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Expanding Finance in Rural Areas

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for Reconstruction and Development

EXPANDING FINANCE IN RURAL AREAS

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The two country studies are the result of a series of consultations involving public and private stakeholders in Kyrgyzstan and Tajikistan, in particular from the relevant ministries, central banks, bank and non-bank financial institutions, international financial institutions, multilateral and bilateral donor agencies, non-governmental institutions, farmer associations, associations of the private sector, farmers and clients of financial institutions.

The main writers of the report are Mr Michael Marx (FAO, Investment Centre Division) for the Kyrgyzstan Study, and Mr Frank Hollinger (FAO, Consultant) for the Tajikistan Study, under the supervision of Mr Emmanuel Hidier (FAO, Investment Centre Division). The report was reviewed by Ms Sabina Dziurman (EBRD, Group for Small Business), and Mr Emmanuel Hidier (FAO, Investment Centre Division).

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Currency Equivalents
(2006)

USD 1.00 = KGS 40.7800 (March 2006)
KGS 1.00 = USD 0.0245

Abbreviations

AAK	Association of Agro-Businessmen in Kyrgyzstan
AsDB	Asian Development
cif	cost, insurance, freight
DFID	Department for International Development
EBRD	European Bank for Reconstruction and Development
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCCU	Financial Company for Support and Development of Credit Unions
fob	free on board
GDP	Gross Domestic Product
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFDC	International Fertility Development Center
IFI	International Finance Institution
KAFC	Kyrgyz Agricultural Finance Corporation
MCA	Micro-credit agency
MCC	Micro-credit company
MFC	Micro-finance company
MFI	Microfinance Institution
MSFF	Kyrgyz Micro and Small Enterprise Finance Facility
MT	Metric ton
NBFI	Non-Bank Financial Institution
NBKR	National Bank of the Kyrgyz Republic
NES	Not elsewhere specified or included
NGO	Non-Governmental Organization
PAR	Portfolio at Risk
SME	Small and medium enterprises
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

(i) **Introduction**. *This feasibility study was undertaken on behalf of the EBRD during the period August 2005 to April 2006. Its objective is to assess the different option of increasing the engagement of commercial banks receiving support under the Kyrgyz Micro and Small Enterprise Finance Facility (MSFF) in agricultural lending. For this purpose, two brief missions to Kyrgyzstan were undertaken and a separate survey on farm households and agro-processing companies commissioned to a consultancy firm.*

(ii) **Economy**. *The size of the Kyrgyz economy was about USD 2.2 billion or KGS 94 billion at market prices in 2005. The average GDP per capita is thus USD 430 per year. The main origins of GDP in 2004 were services (42%), agriculture and forestry (37%) and industry (21%). From 1991 to 1996, the GDP decreased by about 50%. Recovery started in 1996, driven predominantly by the growth in agriculture and gold production, and economic growth stabilized around 5% annually. Real GDP growth rates were 7.0% and 7.1% in 2003 and 2004, but dropped in 2005 (-0.6%). In 2004, exports amounted to USD 733 million, while the value of imports was USD 941 million. Since 2000, the rate of inflation has remained within the single-digit range. Data for 2005 indicate a yearly inflation rate of 4.9%. Real GDP is expected to grow 5.0% in 2006 and 5.5% in 2007, and the inflation rate to grow by 5.7% and 4.5% for 2006 and 2007 respectively. The national currency devaluated against the USD from about 1:48 in 2000 to 1:44 in 2004, and has remained more or less stable in 2004 and 2005, with one dollar exchanged against about 41 soms.*

(iii) **Agricultural sector**. *Agriculture is the single most important economic sector of the country. Agriculture employed 950 000 persons in 2003 or 52% of the total workforce, contributed 36.6% in 2004 to GDP, and accounted for 11% of total exports worth about USD 81 million. The most important agricultural exports are cotton lint, sugar and tobacco. All other export items are of much lesser importance, but each one represents a specific market niche whose expansion is to be assessed from case to case.*

(iv) *Only 1.411 million ha are arable, of which three quarters are irrigated. Most of agricultural lands are pastures. Along with the process of land distribution, intensification of land use has increased. The agricultural system is marked by high levels of dispersion of activities and crops, with only wheat, potatoes and cattle being exceptions. The single most important crops are wheat, potatoes and cotton, followed by barley, maize, tobacco, sugar beet, rice, oils seeds and vegetables (including cabbages, tomatoes, onions, carrots and cucumber). The most important tree crops are apples, followed by apricots, pears, quinces, walnuts, cherries, grapes and peaches. Some berries and mushrooms also have a good potential for export. The livestock sector is the most important activity in marginal lands and high altitude pastures, and is dominated by cattle, followed by goats, sheep, horses, yaks and pigs. Cattle meat and cow milk are the most important products. Consumption of fertilizer and agro-chemicals is below world averages, which has to do with the profitability of the investments, the absorptive capacity of the markets and the lack of a reasonable system of supply after the disappearance of the state-controlled institutions during the period of centrally planned economy.*

(v) Since independence, three types of agricultural production units have now emerged, comprising: (i) households, (ii) private farms, and (iii) agricultural enterprises and collective units. A large number of households (0.9 million) produced about half of total output on 5% of the total arable land of the country. A much smaller number of private farms (one quarter of a million), which used on average about 4 ha of land, contributed 40% to total production, employed about half of the agricultural workforce and contributed about 60% of the total value added on 70% of the arable land. Finally, the small number of ex-kolkhozes uses much larger areas for production, but their efficiency as measured in terms of value addition and input-output ratios is much below that of the private farms and households. Private farms are therefore the most interesting type of clientele for commercial banks. Households with their small plots hardly have enough land to justify major investment, and may therefore be more adequately served by the MFIs and credit unions, unless they would want to invest in processing and machinery.

