil salinization, etc.

Programs aimed at improving rural environment

The agriculture of the country along with all other branches of economy is in process of development and deepening of reforms, basic purposes of which are maintenance of food safety, expansion of an export potential, increase of production efficiency.

Legislative - legal base has been developed stage by stage for years of independence. Requirements concerning allocation and use of lands, rational use of water and land resources, protection of lands and water sources against pollution by fertilizers and pesticides, etc. are established within the framework of development of an agriculture.

During transition to new market conditions the agriculture of Uzbekistan acts as the major factor of stabilization of national economy and as the most stable sector.

However on the general position in the country, the agriculture and its market of food articles are still in extremely difficult situation.

The following Programs have been developed for the solution of objectives, the realization of which is provided during 2000-2010:

- The program of deepening of economic reforms in an agriculture for the period 1998 - 2000;
- Programs of development of a water-economic infrastructure for the period till 2010;
- The program of development of a social infrastructure of rural areas;
- The program of maintenance of agricultural population by potable water and natural gas for the period till 2010;

- The program of stimulation of development of small and medium business and private business for the period till 2005;
- State and territorial programs of creation of new workplaces on 2000 - 2005;
- The program of development and modernization of the enterprises on manufacture of agricultural machinery;
- The program of ameliorative improvement of the lands' condition for the period till 2010;
- The program of increase of lands fertility, and efficiency of use of land-water resources for the period till 2005;
- The program of emergency measures on mitigation of consequences of a drought in Uzbekistan;
- The program of measures on increase of cotton productivity;
- The program of providing of the internal consumer market by own manufacture on 2000 - 2005;
- The program of sustainable development of an agricultural production in Republic Karakalpakstan for 2003-2007;
- National strategy of the prevention and mitigation of consequences of low water and droughts in downstream of Amu Darya river;
- The program on creation of sustainable sources of incomes.
- Action program on preservation of the environment of Republic Uzbekistan for 1999-2005
- The program of monitoring of the surrounding natural environment In Republic Uzbekistan for 2003-2005

Realization of the specified programs and measures will allow mobilizing internal reserves of an agrarian complex for maintenance of sustainable development of the complex itself, and the country as a whole.

- The program of actions on preservation of the environment of Republic Uzbekistan for 1999-2005
 - Overall objective of the Program - formation of nature protection strategy of the initial stage of transition of the country on a way of the sustainable development, determining priority environmental problems, a choice of means of their solution and carrying out of corresponding organizational actions.
- The program of monitoring of the natural environment in Republic Uzbekistan for 2003-2005
 - With a view of realization of supervision over a condition of the natural environment, use of natural resources, estimations, the forecast of pollution level of the surrounding natural environment, and elimination of consequences of negative processes, a supply with information in conducting the state control over preservation of the environment, target and rational use of natural resources.

For more rational use of water resources in republic, the Decree of the President and the Decision of the Cabinet of Republic Uzbekistan specifies transition from administrative-territorial to a basin principle of management of irrigational systems.

Conclusions and Recommendations for Rural Reform Programs

Problem of land degradation, caused by deterioration of irrigational and drainage systems' condition, applications of the out-of-date equipment and irrational use of water is one of the most acute problems during formation of conditions for sustainable development of agriculture.

The following needs to be undertaken to solve the problem:

- Cardinal change the attitude of use of natural resources (land, water)
- Improvement of ameliorative condition of the agricultural lands.
- Increase in use of organic fertilizers (humus restoration), and to maintain optimum ratio between nitric and phosphoric fertilizers at mineral fertilizers' application.
- The differentiated approach in use agricultural land at a choice of crops.
- Application of a crop rotation.
- In the regions of Fergana valley (as densely populated) to increase crops under food cultures
- Newly cultivation of degraded lands.

On issues, related to water, the following measures need to be taken:

- Rational use
 - a) Reduction of returnable waters
 - b) Reduction of washing away of mineral elements
- Reforming of water use system, gradual introductions in an agriculture of system of the paid water use, which stimulates water-savings;

On land, it's necessary:

- Carry out pre-planting land leveling, which will help:
 - a) Saving of irrigation water;
 - b) Reduction of soil erosion;
 - c) Decrease of salt accumulation;
- Backwardness of the information - statistical base necessary for the analysis, monitoring and forecasting of ecological processes in separate territorial formations also refers to number of problems of regional development

At development of agriculture, it is necessary to take into account the factor of an estimation of its environmental impact.

In spite of the fact that a number of programs of a social orientation have been executed in republic for this period, such as security of countrymen by comprehensive schools, out-patient - polyclinic establishments, potable water, natural gas, objects of sphere of services, still almost everywhere they do not yet correspond to conditions of ecological stability of development;

Land and water resources act as the main components of sustainable development of agriculture. However, questions of increase of soil fertility, improvement of their ameliorative condition, reduction of the areas of not re-cultivated lands, etc. demand the urgent solution at present

Degradation of an environment and natural resources can be consequence of both very low, and extremely high level of economic development. Poverty of rural areas in a combination to anthropogenesis loading frequently renders the increased influence on efficiency of natural ecosystems. As an example it is possible to refer to an exhaustion of pastures and range-lands in result of cattle' over-grazing, loss of productive land because of wrong conducting of agricultural and economic activities (such, as cross-section cultivation of sharp slopes) or data of productive vegetation owing to distribution of agriculture and preparation of timber.

Problems of ecology render direct influence on living standard of population, especially, on its socially vulnerable layers. Major factors of influence of an environment are: decrease in productivity of agricultural crops and reduction of areas under crops owing to deterioration of land and irrational water use; increase of disease level of the population of separate regions of the republic, caused by influence of adverse factors of an environment (the Aral crisis, quality of the potable water, harmful emissions in an atmosphere, etc.); derivation of financial resources on realization of measures on protection and restoration of the surrounding natural environment, and also on protection of health, and maintenance of incomes of the population living in ecologically unsuccessful areas.

Needy layers of population are subject to influence of negative factors of environment in the essentially greater degree, rather than wealthier layers of the population, by virtue of lack at needy house-holds own resources for indemnification of such factors, need for the additional resources necessary for maintenance of health in conditions of influence of negative ecological factors.

Reasons of problems are:

- Low efficiency of use of the irrigated lands and objects of a water-economic infrastructure;
- Non-acceptance of the personnel engaged in sphere of agricultural and water management to introduction of new technologies; complexities in adaptation of agrarian sector to market transformations;
- The insufficient account of regional features in formation of rational structure and specialization of an agricultural production;
- Absence of necessary economic mechanisms of state regulation of development of irrigated agriculture in regions in view of their natural-economic potential.

Agricultural Sector Review and Planning

B. Recent Article on Agriculture: Duty and Responsibility" Narodnoe Slovo Newspaper, dated February 15, 2005

(Originally printed in "O'zbekiston ovozi" newspaper, on 12 February 2005)

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

**Mr. E. Mengliyev, Head of Department, Office of the Prosecutor General,
Republic of Uzbekistan**

The large-scale reforms which have nowadays captured all spheres of social and economic life of the country have now risen to a new important level.

The decree of the President of our country dated March, 11, 2004 "On additional measures on maintenance of execution of laws on reforms in agriculture" has put forward responsible tasks before bodies of Office of Public Prosecutor, and certain work is being carried out in this direction.

In the process of organization of public prosecutor's supervision the primary attention is given to issues of strict maintenance of lawful use of cotton and grain crop fields, prevention of dropout from agricultural turnover and decrease in fertility of irrigated areas under crops, prevention of abuse during field allocation, and also irrational use and operation of ameliorative installations, agricultural machinery and combustible-lubricating materials, prevention of the facts of their plunder, elimination of obstacles on farming movement development, which acts as primary driving force in agriculture.