(vi) The agro-processing industry is relatively important for the country, but still underdeveloped. The total domestic market demand for processed fruits and vegetables alone was estimated at about KGS 1 billion, mostly coming from the urban population in Bishkek. The number of functional agro-processing companies is about 100, mostly producing pasta, bakery, dairy, meat, fodder and fruit and vegetable products. Domestic processors usually, but not always have old and obsolete machinery, have poor or unattractive packaging and labelling, offer their products in poor design, sell unbranded and generic products and compete on price and not on quality. Management is often not very qualified, and lacks marketing skills. Companies that have survived the collapse of the former Soviet Union and the break away of traditional markets appear to be fragile and operate in small markets with narrow margins. Recent investments have been made by foreign companies in the sugar refinery, meat processing, dairy, juice and pasta production sectors, which have better management, marketing opportunities and access to term finance.

(vii) While many agricultural products have a good production potential, the entire sector is not well organized, lacks coordination, and suffers at the same time from over-production leading to gluts in domestic markets as well as insufficient production quantity for exporting. Marketing is one of the prime constraints. It mainly serves the domestic market, and to a much lesser degree the sub-regional markets (Russia, Kazakhstan, and Turkey) for raw/fresh products or semi-processed goods. Producers and processors often serve small market niches, as they do not have the raw material basis and production capacity to serve larger markets in particular in Russia, or lack the organizational skills and finances to increase output. The shallow domestic markets do not permit large-scale investments in machinery and equipment to reach higher levels of economies of scale. This applies to both the farmers as providers of raw material as well as to agro-processing companies. Agriculture in Kyrgyzstan may not have the capacity to serve large markets, and its future seems to lie more in supplying smaller to medium-sized market segments with above average to higher quality products, which are produced and processed along international quality and hygiene standards. Some sectors and crops appear to be quite profitable even if financed by bank loans, and have a good market at the same time, in particular cotton, tobacco, barley, sugar beet, lucerne seeds, seed potatoes, tomatoes, cucumber, cherry tomatoes, berries, cherry, fresh beans, medicinal herbs, cattle, goat and sheep breeding in general, for both dairy and meat production; horse milk; yak and pig raising; silk and wool production; and fresh water fish production.

(viii) **Financial sector**. *The most important institutions in the financial sector of the Kyrgyz Republic are 19 commercial banks, the Kyrgyz Agricultural Finance Corporation (KAFC), 106 microfinance institutions (MFIs) and about 306 credit unions. Total loans outstanding of all licensed financial institutions as at the end of 2005 accounted for only 12.5% of GDP, which is very low. Interest rates fluctuate widely between different types of institutions and within sub-sectors. Commercial banks charged on average 25% for loans in KGS and 17% in USD, and mostly charge 18-20% for loans in USD and at 25-33% in KGS. The KAFC currently applies a lending rate of 12%. Commercial banks are by far the most important type of financial institutions. By the end of 2005, they accounted for 69% of all loans outstanding by the financial system, and 100% of all deposits. The total value of loans outstanding of all 19 commercial banks was equivalent to USD 205 million. KAFC accounted for 14% of all loans outstanding by the end of 2005, MFIs for another 11% and credit unions for 4%.*

(ix) Lending had been one of the key constraints of the commercial banks after the collapse of the Soviet Union. Many banks became insolvent and had to be closed. One of the reasons was the lack of capacity to undertake loan appraisals along classical banking standards. As a consequence, the intermediation rates have been traditionally rather low. With increased confidence, capacity building, new banking regulations, stronger emphasis on compliance of banks with prudential guidelines, and increasing competition, banks have gradually increased their loan portfolios and the quality of their portfolios. Their portfolio is traditionally vested in trade and industry. Loans for agriculture made up for 1.3% of all loans outstanding in 2004. Lending is profitable for the banks, and small loans are probably more profitable than corporate lending. Great progress has been achieved under the MSFF in terms of outreach to new client groups and quality of loan portfolio. The six banks combined have an active portfolio of 20 000 loans worth USD 36 million (March 2006), of which only 0.9% was in arrears.

(x) The total amount of loans outstanding to agriculture as at the end of 2005 is estimated at around USD 54 million or KGS 2.2 billion, equivalent to 18% of total loans or 2% of GDP. Commercial banks have recently increased their exposure to agriculture. Under the MSFF, lending to agriculture started in January 2005, but has expanded rapidly to 2 204 loans worth USD 3 million by March 2006. The current penetration levels of all financial institutions in rural areas can be estimated at around 15-20% of all private farms, which permits banks to expand further.

(xi) One key constraint of the banking sector is savings mobilization, and are mostly under-liquid. People generally do not have much confidence into commercial banks, and some have lost their deposits in bankrupt banks. Banks have done little to gain back confidence of the general public and do not offer innovative savings products. Concepts of how to link savings and credit and integrate these into packages are absent. The excellent results achieved by the commercial banks in terms of loan repayment without collateral confirm that in the micro and small loan categories, collateral does not play a very important role. It would therefore be reasonable to increase the zero-collateral thresholds to USD 2 000.

(xii) **Demand for agricultural loans**. *In terms of quantity, the total current demand of private farmers, excluding household farms and collective units, can be estimated at around USD 300 million, against a provision of USD 54 million, assuming an average demand of KGS 150 000 or USD 3 700 per farmer and that about 40% of farmers seek external financing. In qualitative terms, farmers want longer loan durations than what they are often offered by financial institutions, simpler loan applications, faster loan processing and a more*

appropriate/fair system of evaluating their collateral. Their most frequent recommendation was to reduce interest rates. Farmers are furthermore interested in flexible repayment modalities, which comprise a grace period as demanded by the type of investment.

(xiii) **Comparative advantages**. *Commercial banks have a comparative advantage in agricultural finance in terms of: (i) rapid loan processing under the MSFF; (ii) lending in both KGS and USD, depending on the client's preference, markets and risk absorption capacity; (iii) offering other banking services, such as call deposits, savings, transfers and payments; (iv) providing loans up to USD 1 000 without collateral, granting loans up to USD 2 000 without mortgages, and accepting almost everything that has any material or psychological value as collateral, without the need to register pledges or mortgages in all cases; and (v) availability of lending resources.*

(xiv) **Accelerating agricultural lending**. *With relatively modest investments, agricultural lending has grown rapidly over a short period of time. As the demand for loans is unmet and as rural branches are prepared to serve clients, agricultural loans should grow further to about 15-20% of the entire small and micro loan portfolio. This could be accelerated by increasing the threshold for collateral from USD 1 000 to 2 000 for good clients without substantially adding risks. Such arrangement requires the approval of the central bank (NBKR). Agricultural loans will grow further if banks would handle the loan duration less restrictively and permit loan officers to fix repayment schedules in line with the real cash flow projections, and not the asset-liability management requirements of the bank. Grace periods should be permitted where technically required in accordance with real cash flows. The collateral coverage (expressed as the total present market value of all collateral over the loan applied) should be gradually reduced for good clients with track records, to 150% in a first step and further to about 130% in the near future. External support measures to enhance a high quality growth of the agricultural portfolio includes primarily the training of agricultural loan officers in various aspects of production, assessment of market potential, crop storage, disease control and determining repayment schedules. A brief survey of all participating banks to be undertaken by the international service provider would reveal the extent of support and the concrete training requirements. Prior to commissioning the preparation of "tech-cards", which contain relevant information about the different crops and types of agricultural activities in a condensed form, including cultivation patterns, input requirements, yields under different conditions and scenarios, production costs, and marketing issues, a brief survey of the banks' requirements would be required.*

(xv) **Target groups**. *Private farmers are the most natural bank clients. Households with very small land holdings may only qualify where they would invest in machinery or business activities, for which not much land is needed. Credit unions are not suitable clients for commercial banks, mainly because they already have an apex structure and lack managerial skills. Under the current lending rates of banks, credit unions would not make a profit from such borrowing. A few trade and service cooperatives might become clients of banks to finance the provision of inputs, the purchase of raw material from farmer-producers and the construction of storage and cooling facilities. A major constraint would be their lack of valuable assets and collateral, which would require the creation of multi-tier guarantee mechanism. It is recommended to the technical service provider under the MSFF to discuss the issue with the donor (GTZ) and representatives of the cooperative sector to assess the potential demand and collateral mechanisms. Lending to farmer associations would require some training in the*

respective loan appraisal techniques, which should be conferred to the technical service provider of the MSFF.

(xvi) **Additional products**. *Banks should establish leasing facilities for farmers, who do not have sufficient collateral. As banks can use the MSFF for term lending, the major constraint is the knowledge and skills of credit officers, which do not have sufficient experience with leasing. This should be addressed by offering training facilities for branch office and selected middle level management staff of banks interested in creating a leasing unit. The second product should link savings and credit to small farmers and other entrepreneurs in rural areas to overcome the separation between borrowers and depositors. One option could be to blend some modalities of existing bank services (express mortgage loan) with the practice of the informal rotating savings associations, in which members make fixed contributions at fixed intervals and build on the savings propensity of the rural population. A simple model is presented in Annex 1.*

(xvii) *As marketing is often the most critical factor for the expansion of agricultural production, growth could be further accelerated and risks decreased if banks would establish closer links with existing supply chains. As banks have little experience and interest in organizing supply chains, the most obvious step would be to establish links between the MSFF, the participating banks and the World Bank funded Agri-business Competitiveness Center, through which banks would be informed about the potential of some agro-processors assisted under this project, and through which processors would be informed about the services of the participating banks. This requires the deployment of two full-time additional advisors for a period of two years, one in charge of the agricultural and agro-processing side, the other of financial arrangements and training of bank staff on the provision of structured finance in supply chains.*

1. INTRODUCTION

1.1 The European Bank for Reconstruction and Development (EBRD) has been supporting the financial sector in the Kyrgyz Republic through a number of engagements. One of these comprises the Kyrgyz Micro and Small Enterprise Finance Facility (MSFF). Under this project, which commenced in early 2002, eligible commercial banks interested to expand their services to the micro and small enterprise sector receive support in the form of (i) loans to expand their own lending base and (ii) technical assistance to adjust their lending operations to the demand of the sector and to upgrade these in line with good international practice.

1.2 By mid 2005, after about two and a half year of implementation, the MSFF was largely successful in terms of lending and loan portfolio quality. However, the number and value of loans granted for agricultural and related businesses was insignificant.

1.3 In view of the importance and potential of agriculture in the Kyrgyz Republic, the relatively high poverty rates in rural areas, and the need to support the Government's vision to increase the support for the agricultural sector, the EBRD requested the Food and Agriculture Organization of the United Nations (FAO) to undertake a feasibility study on the different options to assess the potential of agriculture in the Kyrgyz Republic and to enhance the outreach of the MSFF toward agriculture.

1.4 This report is the outcome of two missions undertaken in August 2005 and April 2006, during which discussions were held with relevant government institutions, in particular the Ministry of Agriculture, Water Resources and Processing Industry (MAWRPI), international finance institutions, bilateral donor organizations, national and international Non-Governmental Organizations (NGOs), farmers, food processors and their apex structures, financial institutions and their clients, and support institutions in the private sector[1].

1.5 In order to get a more balanced and representative view of the demand side for financial services, two surveys have been commissioned by the FAO. These surveys have been carried out by a local consultancy firm in Bishkek in December 2005 on 200 farm households and 30 agro-processing companies in four oblasts of the country, including Chui, Osh, Talas and Issykkul. In addition to the demand side, the survey on households[2] also covered a number of other relevant issues, such as (i) the main agricultural activities and other income generating activities of the households, (ii) the income and expenditure related to business activities, and (iii) the current use and experience with financial services provided by the financial sector. The survey on agro-processing companies[3] covered predominantly (i) business activities; (ii) assets and liabilities; (iii) experience with and use of financial institutions; and (iv) backward linkages with farmers. The survey will be published elsewhere on the internet in both Russian and English versions[4].

1.6 In addition to the above surveys, this report draws on a variety of information sources, including project and financial reports, publicly available data and information from

[1] The missions included brief visits to Chui, Osh and Jalalabad oblasts.
[2] This survey is referred to in this report as Household Survey.
[3] This survey is referred to in this report as Processing Survey.
[4] See www.EastAgri.org .

discussion partners, government institutions and donor organizations. The opinions given are those of the author and do not commit neither the FAO, nor the EBRD or any government institutions.