For the reporting period unprofitable, low-profit, unpromising shirkat enterprises have been liquidated, and on their base more than 15 thousand farming enterprises as well as infrastructure of service facilities have been formed on competitive (tender) basis.

At present, the number of farmers in the republic has exceeded 100 thousand. Half of the irrigated fields are at the disposal of farmers, where the basic agricultural crops - cotton and wheat are sown. The share of products grown by farmers, accounts to about 50 percent which testifies for the effectiveness of farming movement.

It is essential to note, that the complex measures undertaken by bodies of Office of Public Prosecutor in maintenance of legality, contributes to acceleration of reforms in this field and achievement of positive results.

According to statistical data, gross production of agricultural products has grown in 2004 in comparison with the previous year, obligations have been fulfilled by 110.1 percent.

Almost 2.5 million tons of grain, 3.53 million tons of raw cotton, or approximately 0.8 million tons more if compared with 2003, were sold to the state. One more important aspect is the fact that about 86 percent of cotton were turned in as 1-2 class. Cotton cultivation activities started much earlier, in comparison with the previous years, sowing of cotton seeds on fields identified by the governmental decree has been fully fulfilled. Measures on maintenance of legality beginning from sowing cotton and harvesting have been carried out.

Opportunities for acquisition of new machinery for agriculture of the country have increased, agricultural enterprises were supplied with 2,782 "TTZ" tractors, produced by "Uzqishloqxo'jalikmashholding" company (Uzbek agricultural machinery Holding), 555 foreign tractors, 985 seeding machines, 1,239 cultivators and other machinery which is twice as much in comparison with previous year.

Agricultural enterprises were financed in different directions in a timely manner. This is seen through the fact that agricultural enterprises were supplied with 823 billion soum for cotton and grain crop cultivation. It is difficult to imagine this branch without fertilizers and combustible-lubricating materials. Thus the activities for regulating its utilization were under special control. As a result, mineral fertilizers worth 32 billion soum, and 57 billion soum worth of fuel were economized, which is more if compared with previous year. At the same time, 21.8 billion soum were invested from the state budget into developing new fields and improving their ameliorative condition.

Activities carried out by bodies of Office of Public Prosecutor were especially effective, as a result of which more than 36,168 hectares of illegally used fields were identified and measures for returning them to the enterprises are being undertaken.

Protection of rights of dekhkans (peasants) and farmers is under constant public prosecutor's supervision. As a result of the undertaken measures, 77 million soum worth of material damage to them has been voluntarily compensated, lawsuits on reparation of 300 million soum of damage have been filed to the courts, more than thousand of local officials were brought to disciplinary, administrative and financial responsibility, and in cases of serious offences criminal cases have been instigated.

At the same time, despite of undertaken measures, requirements of the law are still not fulfilled during field allocation and formation of farms. It is especially distressing, that local officials allocate highly productive fields on the basis of family relations and regionalism.

As it was revealed, 475 officials have illegally allocated over 20 thousand hectares of fields on the basis of family relationships registered as their own property, ostensibly for farming purposes. Without doubt, the crime is punishable. Those who have committed a crime have appeared in court. For instance, on the grounds of abuse of power in the process of formation of farms and allocation of the fields, criminal cases have been instigated against khokim (governor, mayor) of Urgench district R. Zaihkhanov, khokim of Baghdad district Sh. Salidjanov, khokim of Kibray district S. Tashkhodjaev, khokim of Pskent district A. Gafurov, first deputy khokim of Kushkupir district A. Artikov, first deputy khokim of Chust district R. Isakdjanov, first deputy khokim of Akkurgan district A. Raimkulov, first deputy khokim of Farish district N. Egamov.

The fact that the economic reforms in agriculture have not produced sufficiently effective results, testifies to presence of the facts of abuse of power by responsible chiefs and officials of the given branch, and also is the result of embezzlement in large amounts of the state and public property.

One of such officials is Ismail Jurabekov, who held high posts in management of agriculture of the republic.

His failure to provide full implementation of requirements of governmental decrees on introduction into agriculture of management methods of the economy based on free market relations, default to pay proper attention to the given branch in the economy,

and also that it did not give due attention приоритетности to the given branch in economy, his criminal-negligent attitude towards his official duties have resulted in decrease in volumes of agricultural commodity production and productivity in agriculture, thus doing damage to the economy of the republic.

Besides, while serving as the state advisor on agricultural issues, I. Jurabekov resolved issues under authority of the government at his own will, groundlessly interfered into activity of administration bodies, issued illegal instructions all of which has led to negative consequences. Based on the results of the preliminary investigation, which has been carried out on the grounds of the criminal case instigated against him, the Office of Prosecutor General charged I. Jurabekov with committing this and other crimes under the Articles 167, 175, 205 of the Criminal Code of the Republic of Uzbekistan.

Taking into account I. Jurabekov's full recognition of the fault, his age and the state of health, criminal case was ceased in light of the Decree of President of the Republic of Uzbekistan dated 1 December 2004 "On amnesty in connection with twelfth anniversary of adoption of the Constitution of the Republic Uzbekistan".

It is worth noting here, for execution of the Decree of the Cabinet of Ministers № 607, dated 24 December 2004, "On measures of accelerated development of farming enterprises in 2005-2007", it is necessary to maintain legality and objectivity in the process of allocation of the fields, treat this important reform with great deal of responsibility. Farming movement should be especially emphasized in densely populated Ferghana region as well as in Surkhandarya, Kashkadarya regions, Republic of Karakalpakstan, which are paid special attention. Transfer of the land to its real owners, conclusion of agreements, creation of infrastructure for serving farming needs special attention.

Ameliorative activities for improving the condition of our national property – land, is inadequate, the cases of improper treatment of natural resources have not been eliminated. As a result, 62.7 percent salinity of irrigated land is observed. As a consequence, salinity of the fields in Syrdarya, Surkhandarya, Tashkent, Jizzak, Kashkadarya, Samarkand, Fergana, Namangan, Andijan regions has increased, ameliorative condition of the fields has deteriorated and the productivity has decreased. Despite the fact that ablution of the fields must be carried out in December – February, these period is not observed in some regions.

When verifying the purposeful utilization of the budgetary funds, allocated for the given sphere, numerous cases of violations have been revealed. For example, it has been established, that the chiefs and responsible persons of the open joint-stock company "USUB", the supplying enterprise of the Ministry Agriculture and Water Management, embezzled budgetary funds in large amounts, allotted for land-improvement activities. Investigation on this issue is in progress.

The same state of affairs is observed in the sphere of production and sale of wheat: 9,733 contracting agreements, or 14.8 percent, concluded with farming enterprises on sale of grain to the state out of 2004 harvest were failed to be executed, which is 110 thousand tons of grain have not been supplied.

1,561 farming enterprises which concluded contracts and have received corresponding material resources have not turned in grain to the state at all. Primarily, such farming enterprises are located in Syrdarya, Tashkent, Jizzak and Samarkand regions. As a result of the examination on execution of laws on agreement discipline, farming enterprises paid back 5.6 billion soum of uncleared advance payments. 2,879 farming enterprises have regularly broken agreement discipline, have used the land unspecified purposes, 92,693 hectares of fields have been returned in the procedure established by the law.

As a result of lack of control, more than 10 thousand hectares of fields allocated for wheat, have not been used for a specified purpose, 8,622 hectares of fields were concealed from reporting.

One more alarming occurrence – although in a number of regions and districts, initially targeted fields were not fully occupied by winter wheat, fictitious reports on the work done were presented. It was revealed, that a fictitious report on 7,799 hectares of fields in the republic being sown by wheat was presented this year as well. Such cases were observed in Tashkent, Khorezm, Jizzak, Navoi, Bukhara and Syrdarya regions. Besides, as a result of insufficient control, the cases of sowing of low-quality grain kept in warehouses of shirkat and farming enterprises instead of certified seeds were allowed to take place.

Serious shortcomings exist in carrying out irrigation and ameliorative activities in autumn-winter of 2004-2005. Even though these are pressing issues, reconstruction of water facilities in Khorezm, Andijan, Navoi, Surkhandarya, Samarkand regions, Republic of Karakalpakstan was not completed. Ablution of inter-farm facilities in the

Republic of Karakalpakstan, Tashkent, Khorezm, Fergana and Samarkand regions is being carried out slowly.

The last year the certain amount of work on cultivation of raw-cotton was done, economic figures have slightly improved if compared with previous years. The work of cotton-growers of Kashkadarya, Bukhara, Samarkand, Jizzak, Navoi, Khorezm regions and the Republic of Karakalpakstan is worth praising. At the same time, 47 cotton-growing districts, 374 shirkat enterprises, 12,611 farming enterprises have not fulfilled their contractual obligation in 4 regions (Fergana, Namangan, Syrdarya and Tashkent).

As a result of the examination, lawsuits on reparation of 19 billion soum worth of material damage, caused as a consequence of unfulfilled contractual obligations, on abolition of rent agreements for providing 23,613 hectares of fields and on declaring 52 farming enterprises unable to fulfill payment obligation as bankrupt have been filed to the economic courts. Payment of uncleared advances (credits) in the amount of 5.6 billion soum and other damage by 5,251 farming enterprises has been ensured.

1,031 farming enterprises that concluded agreements but haven't turned in cotton, voluntarily returned 36,970 hectares of land, 158 criminal cases have been instigated over serious offences. For instance, criminal cases were instigated over violations in the sphere of production of cotton, over other offences and abuses against heads of Syrdarya regional khokimiyat (Administration) and Department of Agriculture and Water Management, khokims of Mirzaabad, Bayaut, Saykhunabad districts, as well as Buvayda, Uchkuprik, Dangara, O'zbekiston, Rishtan districts of Fergana region, Kasansay district of Namangan region, Yangiyul and Bekabad districts of Tashkent region investigation is in progress.

Besides, disciplinary proceeding were instituted against 6 district khokims, 43 people were warned.

Based on the results of the analysis, one of the reasons of decline in productivity of cotton, failure to comply with agreements is untimely and low-quality of winter tillage. Last year, autumn-winter field cultivation work has continued until March 2004 and was poorly done.

Despite the fact that reports on timely completion of autumn-winter field cultivation work were presented, stipulated by the Decree № 520 dated 4 November 2004, not everywhere proper attention was paid to this important activity. The evidence that majority of fields in Samarkand, Syrdarya, Surkhandarya, Tashkent regions and Republic of Karakalpakstan, testifies that relevant conclusion have not been drawn from past year's mistakes.

Growth of seed-cotton and preparation of seeds doesn't meet the requirements of today. Because of the fault of responsible authorities, proper sorts of cotton plant for soil and climate condition of Ferghana region were not identified. Growth and quality and timely preparation of seeds in specialized enterprises are uncontrolled. As a result of negative occurrences, such as nepotism, regionalism seed cotton was grown by certain farming enterprises on small fields of 5-7 hectares.

As a result of absence of proper attention to preparation of seeds, the heads of districts and enterprises at their own will change sorts of cotton plant, which results in excessive production of some sorts, and not sufficient volumes of others; refinement and pickling activities are delayed.

The enterprises responsible for intake and processing of cotton within "Uzpakhtasanoat" (Uzbek Cotton Industry), as well as seed-farming laboratories of

“Uzgossemnadzortsentr” (Uzbek Center for Seed Control) have limited their functions to quality control and certification of grown cotton seeds.

Adoption of Decrees of the Cabinet of Ministers “On measures for perfection of organization of cotton seed-farming” (dated 23.12.2004 № 604) and “On volumes of distribution and getting cotton sorts in 2005” (dated 05.01.2005 № 4) were important steps in this direction. In accordance with the above mentioned decrees, for prevention of sowing cotton in high-salinity fields, water logging of the fields, causing damage to cotton plants by agricultural pests and plant diseases it is forbidden to sow rice and corn in proximity with cotton crops and the practice of cutting furrows on cotton fields in January and February was introduced.

Another important aspect – for preventing mixing of cotton sorts it was determined to sow two sorts of cotton plant within district borders and not more than one sort of cotton plant, within one enterprise.

One more important issue that deals with cotton growth is reinforcement of activity of bio-laboratories, fully forgotten in the past years. In 2004, extensive work on protection of agricultural crops, especially cotton, from pests and various plant diseases was carried out, the scale of usage of costly chemical pesticides has decreased in comparison with previous years by almost 1.5 times. This, without doubt, decreases the prime cost of the grown cotton and most importantly prevents environmental pollution and preserves the health of the rural population.

In spite of this, proper attention to preparation of bio-products and its application in agriculture is not paid in certain regions. Such pest as arachnid mite, cotton noctuid, thrips hurt cotton plants on large areas and result in loss of 25-30% of the crop some enterprises in Ferghana, Tashkent, Namangan, Andijan and Surkhandarya regions.

Some khokimiyats have not taken strict measures on carrying out qualitative defoliation and preparation for harvesting. Thus, this important activity was carried out poorly and much later than the scheduled period in Ferghana, Tashkent, Syrdarya regions.

Also offences in storage and usage of mineral fertilizers intended for 2004 crop on the cotton fields which led to decline in productivity were observed. It was revealed, 5,577 tons of fertilizers were embezzled in various ways.

Moreover, misappropriation of 498 tons of oil products allocated for agricultural needs also testifies for lack of proper order in this sphere.

Increasing interest of dekhkans in their work, the timely remuneration of labour, and other social protection issues remain as an important task. Based on data available, republic wide, wage debts in ministries and associations of agricultural system as of 1 January 2005 amount to almost 6 billion soum. Existing situation, especially in Andijan, Ferghana, Samarkand and Kashkadarya regions, requires taking urgent measures.

Tranche funds in the Republic of Karakalpakstan, Samarkand, Syrdarya, Surkhandarya, Jizzak, Bukhara, Kashkadarya, Khorezm and Tashkent regions, allocated for payment of wages, technical maintenance of agricultural enterprises, acquisition of oil and chemical products were allowed to be spent for unspecified purposes. In just the Republic of Karakalpakstan, khokim of Beruni district A. Juamniyazov, abusing his power, illegally spent 24.5 million soum targeted at growing agricultural crops and acquired two “Nexia” vehicles. Officials of Syrdarya regional territorial association “Qishloqxo’jalikkimyo” (Agricultural chemicals) spent 65 million soum of tranche money on unspecified needs, whereas in Jizzak region it amounted in 40 million soum.

Based on the results of 4.5 thousand monitoring and examination activities carried out by bodies of public prosecutor in the sphere of agriculture, approximately 76 thousand acts of public prosecutor's supervision were applied. Over serious violations, 1,296 criminal cases were instigated, with presentation and decision of prosecutors, more than 30 thousand people were instituted to disciplinary, administrative and financial responsibility. On a voluntary basis, those guilty covered material damage and unpaid advances worth 12.8 billion soum, lawsuits on reparation of damage worth 32 billion soum were filed to the courts.

As stated by President Islam Karimov during the meeting in Oqsaroy residence on 7 February, one of the main tasks is deepening economic reforms and further liberalization of the economy. At this point, the primary attention must be paid to elimination of artificial obstacles that prevent active development of entrepreneurship, small and medium size enterprises and farming movement.

In conclusion, we can say that agriculture requires serious attention. It is especially important to increase responsibility of chiefs and officials in this sphere and emphasize inevitability of punishment for every violation of the law. Only then intended results can be reached, that is achieving effectiveness of reforms in this sphere.