1.7 The report begins with a brief overview of the Kyrgyz Republic in chapter 2, followed by an analysis of the performance of the agricultural and financial sectors in chapters 3 and 4. Chapter 5 provides an overview of the demand for financial services in the Kyrgyz Republic related to agriculture, and chapter 6 concludes with recommendations on the enhancement of outreach of financial services to agriculture.

2. BACKGROUND ON THE KYRGYZ REPUBLIC

2.1 Overview

2.1 The Kyrgyz Republic is a small, landlocked country in the heart of central Asia, bordering China, Kazakhstan, Uzbekistan and Tajikistan. It has a total land area of 198 500 sq. km and a population of 5.176 million in 2005, thus a population density of 26 inhabitants per square km. Population growth of about 1.4% annually is low and even shows a declining trend. About 34% of the population lives in the urban areas, the majority of 66% in rural areas. The three biggest towns are the capital Bishkek (about 0.8-1.0 million inhabitants), Osh (about 0.3 million inhabitants) and Jalalabad.

2.2 The three major languages are Kyrgyz, Russian and Uzbek, which were the mother tongues of 66%, 11% and 14% respectively of the population in 2002. There are a number of smaller minority groups, such as the Dingans, Uighurs, Tatars, Ukrainians, Turks, Koreans and Germans, but their share in the total population is less than 9%[1]. Estimates about the number of emigrants are mostly in the range of 0.5-1.0 million people; most of them work in Russia, and their total remittances are an important element in and fuel for the economy. Kyrgyz and Russian are the two official languages.

2.3 Historically, Kyrgyzstan was located on the Silk Road between the markets of Russia, Europe, the Middle East and China. The ancient Kyrgyz culture dates back to the great nomadic tribes of central Asia with a predominantly pastoral lifestyle and its seasonal movements between the high altitude pastures in the summer and the lower altitudes during the winter seasons. The long period of domination of the nomadic groups ended gradually in the 16th century with the distribution of firearms. After the Russian revolution, Kyrgyzstan like much of Central Asia was incorporated into the Soviet Union, which brought about substantial cultural, educational, social and economic change. Russian colonization created urban settlements and imposed sedentarization and collectivization upon the nomads. In 1924, the autonomous Kyrgyz Region was created. The Kyrgyz Republic declared independence from the Soviet Union in 1991.

2.4 The Kyrgyz Republic is a member of various sub-regional bodies, including the Central Asian Economic Community (CAEC), the Central Asian Cooperation Organization (CACO) and the Commonwealth of Independent States (CIS), and member of international bodies (including the EBRD, Organization of the Islamic Conference, FAO). The Government has signed lease agreements with both Russia and the USA to permit the use of airports.

2.5 Although Kyrgyzstan is one of the poorest countries in Central Asia and the world, poverty levels have gradually fallen since the end 1990s. Rural poverty[2] has declined from 60% in 1999 to 51% in 2001 in rural areas and from 42% in 1999 to 40% in 2002. By 2003, the share of population living below the poverty line was estimated at around 41% for the entire country[3].

[1] UNDP, Kyrgyzstan National Human Development Report 2002.
[2] Defined as people with a monthly income not exceeding USD 60.
[3] http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/KYRGYZEXTN/0,,contentMDK:20536732~menuPK:1267623~pagePK:1497618~piPK:217854~theSitePK:305761,00.html

About 70% of all poor lived in rural areas. The share is unevenly spread between the North (with a rural poverty share of 53%) and the South (68%)[1]. However, the number of extreme poor has apparently not very much changed over the past years. The rate decreased by 1 percent point to 15% in rural areas and increased by 3 percent points to 12% in urban areas. This seems to imply that the poor closer to the poverty line have been able to benefit more from the changes and opportunities than the poorest strata, in particular those in urban areas.[2] Similar trends emerge from the analysis of non-monetary poverty indicators. Infant mortality declined by 0.5‰ to 21.2‰ in 2002. Child malnutrition affected 12% of all children under 5 years of age. The general prevalence of under nourishment in the Kyrgyz Republic has decreased from 0.96 million during the 1993-1995 period to 0.23 million during the 2001-2003 period. About 84% have access to improved sources of water, illiteracy is around 1% of the population above 15 years, and primary school enrolment is about 99% of school-age boys and girls.

2.2 Economy

2.6 The size of the Kyrgyz economy is small, and generated about USD 2.2 billion or KGS 94 billion at market prices in 2005. The average GDP per capita is thus USD 430 per year. The main origins of GDP in 2004 were services (42.3%), agriculture and forestry (36.6%) and industry (21.1%)[3], its main components were private consumption (77.9%), public consumption (16.8%) and gross fixed investment (13.8%)[4].

2.7 After the break-up of the Soviet Union, Kyrgyzstan lost many of its markets and all of the subsidies. During the first five years after independence, the GDP decreased by about 50%. The economy started to recover in 1996, driven predominantly by the growth in agriculture and gold production by a single large gold mine[5]. After recovering from the 1998 financial crisis in Russia, economic growth has stabilized around 5% annually. Real GDP growth rates were 7.0% and 7.1% in 2003 and 2004, but was negative in 2005 (-0.6%)[6], which was mainly caused by a decline in the gold mining, industrial manufacturing and freight sectors. Government estimates put the GDP growth rate for the first quarter of 2006 at 2.4%, with a stronger than average growth in the manufacturing, hotel and restaurant, freight and trade sectors.

2.8 No single pattern emerges from the sectoral growth rates. The average annual growth rate of agriculture was 5.9% over the 1994-2004 period, but slightly below this in 2003 (3.2%) and 2004 (4.1%). Average annual growth of the industrial sector was 2.8% over the eleven years up to 2004, but much higher in 2003 (12.7%) than in 2004 (3.5%). The services sector grew annually by 3.6% up to 2004, and much faster in 2003 (7.3%) and 2004 (11.7%).