Agricultural Sector Review and Planning

C. Comments on Iterim Report

**PREPARED FOR THE ASIAN DEVELOPMENT BANK
AND THE MINISTRY OF ECONOMY**

(TAR: UZB 37148)

February 2005

The following are comments from Government agencies, businesses, banks, farmers, other stakeholders, as well as officials of the Asian Development Bank. Also included are minutes of meetings of several roundtables discussing the Interim Report and the status of Uzbek agriculture.

The Ministry of Finance of Republic Uzbekistan

30-December 2004.

The Ministry of Finance, having studied the draft of the report «Review of an existing situation in agricultural sector and its prospects», prepared by group of experts of the Project on rendering technical assistance «Agricultural sector Review and planning» of the Asian Development Bank, informs the following:

The working group of the given project has done the certain work on studying a present condition of agrarian sector of economy, which is one of the important sectors of economy of republic.

At the same time it is necessary to note, that resulted in the project data and conclusions do not reflect a full picture of an existing situation in agricultural sector. Some data resulted in the report, demands additional specification.

Besides some sections and sub items of the Report, in particular section II - Stagnation in agriculture; section III -Command and Control Farming (A. Precedence of unwritten laws, B. Repressive agricultural prices and trade policy, G- deteriorating rural living standards) inadequately and prejudicial reflect the present situation in agricultural sector and demand thorough completion.

Taking into account the aforesaid, we believe it is necessary to bring in specifications and corrective amendments.

Remarks and comments are applied.

The Deputy Minister M.Abdurahmanov

Uzselkhozmashtleasing

Having considered the draft of the report "Review of an existing situation in agricultural sector and its prospects ", prepared by group of experts of the Project on rendering technical assistance "Review and planning of agricultural sector" of the Asian Development Bank we inform, that on 31-page the quantity of the given in leasing machinery by company Uzselkhozmashtleasing is wrongly specified. For last three years (2001-2003) the company has put in leasing 5,835 pieces of tractors, including 8 cultivators, 4,639 ploughing and 1,188 transport tractors. Besides for these years, 303 cotton-picking machines and 1,271 pieces of agricultural machines of various kinds have been put.

By other part of the draft of the report we don't have comments and proposals.

Acting Deputy Chairman of Board, Mr. B.K.Taslimov

Association of Dehkan and Farms of Republic Uzbekistan

The Association of Dehkan and Farms of Republic Uzbekistan has studied the draft of report directed by you «Review of an existing situation in agricultural sector and its prospects» prepared by group of experts of the Asian Development Bank.

Draft deeply investigated and analyzed a condition and ways of development of an agriculture of republic, and issues like available negative phenomena, in particular

decrease in soil fertility, illegal interventions local Khokimiyats in activity of farms, lacks of system of the taxation and payments have been critically evaluated.

In section II.2, III.2, III.3 of the given report the role of dehkan and farms in system of an agriculture is fairly specified, and proposals are given on their development. In our opinion, the stated critical remarks and proposals on elimination of the available negative phenomena, negatively influencing on development of farms are a subject of due attention of the Government, and also the corresponding ministries and departments.

In the solution of these problems basic means is replacement of command measures by legal - economic measures.

The Republican Association of dehkan and farms and its territorial divisions being not state and noncommercial organization carries out the certain work on protection of the rights and interests of dehkan and farms, in rendering them production - technological, legal, information, marketing services, and also rendering of the advisory both methodological help to dehkan and farms in allocation and development of credits, including foreign credits. By results of the carried out monitoring, on a regular basis Association enters its proposals on elimination of available problems and lacks for development of farmers in republic.

It is necessary to note, that development of social - industrial infrastructures of village and a condition of security of farms by material resources is one of the important tasks requiring the prompt decision.

In republic there is an order of tranche target payment with farmers which has a number of lacks, in particular inefficient use of the allocated means, there are cases of compulsory transfer of means in the advance payment in serving enterprises, farms in essence cannot independently use earned by them money resources.

At times untimely allocation of advance and credit resources is the reason of infringement of term of payment of taxes and other payments. Despite that, tax services show to farmers penal sanctions for infringement of term of tax' payment.

Radical improvement of activity of banks is expedient. In many cases under a pretext untimely use of means, a part of the sums acted on a tranche is transferred on accounts of other organizations, thus the corresponding sum for a debit turnover of banks is kept from accounts of farmers.

The establishment of the payment order as the payer - bank - farmer would be appropriate.

The republican Association of dehkan and farms earlier repeatedly represented the Government problems, and the proposals of their solution, many of which are described in the above-stated draft.

Taking into account importance of elimination of the negative phenomena and the huge unused reserves, considered in the given project questions have great value for development of agriculture in Republic of Uzbekistan.

Simultaneously we are sending earlier proposed text.

Proposals - on 3 pages.

Chairman S. Kobilov

The Ministry of Agriculture and Water Resources of Republic Uzbekistan

The Ministry of Agriculture and Water Resources has studied the Interim report «Review of an existing situation in agricultural sector and its prospects», prepared by

group of experts of the Project on rendering technical assistance «Review and planning of agricultural sector» and informs the following:

Existing situation in agrarian sector of the country has been analyzed and attempt of definition of strategy of development of the agriculture, aimed on more productive and sustainable development is made in the report.

Farms already occupy a leading position in agriculture of Uzbekistan. Process of their creation intensively develops.

As it is marked in the Report, some lands remain unclaimed at formation of farms. A principal cause of it is presence of unproductive and poorly - provided by irrigation water lands.

Also it is marked in the Report, that assistance to private business in selling material technical resources (inputs) is condition for growth of the enterprises, to create a competition and will lead to a wider range, better service and more fair prices for farmers.

Having more stimulus and competing among themselves, farmers will gradually raise efficiency of their production, besides, they can be united and create whenever possible cooperative societies on manufacture of products, rendering of service, deliveries of resources and selling of production.

In our opinion and by analogy of foreign experience, for efficient control of agricultural production, it is necessary to strengthen research development for perfection of system of the taxation of agricultural producers on the basis of stimulation of their interest in carrying out resource saving technologies, that will allow to raise efficiency of pursued reforms, both for the benefit of producers, and as a whole of an agriculture.

First Deputy Minister, Mr. Djurayev

Comments to a response of Ministry of Finance

The Ministry of Finance in the remark to the comment results, that the general rate of the tax from wages makes about 43%, instead of 55%, as is specified in the report.

It is explained by the fact, that in the report the rate of uniform social payment of 33% from fund of a payment from legal persons irrespective of patterns of ownership (the Decision of the Cabinet of Ministers of Republic Uzbekistan from December, 25, 2003 №567) is resulted.

This parameter of 26% is counted up by the Ministry of Finance from wages + budgetary deductions. In this case it is possible to agree with a reason of the Ministry of Finance.

Interest from the sum of income tax from physical persons in the report is accepted in the average size of 21% (the sum of income tax from the salary up to five minimal salaries (the minimal salary 6,530 sum) makes 13%, from five till the tenfold size - 21% and over the tenfold size - 30%). The minimal percent of income tax is counted up from an actual average level of wages of 43.9 thousand sum (41.8 US dollar at the rate 1 US dollar 1050 sum for 2004) or from 6.72 multiple sizes of the minimal wages, that has made 17%. In this case also it is possible to agree with reasons of the Ministry of Finance.

However the Ministry of Finance at calculation of the general rate of the tax has not taken into account deduction from the salary in a pension fund at a rate of 2%, and to professional associations at a rate of 1%. Thus the general rate of the tax from fund of payment alongside with other obligatory collections makes: $26 + 17.5 + 2.5 + 1.0 =$

47%, in this case figure 55% should be corrected on 47%, instead of on 43%, as it is specified in the remark of the Ministry of Finance.