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1 Naryn oblast, the most mountainous region, has the highest incidence of poverty and extreme poverty of the country, followed by Talas, Jalalabad, Osh, Batken, Issykkul and Chui oblasts.

2 See: Kyrgyz Republic: National Poverty Reduction Strategy 2003-2005, First Progress Report, April 2004; http://www.imf.org/external/pubs/ft/scr/2004/cr04200.pdf

3 Manufacturing was 13.6% of total GDP.

4 EIU 2006

5 The Kumtor Gold Mine alone accounted for 45% of industrial output, 40% of export earnings and 7% of GDP. This high dependency on a single economic unit will prevail for some time, although other gold mines are expected to start production in 2006. The Kumtor mine is projected to close by 2010, and it is unknown whether other mines may be able to compensate for the loss of output of this mine.

6 See http://www.stat.kg/Eng/Home/Social.html

2.9 In 2004, total (fob) exports amounted to USD 733 million, while the value of total (cif) imports was USD 941 million. In the same year, total exports of goods and services was equivalent to USD 942 million, while their total imports amounted to USD 1135 million, thus a negative resource balance of USD 193 million[1]. The current account balance was USD -75 million in 2004 and USD -81 million in 2003.

2.10 In 2004, the most important destinations of exports were the United Arab Emirates (26%), Russia (19%), Switzerland (14%), Kazakhstan (12%), Canada and China (each 5%). The most important origins of imports were Russia (31%), Kazakhstan (22%), China (9%), Uzbekistan (6%) and the USA (5%). The most important export commodities in 2004 were precious metals (mainly gold, accounting for 41% of total exports fob), mineral products (13%) textile fabrics (11%), food and beverages (6%), while the most important import commodities are mineral products (mainly oil and gas, accounting for 29% of total imports cif), chemicals (12%), machinery and equipment (11%), food, beverage and tobacco (9%) and vehicles and transport equipment (8%).

2.11 Since 2000, the rate of inflation has remained within the single-digit range. The most recent data for 2005 indicate a yearly inflation rate of 4.9%[2], as shown in the table below. The central bank forecast for the inflation rate in 2006 is about 4.5%[3].

Table 1: Annual Inflation and Exchange Rates 2000-2005

Year	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**
Annual inflation rate in %	9.6	3.7	2.3	5.6	2.8	4.9
End of year exchange rate USD-KGS	48.3041	47.7186	46,0949	44,1902	41,6246	41,3008

Source: NBKR

2.12 The IMF projects a real GDP growth of 5.0 for 2006 and of 5.5% for 2007, and an annual inflation rate of 5.7% and 4.5% for 2006 and 2007 respectively[4].

1 The value for the preceding year was USD -130.
2 According to other sources, the average annual inflation for 2005 was 5.2%. See EIU, Country Report Kyrgyz Repoblic, February 2006, p. 10.
3 NBKR: Inflation report 4 (18). Bishkek, February 2006, p. 19
4 http://www.imf.org/external/country/KGZ/index.htm

3. AGRICULTURAL SECTOR

3.1 Overview

3.1 Agriculture is the single most important economic sector of the country, and its importance is the highest among all Central Asian states. Agriculture (including forestry, fishery and hunting) employed 939 000 persons in 2000 and 950 000 in 2003, equivalent to about 52% of total employment throughout the period. The contribution of agriculture (including forestry, fishery and hunting) to GDP increased from 34.2% in 2000 to 36.6% in 2004[1]. Among these activities, hunting, forestry and fisheries combined are insignificant and account for only about 0.1% of GDP. About 60% of the total value of agricultural production derives from the crop sector, the remaining 40% from the livestock sector. In 2004, agriculture accounted for about 11% of total exports worth about USD 81 million.

3.2 Of the total land area, 56.2% is classified as agricultural land and only 1.411 million ha or 7.3% as arable land, of which 1.072 million ha or three quarters of arable land are irrigated. Of the total agricultural land, 87% are pastures. On average, four inhabitants are to be fed by one ha of arable land. As the total arable land has slightly decreased by about 2.8% over the 1992-2002 period, and as the number of person working in agriculture has slightly increased, the pressure on the land has increased and the available land resources per worker have decreased. In 2002, the arable land per worker was 1.16 ha, which was 25% below the 1995 and 53% below the 1990 levels. The most important agricultural area is the Fergana Valley, and the Chui and Talas Valleys in the north and the Alai in the south are much less important.

3.3 The agricultural system is marked by low levels of concentration and correspondingly high levels of dispersion of activities and crops, with only wheat, potatoes and cattle being exceptions to a certain degree. All other crops and agricultural activities contribute much smaller amounts to GDP. Even cotton, the most important crop in some other Central Asian states (Uzbekistan, Tajikistan, Kazakhstan), did not account for more than 2.5% of GDP in 2002.

3.2 Production Trends

3.4 The single most important crops are wheat and potatoes. Wheat is cultivated in almost all regions, but mostly in the Chui, Issykkul and Osh regions. Total wheat production was 953 000 MT in 2005. However, wheat production fell from by 20% over the past five years, although the country is still importing large quantities of wheat flour. Farmers have in the mid to end 1990s shifted from cotton and tobacco to wheat, which appeared more profitable, but the decline of wheat prices and the over-saturation of world markets made them again look at other more profitable crops. Government had allocated more land for wheat production, in a (failed) attempt to achieve self-sufficiency in wheat. Due to a shortage of working capital, farmers are often unable to follow the recommended cultivation steps, which partly explains the rather low average yield of 24.3 MT/ha. About 30% of farm production is usually consumed by the household itself.

[1] EIU Country Profile 2005 Kyrgyz Republic, p. 43.

3.5 Other cereals produced in the country include barley (+59% over 5 years), maize (with very little fluctuation) and very small quantities of highly valued and priced rice (+8% over 5 years), which is almost exclusively produced around Uzgen town. About 80-90% of barley and maize production are usually consumed by the household itself.

3.6 Cotton is only grown in the Kyrgyz part of the Fergana Valley in the Osh and Jalalabad oblasts. Tobacco is grown in the Osh, Jalalabad and Talas regions.