As for the remarks of the Ministry of Finance in the sixth paragraph on page-19 of the report, it is necessary to state in the following edition:

«Till 1999 the agricultural enterprises brought the essential contribution to non-budgeted social funds (social protection, pension fund, insurance on unemployment, professional associations, etc.). Such contributions were made as deductions about 40% from wages. In 2003 this sum has decreased to 37%. And payment of uniform social payment with the rate 33% was established in 2004 instead of obligatory insurance payments irrespective of patterns of ownership.¹

According to remarks of the Ministry of Finance of the seventh paragraph on 19 page of the report, it is necessary to state in the following edition:

Alongside with other obligatory collections, the general norm of the tax from fund of payment makes 47%. Untimely payment of taxes and tax collections by the unprofitable agricultural enterprises leads to increase in creditor debts against the budget.

¹ Order of Cabinet of Ministers dated December 25.2003 No.567 "On parameters of State Budget of Uzbekistan for 2004."

Comments on Interim Report

The minutes of a round table on consideration of the current report «the Review of an existing situation in agricultural sector and its prospects», prepared for the Asian Development Bank and the Ministry of Economics of Republic Uzbekistan.

Gulistan, Syr-Darya area, February 4-5, 2005

In discussion of the current report «the Review of an existing situation in agricultural sector and its prospects», prepared within the framework of the project «Review and planning of agricultural sector» have taken part 10 heads of farms, and also responsible heads and experts of an agriculture of Syr-Darya area:

Sherbekov Ahat-	Deputy chief of regional management of agriculture;
Primkulov Abdulla -	Chief accountant of regional management of agriculture;
Tajiev A -	Chief of the independent regional auditor company;
Mirzaev T - and farms;	Director of representation of regional Association dehkan
Jurakulov Sh - dehkan and farms;	Deputy director of representation of regional Association
Gorshkov Boris Ivanovich - Economist of the project «Review and planning of agricultural sector»;	
Djurayev Askar -	Office - manager of the project «Review and planning of agricultural sector».

Participants of a round table during speeches specified, that the condition of a rural economics of republic as a whole, and developments of farms is deeply analyzed in the report. The critical estimation is given of the available negative phenomena of command system, not lawful interventions local khokim in activity of farms, corruption of officials, lacks of pricing on production purchased for the state needs, problems in financing and crediting, and also systems of the taxation and payments with the procuring organizations and suppliers of financially technical resources .

Farmers have expressed positively regarding compensation of budgetary expenses connected with submission of irrigating water and introduction of paid water use . However, regarding pay for irrigating water farmers are not able now, as there is no real opportunity, in connection with unsatisfactory financial position of farms.

It is marked that, all problems are actual enough, especially in conditions of transition to market relations and deep reforming of economy. Rather extensive material on the most actual problems of development of an agriculture in modern conditions is collected, systematized and generalized.

On the basis of the analysis of the basic tendencies of development of this branch, report identifies priorities of sustainable development of agriculture and formulates strategy of agriculture development on mid-and long-term prospect.

In opinion of farmers, all critical remarks and proposals on elimination of the available negative phenomena, reflected in the report, and negatively influencing on development of farms should be brought into attention with the Government of Republic Uzbekistan.

In Syr-Darya area the most part of the irrigated lands (88%) is transferred to long-term rent at disposal of farms. In 2004 more than 7 thousand farms were present in

area, from them 95% made grain - cotton-growing farms, and 4% of a cattle-breeding direction.

During discussion of the interim report «Review of an existing situation in agricultural sector and its prospects» experts of representation of regional Association dehkan farms and heads of farms have stated accumulated problems in agriculture. Basically they are the following problems:

Annual targets are assigned to farmers on accommodation of a cotton and grain, that makes 93-95% from all area under crops. In 2004 in structure of crops, on all farms of area, forage crops made 3%, including Lucerne only 0.5%. It has an adverse effect on a crop rotation and worsens fertility of the grounds;

The overestimated establishment of the target on productivity of cotton, has led to that during lines of years the majority of farmers producers of a raw cotton do not fulfill the target. In result farmers do not have motivation in manufacture of raw cotton;

In the majority cases at accommodation and planning of productivity of cotton and grain in farms there is process of artificial overestimate of productivity against the lease of the ground with parameters land classification point of land, without taking into account natural position of the ground areas and water supply. In result significant number of farms, cannot execute contracts of cotton and grain that has a negative effect on a financial condition of farms ;

A heavy ameliorative condition of the irrigated lands, as a whole on area more than 97% of the lands are subject to a various degree of salinity, and by results of soil quality on the irrigated lands average land quality is the lowest of all areas of republic, which makes-49;

The main reason of low profitability of farms, and frequently non-profitability is low procurement prices of cotton and wheat purchased for the state needs;

Many farms have no agricultural machinery and use machine-tractor parks (MTP). Low security MTP tractors and agricultural machinery, does not allow in due time (in the established agro-technical terms) to make the technological works connected to crop, care and harvesting that is negatively reflected in productivity and total collection of cotton and grain crops;

By granting preferential credit resources under turnaround means, on places, they do not take into account data of business - plans of farmers, farmers are compelled to be served only in banks in a place of their presence, rights of farmers in a choice of serving bank thus are roughly broken. Credit resources on capital investments (purchases of tractors and agricultural machinery) are not practically accessible for farmers , in connection with high interest rates;

Low security and not equation of mineral fertilizers, untimely delivery leads to to significant decrease in productivity of agricultural crops.

Infringements occur at organization of farms by the tender, at re-structuring agricultural co-operatives (shirkats). Quite often best sites are allocated unfairly.

The economist of the project Gorshkov B.I.

Minutes of the round table discussion of the Interim Report of the Project of the Asian Developments Bank (ADB) «Review and Planning of Agricultural Sector» on theme «Review of an Existing Situation in Agricultural Sector and its Prospects» with participation of farmers and representatives of Association of Dehkan Farms.

Tashkent January, 17, 2005.

Participants:

A.Bahriddinov –	Head of department of Association dehkan farms (ADF) of Republic Uzbekistan
A.Umidov -	director of representation ADF in Kasanski area of Kashkadarya region.
R.Sharapov -	the head of a farm «Sharapov Giyos bobo» of Kasanski area S.Rakhimov the head of farm "Gallaaral"
A.Haddiev-	Deputy Director, representations ADF Hatyrchinski area of Region Navoi.
T.Tuhtaev-	the head of a farm "II - 2000"
I.Rafikov-	acting director of scientific research institute of market reforms
A.Hamdamiyov-	the scientific secretary of scientific research institute of market reforms
I.Holmirzaev-	head of department of scientific research institute of market reforms
A.Juldashev-	senior scientific employee of scientific research institute of market reforms
B.Muminov -	scientific employee of scientific research institute of market reforms
R.Husanov -	professor, the expert of the project
M.Kasymov -	researcher of the project

Agenda:

Discussion of the interim report of ADB project «Review and planning of Agricultural sector» on a theme «Review of an existing situation in Agricultural sector and its prospects».

Speakers:

R.H.Husanov-expert of the project:He has shortly reported on the contents of the current report of the project.

A.Bahriddinov:

Has stopped on the value of the report and has suggested to include in the report paragraph reflecting development of an infrastructure for farms, and developing proposals on protection of the rights of farms.

S.Rahimov: During production there are number of problems which are connected with reception of the petroleum products, credits in bank, technical equipment for cleaning drainage networks and improvement of an ameliorative condition of the lands. Service organizations frequently do not carry out the treaty obligations. In present time the income of farmers does not allow to buy even one new technical equipment. Besides farmers have no easy access to resources, which like before, are allocated according to the established limits.

S.Rakhimov asked that these problems would find its reflection in the modified variant of report

A.Haddiev: Despite of specialization of farms on animal industries or vegetable growing, local khokimiyats demand to sow grain and cotton. The crop rotation of agricultural crops is not observed. The mechanism of mutual relationships between farms and representations of association dehkan farms does not meet the requirements of farmers. Farmers still have not received completely means for raw cotton.