3.7 Potatoes are mainly grown in the Issykkul, Talas and Naryn oblasts. About 20-30% of farm production is usually consumed by the household itself, most of the balance of production is consumed locally, and only small amounts are exported. Only 1% of total production is processed locally, mainly into potato chips and in vacuum packs or glass containers. Potato production has been rather stable, and reached between 1.1-1.4 million MT during the past five years. Fluctuations of output had more to do with speculations on commodity prices than weather conditions. For example, farmers produced large amounts of potatoes in 2003 but retained some parts of their production in the hope of substantial price increases in 2004. However, the prices collapsed during this year as markets could not absorb the total production, to as low as KGS 0.5-1.0 per kg. Similar price gluts were experienced by tomato and carrot growers. As long as markets cannot be guaranteed, and long as prices may fluctuate as widely as in the past, potato growing may not be a safe investment all the time. However, there seems to be an unmet demand for seed-potatoes in the sub-region.

3.8 Sugar beet has been the crop with the biggest fluctuations of all major crops, ranging from a low of about 285 000 MT in 2001 and 2005 and a high of 812 000 MT in 2003. Average yields of about 240 MT per hectare are well below world standards of 440 MT/ha, although yields have almost gradually increased over the past six years, from 164 MT/ha in 2001 to a high of 260 MT/ha in 2003.

3.9 The production of oils seeds (292 200 MT in 2005) in general has increased over the past years (+35% over 5 years and +18% over 2 years). Cottonseed (132 600 MT in 2005) constitutes the major share of this (45%). However, the production of other oil seeds, such as soybeans, rapeseed, safflower seed, sunflower[1] and mustard seed has been growing gradually over the past years, and production appears to be profitable where marketing arrangements are functional. A potential also seems to exist for the further processing of soybeans as input for high quality livestock fodder. Cotton is in principle a good crop for lending, as the entire supply chain is usually well structured and organized. However, there are three obstacles for banks, including (i) fluctuating prices with a downward trend, which would make production sometimes unprofitable or less profitable; (ii) long delays of payments by ginners, leading to a default by borrowers for which they are not responsible, and (iii) the political nature of the crop, which makes all actors and investors more vulnerable to decisions made outside the economic circuits.

3.10 In the vegetable sector, the most important crops include cabbages, tomatoes, onions, carrots and cucumber. Cabbages and cucumber show a negative production trend, while output of onions, tomatoes, carrots and green beans has increased. The quantity of beans produced seems to be higher than what appears in national statistics; at least 4 000 MT are currently exported to

[1] The farm survey indicates that farmers producing sunflower seeds consume usually 50% of their production themselves.

neighbouring countries[1]. The production of mushrooms seems to have recently increased above the 1 000 MT officially recorded in 2005, and there seems to be a good potential for cultivation of certain species in higher altitudes, for which good prices could be obtained. Water melons dominate in the fruit sector, and relatively small output increases took place over the past five years. Carrot production has rapidly increased, but farmers were not always able to sell their entire production over the past five years.

3.11 In the tree crop sub-sector, apples play the most important role, followed by apricots, grapes, pears, quinces, walnuts, cherries and peaches. Certain varieties of dried apricots (kuraga) are very much appreciated by consumers in Kyrgyzstan and in the sub-region, and walnuts and walnut wood are exported to various destinations. Tobacco had its maximum output five years ago, with 24 000 MT, then declined rapidly by three quarters after prices plummeted, and has in 2005 gained back about two thirds of that value.

An entrepreneur from Germany saw a potential in sea-buckthorn, which is mainly coming from Issykkul oblast. He offered local farmers to purchase all quantities collected and produced subject to two conditions, viz. that the sea-buckthorn berries would be deep-frozen and that the quantity would amount to at least 20 tons, as only a full truckload would make transport and processing in Europe profitable. Furthermore, he offered to construct a local processing factory if the quantity in year one would reach 20 tons and 40 tons in year two. While he is mainly interested in the extraction of oil for medicinal and cosmetic purposes, the juice, for which there is also a high demand, could be processed further. Under an arrangement facilitated by the GTZ, which is currently supporting producer and input supply cooperatives in the Kyrgyz Republic, KAFC granted a five year loan of USD 20 000 at 13% interest p.a. to a local producer cooperative to build the required cold storage facility. The cooperative contributed 30% of the project costs in cash from own funds. The annual turnover from the sale of the sea-buckthorn berries was about USD 15 000. After the construction of the cold storage, the lack of sufficient working capital to buy sufficient quantities of berries remains a major constraint.

3.12 In some oblasts, barberries, sea-buckthorn, blackberries, strawberries, raspberries, gooseberries and other fruits and berries are grown by farmers. The demand seems to be increasing, for fresh fruits, juices, dried fruits and jams, but the country is often unable to meet the quantity requirements by importers from Russia, Kazakhstan and Europe. In addition, the cooling, preservation, storage and processing facilities do not always exist.

3.13 The livestock sector is dominated by cattle, and cattle meat and cow milk are the most important products. The total meat production has not seen many changes over the past five years, and smaller decreases of output in one category were compensated mostly by corresponding increases in another. Total meat production has been just below 200 000 MT per year over the past five years, of which roughly half derives from cattle, one quarter from sheep and goats, and one eighth each from horses and pigs. Chicken meat is important mostly for household consumption, but the value of market sales is insignificant. Egg production has on the other hand increased over the past five years, whereas wool production is on the decline, mainly due to the inability of the processing sector to maintain its processing capacity and finance the purchase of raw material from farmers.

[1] Farmers surveyed indicated that they consume about 20-40% of the fresh produce themselves.

3.14 Yak production has recently started to pick up and is very profitable, due to the low cost of production in the mountains and the rather high prices paid for its meat with high ecological purity and high calorie content. There are more than three million hectares of hardly accessible pasturelands with severe conditions at high altitudes, which are ideal for yaks and provide good forage for them. The major crop outputs over the past five years are shown in the table below.