Untimely payment for agricultural products also negatively influences on financial condition of farmers.

T.Tuhtaev: Now farmers have no right to use freely own money resources. In spite of the fact that the farmer has no debts, money by existing rules is transferred on special account of the farmer and then will be withdrawn again. Though farmers do not use these means, charges of bank transfers becomes covered due to farmers. Farmers under the instruction of local authorities are obliged to hand over all their production. A number of farmers have no contract with MTP, but the means allocated on a tranche are transferred from the settlement account of farmers on MTP.

A.Umidov: It is expedient to restore a crop rotation in agriculture. In present time clearing of collector-drainage networks does not meet the requirements. There is no ameliorative technical equipment. On this it is expedient to allocate long-term soft loans for land reclamation, to strengthen material base of association of water-users.

R.Husanov: I think, we had very useful discussion and, we shall try to reflect all stated opinions in our final report.

Chairman of session

Professor R. Khusanov

Secretary

M.Kasymov

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Tashkent January, 17, 2005

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A.Haddiev-	Deputy Director, representations ADF Hatyrchinski area of Region Navoi.
T.Tuhtaev-	Head of a farm "II - 2000"
I.Rafikov-	Acting director of scientific research institute of market reforms
A.Hamdamiyov-	Scientific secretary of scientific research institute of market reforms
I.Holmirzaev-	Head of department of scientific research institute of market reforms

A.Juldashev-	Senior scientific employee of scientific research institute of market reforms
B.Muminov -	Scientific employee of scientific research institute of market reforms
R.Husanov -	Professor, the expert of the project
M.Kasymov -	Researcher of the project

Agenda:

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R.Husanov: I think, we had very useful discussion and, we shall try to reflect all stated opinions in our final report.

Chairman of session, Professor R. Khusanov

Secretary M.Kasymov

Minutes of the round table discussion of the interim report of the project of the Asian Development Bank (ADB) «Review and planning of agricultural sector» on theme «Review of an existing situation in agricultural sector and its prospects» with participation of scientists of Uzbek research Institute of market reforms in agrarian and industrial complex.

Tashkent January, 14, 2005.

Participants:

I.Rafikov-	acting director of Institute
T.Farmonov-	head of department
N.Hushmatov-	head of department
P.Kasymbekov-	leading scientific employee
A.Hamdamiyov-	scientific secretary
I.Holmirzaev-	head of department
O.Juldashev-	senior scientific employee
R.Husanov -	professor, the expert of the project
A.Djurayev-	the office-manager of the project
B.Gorshkov-	the economist of the project
M.Kasymov –	researcher

Agenda:

Discussion of the interim report of ADB project «Review and planning of Agricultural sector» on a theme «Review of an existing situation in Agricultural sector and its prospects».

Speakers:

R.H.Husanov-expert of the project:

Shortly reported on the contents of the current report of the project. Read out responses and remarks of the Ministries and departments on the interim report «Review of existing situation in agricultural sector and its prospects»

N.Hushmatov-head of department of scientific research institute of market reforms:

Expressed importance of the problems raised in the report for development of agriculture in Uzbekistan. At the same time N.Hushmatov considers necessary to expand the fourth and fifth chapters, with inclusion of important questions and to give specific proposals on these questions, like land tenure and land property. As in his opinion, the report demands good edition and reduction of a theoretical part.

I.Rafikov-acting director of institute:

In the report it is expedient to expand the unit devoted to delivery of agricultural machinery on leasing, and to determine the basic directions on strengthening material base of an agriculture, as well as to maintenance of farmers with agricultural machinery. I.Rafikov considers necessary special consideration of a question of development of agricultural mechanical engineering in Uzbekistan.

P.Kasymbekov. The scientific employee:

The report represents the big interest. It covers all basic problems inherent to agriculture. In a final variant of the report it is expedient to develop proposals on strengthening institutional bases of agriculture.

I.Holmirzaev-head of department:

Has stated that the report has not reflected positive results achieved in agriculture. It is impossible to say that everything is bad in agriculture of Uzbekistan today, as a lot of positive has been done, especially on questions of self-maintenance with foodstuffs.

In discussion participated, executors of ADB project: B.Gorshkov and Askar Djurayev. They have shared the opinions and proposals on improvement of quality of the report and elimination of remarks.

In view of the stated opinions and proposals of participants of the session, the following decision has been taken:

To finish the report in view of the stated remarks.

To organize round tables on discussion of the report in Association of dehkan farms and the MAWR during 10 days.

Chairman of session **professor R.H.Husanov**

Secretary **M.C.Kasymov**

Round table on discussion of the interim report of the of the Asian Development Bank' project (ADB) «Review and planning of agricultural sector» on theme «the Review of an existing situation in agricultural sector and its Prospects» with participation of employees of MAWR department in Surkhan-Darya area

Termez February, 4, 2005.

Participants:

SH.Pattaev -	Head department MAWR the Surkhan-Darya area
R.Sadullaev -	Head of department MAWR Surkhan-Darya area
H.Sattarov -	Head of department MAWR Surkhan-Darya area
ZH.Husanov -	Head of Department MAWR Surkhan-Darya area
K.Chorshanbiev -	Leading expert Department MAWR Surkhan-Darya area
CH.Allanazarov -	Chief of a department of Angora district of the Surkhan-Darya area
N.Bektoshev-	Deputy chief of a department Angora district of the Surkhan-Darya area
M.Kasymov -	Researcher of the project

Agenda:

Discussion of the interim report of ADB project «Review and planning Agricultural sector» on a theme «Review of an existing situation in Agricultural sector and its prospects».

Spoken:M.Kasymov the researcher of the project: He has reported on the contents of the current report of the project.

N.Bektoshev: Now there is a process of reorganization of low profit shirkats in farms. It promotes more rational use of land-water and other resources in Agriculture. I think, that we should carry out organizational actions not in January or February, much earlier. If, the farmer sows the winter wheat in autumn, and carries out all agro-technical practices, the result will be much better.

S.Pattaev: During production there are a number of problems, connected with contracts. The service, supplying and procuring organizations in many cases do not carry out treaty obligations. As a result of it some producers remain in difficult position. Farmers receive services and resources out of time and insufficiently. Final paymentst for the sold raw cotton are made through 5-6 months.

CH.Allanazarov: Now the ameliorative condition of lands is in unsatisfactory condition. A financial condition of many agricultural productions, in particular farms, does not allow to carry out large-scale agro-ameliorative action. Therefore the state support is necessary for farmers. Carried out action does not satisfy their requirement. Besides we should develop animal industries in large-scale enterprises. Now we sharply feel shortage of organic fertilizers. In a place with that we should restore a crop rotation.

H.Sattarov: More than 6 thousand farms function now in Surkhan-Darya area. Creation of the adjusted system of training and retraining of farmers is our priority. In the given moment system of advisory service for farms does not meet the requirements. There is a shortage of highly skilled experts in the advisory centers and representations of Association dehkan and farms. Besides, state or other donor organizations should support creation of the advisory centers for farmers.

ZH.Husanov: Security of farms by agricultural machinery is in bad condition. Especially, in new farms this problem gets a special acuteness. Therefore it is expedient to develop the state program on support of the created farms in initial stage of their activity. Besides it is necessary to define precisely functions of representations of Association dehkan and farms and regional and aerial managements of MAWR. I think, the group of Technical assistance should develop concrete proposals and recommendations under the decision of the stated problems and to present to governmental bodies.

K.Chorshanbiev: In the end I want to add, that the solution of such problems, as improvement ameliorative condition of farmland, maintenance technical means of agricultural productions, demands huge money resource. Would be expedient, if foreign investors and international financial institutions have supported us in these spheres. M.Kasymov:The group of Technical assistance requires your support at realization of the project. I think, that very useful discussion have taken place and all stated opinions, will be reflected in our final report.