Table 2: Major Agricultural Products (2001-2005; in MT)

	Commodity/ Year	2001	2002	2003	2004	2005	Change 2001-2005	Change 2003-2005
1	Cereals (total)	1,794.6	1,712.2	1,633.4	1,708.9	1,631.6	-9%	0%
2	Wheat	1,190.5	1,162.6	1,013.7	998.2	953.0	-20%	-6%
3	Barley	139.9	149.3	197.9	233.4	223.0	59%	13%
4	Maize	442.8	373.6	398.5	452.9	432.0	-2%	8%
5	Rice	16.6	20.8	18.3	18.3	18.0	8%	-2%
6	Potatoes	1,168.4	1,244.0	1,308.2	1,362.5	1,141.0	-2%	-13%
7	Vegetables (total)	899.9	499.4	899.9	813.1	751.5	-16%	-16%
8	Cabbages	165.5	101.6	143.7	155.0	112.5	-32%	-22%
9	Cucumbers and Gherkins	112.5	64.8	125.6	136.0	55.0	-51%	-56%
10	Onions, Dry	119.1	68.6	104.1	120.0	116.0	-3%	11%
11	Sugar beet	286.6	521.5	812.2	642.4	289.1	1%	-64%
12	Tomatoes	149.2	84.4	104.0	113.0	167.0	12%	61%
13	Carrots	83.5	42.2	85.3	88.0	126.0	51%	48%
14	Beans green	3.1	5.0	5.0	5.5	5.5	77%	10%
15	Oil crops, primary	221.3	240.7	246.6	286.1	292.2	32%	18%
16	Sunflower Seed	64.3	63.2	63.0	74.0	65.0	1%	3%
17	Cottonseed	98.2	106.4	105.9	121.7	132.6	35%	25%
18	Fruit excl. melons (total)	188.5	167.7	153.7	190.9	160.4	-15%	4%
19	Watermelons	57.8	26.1	50.2	55.0	90.0	56%	79%
20	Grapes	27.4	15.0	11.7	14.6	15.0	-45%	28%
21	Apples	111.0	104.0	100.0	123.0	100.0	-10%	0%
22	Apricot	14.5	15.0	12.4	15.4	15.0	3%	21%
23	Walnut	3.0	3.0	2.0	2.0	2.0	-33%	0%
24	Pear	9.0	9.3	8.0	10.0	5.0	-44%	-38%
25	Peach	1.5	2.4	2.8	3.5	3.0	100%	7%
26	Pulses nes	29.4	39.2	36.8	37.7	36.0	22%	-2%
27	Tobacco leaves	24.0	6.1	8.7	13.0	16.3	-32%	87%
28	Meat (total)	199.6	200.4	193.6	188.3	195.7	-2%	1%
29	Sheep and Goat Meat	43.8	43.6	44.2	44.7	45.1	3%	2%
30	Beef and Veal	100.1	104.8	94.0	94.6	95.3	-5%	1%
31	Pig meat	25.7	23.0	22.1	25.2	25.3	-2%	14%
32	Horsemeat	24.8	22.5	26.5	18.8	25.0	1%	-6%
33	Chicken meat	4.9	6.2	6.5	4.9	4.9	0%	-25%
34	Cow Milk	1,110.4	1,140.3	1,159.2	1,132.5	1,140.0	3%	-2%
35	Sheep Milk	29.9	31.0	30.6	34.7	35.0	17%	14%
36	Cheese (All Kinds)	4.0	4.1	4.7	4.9	4.4	10%	-6%
37	Eggs	12.8	13.6	15.0	16.7	18.6	45%	24%
38	Wool	11.1	10.9	10.9	10.0	10.0	-10%	-8%
39	Honey	1.3	1.6	1.5	1.3	1.5	15%	0%

Note: For ease of comparison, more significant negative changes are left justified; more significant positive changes are shadowed.

3.15 In terms of value, the agricultural exports are dominated by cotton lint, followed by sugar and tobacco. All other export items are of much lesser importance, but each one represents a specific market niche whose expansion is to be assessed from case to case. The table below shows the major agricultural export items for the year 2004.

Table 3: Major Agricultural Export Commodities (2004)[1]

No.	Commodity	Quantity in Mt	Value in USD '000	Unit value in USD
1	Cotton Lint	45 300	42 154	931
2	Sugar Refined	56 826	19 346	340
3	Tobacco Leaves	7 886	8 862	1 124
4	Hides Wet-Salted Cattle	5 017	3 513	700
5	Ice Cream and Edible Ice	3 254	2 826	868
6	Cocoons, Unreelable	2 514	2 608	1 037
7	Hair Fine Animal	708	2 580	3 644
8	Tea	968	2 495	2 577
9	Wool, Scoured	2 201	2 188	994
10	Cow Milk, Whole, Fresh	10 535	2 069	196
11	Apples	4 774	1 942	407
12	Pulses nes	3 673	1 702	463
13	Pears	3 257	1 472	452
14	Apricots	2 497	1 407	563
15	Skin With Wool Sheep	2 056	1 181	574
16	Tomatoes	2 304	1 174	510
17	Whey Cheese	1 093	1 137	1 040
18	Apple juice	1 639	1 118	682
19	Onions, Dry	5 930	882	149
20	Plums	1 861	871	468
21	Honey	1 181	1 024	867
22	Beans, green	3 110	841	270
23	Tomato paste	1 014	304	300
24	Carrots	5 653	507	90

Note: Data on honey, beans, tomato paste and carrots for 2003.

3.16 Among the imported agricultural goods, sugar, wheat, vegetable oil, maize starch and rice dominate, which could all be produced locally. The table below shows the 20 most important agricultural import items.

[1] Source: http://www.fao.org/es/ess/toptrade/trade.asp, accessed in May 2006.