The secretary of session M.Kasymov

Comments from ADB

Thanks for this interesting and well written report (sections for completion noted) updating the situation and issues on Uzbekistan agricultural sector policy and performance. Its candid style makes it an interesting read, highlighting key concerns from farmers and donor perspectives.

I hope the UZB government sees the hard hitting assessment and criticism of existing policy and its effects on overall declining sector performance as constructive and necessary to lay the basis for looking for better solutions in the future. People with experience in dealing with the UZB government will be best placed to judge the appropriateness of the report's tone and the extent to which offering policy options or otherwise is a workable tactic.

I also think that the way to convey the seriousness of the situation to policy makers and help them to understand the counterfactual scenario of doing nothing or tinkering could be improved. Also options for the sector development road map need further development in the context of the timing and sequencing of reform and development activities in key areas. Specifics follow.

Assessment of Command and Control Farming

Use the assessment to establish the without-reform counterfactual The assessment of the impact of the current policy of continued Command and Control Farming, at least for cotton and wheat, presents a bleak picture. The policy affects all key components of the production function including land, capital, water, fertilizers, seeds, marketing channels. The future outlook for the sector, and the macroeconomy, under the present policy regime is likely to lead to further falls in cotton production in particular, falls in the government's key revenue source and a decline in the overall fiscal situation, decreasing rural incomes and increasing rural-urban income disparities, increasing rural out-migration, increasing and potentially irreversible land degradation and increasing water conflicts. This all comes out in the report but in a borderline dogmatic way which has the potential to be denied by policymakers and vested interests preferring the status quo under the current policy regime.

It would be useful if Section III concludes, with key tables and data, by (a) summarizing the without reform counterfactual for the macroeconomy (fiscal situation), (b) future without reform sector structure, conduct and performance (including likely future production trends for coops, family and dkhan farms), (c) likely environmental impact included estimated decline in usable agricultural land. This could be done over say a five to ten year period with a clear listing of assumptions to qualify an estimated projection. This type of information would help to inform the upcoming conference on the realities of the current course and provide a basis for comparing alternative policy paths. It would likely be disputed but having some figure on a future without reform scenario is better than a generalized and qualitative-only statement.

What is the binding constraint? The list of problems affecting production comes across as somewhat overwhelming: precedence of unwritten laws; repressive agricultural price and trade policy; deteriorating irrigation service; monopolized farm inputs and services; monopolized farm output markets; and directed credit and lack of commercial banking services to the sector. As lead into the section on Priorities for Sustainable Rural Development, it would be helpful to conclude each subsection in this chapter as to which constraints are binding, that is which ones are critical constraint that limits progress in other areas.

Use a problem tree diagnostic to help show solutions A well-structured problem tree would help in this respect. Attached is an example of an ARD problem tree which

rather than starting from scratch uses a problem taxonomy approach under which most problems fall. It also has focuses on five key meso-level areas: incentives; institutions; innovation; infrastructure and finance (adapted from the recent Rodrik paper on Growth Diagnostics) . From the report it would seem the binding constraint is farmer incentives and price policy in particular. This is followed by institutional problems such as poor property rights and contracts and suppressed markets.

The institutional problems are likely to be more of a medium term issue and will require careful analysis to see what needs to be done, how, and in what sequence. For example what is that status of developing agencies for handling land rights? Do extension services know anything about non-cotton and wheat production and market-driven production? What would need to be done to convert banks from an extension of the government to a fully commercial based banking system?. But I agree that the price policy issue, and its components, is the first step. I also agree that this is where the government will likely need some budget assistance during the transition period, but borrowing limitations would feature prominently here too. Padmini would know more about this.

One feature of this section of the report is that in each of the subsection discussed, there are signs that something is being done, even if current countervailing policies and practices are suppressing potential. I suggest that areas where there are signs of life, however modest, in terms of a response to market-based system, such as the dekhan farms, simplification of the agricultural tax law, new WUAs, liberalization of non-cotton and wheat production, establishment of the cotton exchange etc, pilot projects etc, be highlighted in relation to sector priorities listed. This is more tactical in that at least it shows that the government is acting on something in the right way and showing where is needs to do more. But, agreed, the obvious policy inconsistencies should also be noted.

In terms of infrastructure the report mentions failing irrigation works but not much else. What about regional and rural roads, power etc? Does this have any bearing on sector performance?

One analysis used and mentioned in the report but figures were not provided is the Domestic Resource Cost ratios mentioned on page 18. These are a simple and very useful way of allowing policymakers to see the effects of price related reform measures on economic efficiency (the report often mentions improvements in economic efficiency but provides no way of assessing order of magnitude). Simply presented tables of the factors that affect DRC as well as similar private ratios (costed in financial prices) would also help to inform policymakers of alternative actions. The diagram on Government Tax is useful (a bit hard to understand) - more use of simple table and graphic presentations of this kind for cotton and wheat farming would likely be helpful. I think this was done for the UZB grain sector project but the ML did not use them in the end. Perhaps have the consultants look at this work and see if they can find a use to help inform the government.

Priorities and Planning for Efficient Agriculture

The items listed in this section do indeed focus on incentives as the first priority, public and private institutions, finance, and also value addition in the sector. Again infrastructure does not get much mention. The planning section talks in general terms about a strategy for rural development and future vision, but more in terms of policy preferences by the consultants (and probably the donors they represent). Again a tactic for the conference is to show where the sector is now, where the government wants to be in say 10 years time, and to present alternative paths and help them see which paths are likely to help then attain the 10 year goal given current performance and trends. Also one possibility is to use the PIA matrix (use it more as program impact assessment matrix using analysis done by the consultants) Loudres used for

Fujian II to help work through the distribution and time effects of different alternatives, as well as to help! identify reform and development enhancement and mitigation measures. The note for this is also attached.

Finally, who will be the 'stakeholders' at the conference? Obviously there will short-term gainers and losers in this reform process and the report suggests that the status quo and vested interests are so strong that they will likely overwhelm farmers and reformers. How will representation of stakeholders on both sides be handled in the conference given the current political setup in UZB? In such a situation laying out alternative paths, the costs and benefits of doing so (from a reform point of view), and their likely outcomes is necessary. By the way once this work and the conference is complete it should get a wider audience in ADB at least.

Some food for thought on this challenging issue in Uzbekistan. We can discuss directly too.

Comments from the Center for Efficient Economic Reforms, a research establishment of the Ministry of Economy

The review On the current report «the Review of an existing situation in Agricultural sector and its prospects», Prepared for the Asian Development Bank and The Ministry of Economy of Republic Uzbekistan (THE TAR: UZB 37148)

The problem is actually enough for research, especially in conditions of transition to market relations and deep reforming of economy. Rather extensive material on the most actual problems of development of agriculture in modern conditions is collected, systematized and generalized. On the basis of the analysis of the basic tendencies of development of this branch, report prioritizes sustainable development of agriculture and formulates strategy of agricultural development on mid-and long-term prospects.

Statement of problem and strategy of further development of an agricultural production causes the big interest and deserves special attention from the point of view of the further perfection of the report, on the basis of specification of separate positions, which are equitable to political, social and economic interests of Republic Uzbekistan, formation of logic structure of the stated material, and also elimination of the certain discrepancies in a statement of a material and editorial errors.

With set of the facts, which are resulted in the report, it is difficult to not agree, especially it concerns excess of officials, khokims of areas and regions in relation to shirkats and especially to farms. The farmer should become the real owner of the land and produced on it (except for cotton and grain) and to get wide access to financial and material resources. The uniform land tax, really, should become basic, and perfection of price factors and decrease prices' disparity for agricultural production and material resources should provide profitability of the basic producers of agricultural production and greater freedom in its realization in the internal and external markets. The social status of agricultural population requires radical improvement, and participation of women instead of men in performance of heavy manual works causes negative feelings.

Abundantly clearly, that the agriculture of republic requires serious approaches of reforming that is basic for improvement of economy of other branches, and of the country as a whole. Especially it concerns to budgetary - tax system and price distortions, which take place in an agriculture and reduces interest of manufacturers in the work and increase efficiency of this sector.

All this obviously also finds the reflection in the researches of scientists of republic engaged in problems of an agriculture, in which the basic positions of perfection of reforming of this important branch are stated, including for long-term prospect.

However in the report there is a set of positions with which it is impossible to agree.

Basic remarks. So negative position in relation to the state in questions of reforming of an agricultural production is completely unacceptable. For years of independence it has made much for revival of this branch, taking into account, what inheritance republic has got from the past. Truly, that has not done without tests and mistakes, but people, basically, is fed and the tendency of growth of an export potential of agricultural raw material and production is maintained. All efforts of the government have been directed on efficiency of reforming of an agriculture, and maintenance of steady manufacture as cotton, and grain. Grain independence is a considerable achievement; growth of number of farms - also result of an agrarian policy of the state, and it is achieved. All accepted laws and the issued decrees of the President and the decision of the Government pursued one purpose: to create favorable

conditions for development of an agriculture and functioning of farms. Other thing is that not all legislative orders work, and on places officials, khokims and their assistants frequently carry out a policy, which is not good, but harmful.

The administrative-command system, if it can be named so, and I would name it rigid regulation, is distributed basically to cultivation of a cotton and wheat, that is quite justified in transitional conditions, but on civilized, law guaranteeing level, and under condition of significant restriction of arbitrariness of local authorities and the officials supervising this process.

It is impossible to agree that it is necessary to give the land, which is transferred to 30-50 years to farmers, to transfer them forever (or by right of succession).

Now at all it is not necessary to do(make) it; the ground - property public to divide(share) her(it) all between farms without the corresponding control over its(her) effective use - it is impossible. This term in conditions of transition to the market (the market as such still is not present) is quite sufficient for reception of effect from the capital enclosed in it(her). Other business - authority of officials and not always the proved withdrawal of this ground at the farmer in view of frequently biased reasons. Besides the farmer is not always prepared for severe constraints of managing, his(its) qualification and the general(common) level of rational managing very low, the same concerns to that generation to which it(he) should transfer a management(manual) of a facilities(an economy), i.e. time for transfer of the ground by right of succession from right its(her) purchase and sale has not come.

Recommendations in the report concerning introduction of a payment for water (she(it) is included in the small sizes into the ground tax) also are unreasonable.

In conditions, when a financial condition of facilities(economy) heavy, when an infrastructure of submission and distribution of water resources, basically. Is on a low level, and losses of water are significant, is especial at an interfarm level as it is possible to speak about a payment for water at an official level. Water resources are also national property and is not subject to sale and purchase.

The question can stand about reduction of losses of irrigating water and a substantiation of sources of financing for creation of a necessary infrastructure.

The problems put in the report connected to perfection of irrigational systems, volumes of financing on these purposes and necessity of transfer of an irrigational infrastructure to farms which become in the long term the basic manufacturers of agricultural products are important. In far prospect it can be possible; now - is not present. To contain such volume of engineering constructions and networks not under force to facilities(economy) in present conditions.

It should do(make) and henceforth the state due to the budget and attraction of other sources of financing.

Developers of the report see a unique source of a covering of these and other charges increase of the prices for a clap(cotton) and grain.

The state does(makes) it gradually in view of available opportunities and a condition of the budget of the country. Taking into account, that the prices for a clap(cotton) in the world market will be reduced in the long term, and increases in the budget is not expected yet in what this increase can result - it is not known. This problem remains and is of great importance for improvement of a financial condition ширкатных and farms.

It is necessary to think of how to moderate appetites of monopolists which buy up production of manufacturers under the low prices, and sell material resources under the high prices.

The private sector in an agriculture is advanced poorly if to exclude farms. It, basically, дехканские facilities(economy) and a part of production of farms which they realize, generally, in a home market. About a free competition of speech while cannot be in view of absence of the civilized market and omnipotence of the exclusive enterprises, in which hands - purchase and processing of agricultural raw material.

Investment appeal of an agriculture, it is especial for foreign investors, in view of specificity of an agriculture, insufficiently high. Creation of small enterprises in a countryside, is especial on processing agricultural products, also is limited. But to develop agrarian business at amplified(strengthened) support of the state and local authorities it is completely necessary; without it market attitudes(relations) will not be ratified in this important sphere.

In conditions of deficiency of budgetary funds and limitation of local budgets the strict control of the means received by farmers on cultivation of strategically important cultures - a clap(cotton) and wheat is required. And that officials transform process of reception of this money into a feeding trough for themselves, this big infringement; participation of the state in it practically is not present, but it is necessary for eradicating the most rigid methods. Supervision of law enforcement bodies of this process also not always benefits and protects interests of farmers.

The commercial credit - is practically inaccessible, high percent(interests), for short terms and on the security. And how differently? It also is a private property, she(it) first of all cares of the interests. With it to do(make) nothing, the nearest years process to speed up it is impossible, unless only to reduce illegal certificates(acts).

Conclusions and the offers made by authors of the report, are rather schematical, they do not contain constructive offers and the mechanism of realization of priority directions of improvement of an agriculture. Especially it concerns the long-term period of his(its) development - a continuous Utopia, is especial concerning a role of the state in reforming an agriculture.

The civilized market will not be created yet, which itself will define(determine), « what to make », « where to send » what to form the prices, etc., the state should not depart from regulation of the processes occurring in all branches, including and in an agriculture. To weaken a degree of pressure it is necessary and to transfer a number(line) of the powers to local authorities - it is necessary, it is necessary to protect also from rough intervention of local officials in activity of farms that breaks rights of the proprietor and creates conditions for negative social consequences.

As the positive moments in research of the given serious problem in research of the given serious problem many the positive moments have been marked in the report, many. But the report and his(its) structure demand significant perfection. The logic and style of a statement does not maintain any criticism.

In this plan it is necessary:

To make new structure and the order of a statement which would answer the primary goals of the report;

To clean(remove) from the text all sharp expressions which do not emphasize an acuteness(a witticism) of a problem, and cause feeling of tearing away of interest and aggravate the certain aggression.

It not style of the scientific report. It(he) should be sustained with a stress on stage-by-stage, instead of the momentary decision of all problems.

In the report many editorial errors, language of a statement is not always clear and accessible in understanding of essence of the text.

In the report mentioned the separate facts which are not documented. "Takes place" is it is necessary to prove.

In the text remarks page by page are made, it is a lot of them and it is necessary to approach to this seriously.

The circle of an audience to which should consider all questions which are analyzed in the report, should be rather expanded. There should be all officials who answer particularly for those sites of work which are analyzed in the report and cause special alarm.

Conversation should be serious and constructive, with an explanation why in an agriculture there is such conditions when the honest work is not remunerated why reigns such arbitrariness and how to help an agriculture get out of such position.

It is necessary to take into account, that America went to a modern condition more than 200 years, and now the American colleagues hurry us with carrying out of constructive reforms in this complex(difficult) sphere where it is bad with the ground, water, the staff, and to support export opportunities of an agriculture it is necessary for maintenance of the certain stability. It is difficult for making during the short period. All questions are necessary for solving stage by stage, with allocation of priority, basic directions which could lower gradually intensity in this important sphere; the special attention, first of all, is necessary for concentrating on increase of a standard of life of agricultural population and a material interest of manufacturers of agricultural production, and certainly to protect them from an arbitrariness of local administration.

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