Table 4: Major Agricultural Import Commodities (2004)[1]

	Commodity	Quantity in Mt	Value in USD '000	Unit value in UDS
1	Food Prepared nes	8 021	11 306	1 410
2	Chocolate Products nes	3 467	9 582	2 764
3	Cigarettes	1 774	9 500	5 355
4	Beer of Barley	27 242	9 434	346
5	Wheat	92 359	7 460	81
6	Oil of Soya Beans	3 569	6 000	1 681
7	Tea	5 109	5 471	1 071
8	Sugar Confectionery	2 377	5 218	2 195
9	Sugar Refined	18 222	4 437	243
10	Beverages Dist. Alcoholic	896	3 086	3 444
11	Oil of Sunflower Seed	2 856	2 512	880
12	Pastry	1 259	2 326	1 847
13	Starch of Maize	6 840	1 847	270
14	Rice, Husked	6 156	1 477	240
15	Beverages Non-Alcoholic	2 363	1 356	574
16	Cakes of Oilseeds	2 313	1 243	537
17	Wine	703	1 208	1 718
18	Margarine + Shortening	1 450	1 183	816
19	Milled Paddy Rice	3 517	1 053	299
20	Tobacco Leaves	915	1 048	1 145

3.3 Producers

3.17 During the period of a centrally planned economy, almost the entire agricultural production came from either state (kolkhozes) or collective (sovkhozes) agricultural enterprises, which controlled on average more than 2300 ha per unit and employed on average more than 1100 workers per production unit. Although these units could have reaped substantial economies of scale, they were mostly marked by low productivity and inefficient resource use. With the break-up of the former Soviet Union and the redistribution of land, three types of agricultural production units have now emerged, comprising (i) households, (ii) private farms, and (iii) agricultural enterprises, the latter comprising in turn the remnants of the old collective units. Most of the kolkhozes and sovkhozes are to be found in the Northern parts of the country, in particular Chui oblast, and are engaged in grain, seed and fodder production. Some key output and productivity figures are shown in the table below.

[1] Source: http://www.fao.org/es/ess/toptrade/trade.asp?country=113&ryear=2004 accessed in May 2006

Table 5: Main Characteristics of Farm Types (2002)[1]

Farming category	Households	Private farms	Agricultural enterprises
Number of units	881 713	251 526	1 326
Average size of arable land holdings in ha	0.1	3.8	222
Share of total arable land	5%	71%	13%
Share of employment in agriculture	35%	52%	13%
Share in agricultural value added	38%	59%	3%
Share of total agricultural output	55%	40%	5%
Agriculture value added in KGS per ha	119 028	17 201	2 923
Agriculture value added in KGS per worker	40 434	28 523	5 146

3.18 A large number of households (0.9 million) produced about half of total output on 5% of the total arable land of the country. A much smaller number of private farms (one quarter of a million), which used on average about 4 ha of land, contributed 40% to total production, employed about half of the agricultural workforce and contributed about 60% of the total value added on 70% of the arable land. Finally, the small number of ex-kolkhozes uses much larger areas for production, but their efficiency as measured in terms of value addition and input-output ratios is much below that of the private farms and households.

3.19 As of January 2004, 0.9% of gross agricultural production came from state-owned farms, 4.1% from collective farms, 61.9% from private farms, 31.8% from households, 1.1% from agricultural services, and 0.2% in hunting and forestry services[2]. The share of state, private and household farms in total production of some of the major crops is shown in the table below. Significant contributions (10-25%) to the total production by state farms were related to wheat, barley, cotton, tobacco and grapes, while household plots made significant contributions in the case of maize, potatoes, vegetables and fruits and berries. The major producers were by far the private farmers, with a slowly increasing trend.

[1] Source: World Bank, Agricultural Policy Update, 2004, p. 20

[2] Asel Sulaimanova (2004): http://www.bisnis.doc.gov/bisnis/bisdoc/0410Agribusiness_KG.htm

Table 6: Production of Major Crops by Farm Category (2004)

	Quantity in '000 tons				Share in %		
	State farms	**Private farms**	**Household farms**	**Total**	**State farms**	**Private farms**	**Household farms**
Grains	160.4	1 459.5	126.7	1 746.6	9%	84%	7%
• Wheat	109.9	849.5	38.8	998.2	11%	85%	4%
• Barley	33.2	191.9	8.3	233.4	14%	82%	4%
• Corn	11.5	365.8	75.6	452.9	3%	81%	17%
• Rice	1.3	16.5	0.5	18.3	7%	90%	3%
Sugar beet	57.0	518.9	66.4	642.3	9%	81%	10%
Cotton	15.5	105.6	0.5	121.6	13%	87%	0%
Tobacco	1.8	10.7	0.5	13	14%	82%	4%
Veg. oil crops	6.8	78.5	8.6	93.9	7%	84%	9%
Potatoes	21.4	966.3	374.8	1 362.5	2%	71%	28%
Vegetables	33.5	456.7	251.9	742.1	5%	62%	34%
Melons	2.6	73.3	12.1	88	3%	83%	14%
Fruits + berries	14.1	59.5	102.2	175.8	8%	34%	58%
Grapes	3.5	7.7	3.3	14.5	24%	53%	23%

Source: National Statistical Committee.

3.20 A priori, private farms are therefore the most interesting type of clientele for commercial banks. Households with their very small plots hardly have enough land to justify any major investment, and may therefore be more adequately served by the MFIs and credit unions, unless they would want to invest in processing and machinery. Although the demand for financial services may be quite high among the ex-kolkhozes or sovkhozes, which normally suffer from lack of working capital and old machinery, they are hardly suitable clients for commercial banks, unless they fully demonstrate their ability to manage outputs and results.

3.4 Inputs and Machinery

3.21 The collapse of the centrally planned economy also brought along the disappearance of a reasonable supply system of agro-inputs, including fertilizer, chemicals and seeds. As a consequence, the use of agricultural inputs declined dramatically after independence. In addition, spare parts for machinery and equipment from the Soviet Union were no longer readily available, and the lack of spare parts and lack of funds for buying spare parts led to an obsolete machinery park in almost the entire country. The survey of 200 farm households showed that only 38% of households owned a tractor, 30% a trailer and 29% a plough. Access to even obsolete machinery is apparently one of the main reasons for farmers not to withdraw from failing collective or state farms and starting their own private farm. A few bilateral grant agreements, in particular those supported by Japan, under which farmers could purchase agricultural equipment (tractors, combined harvesters, etc.) at low interest rates, had alleviated the situation only slightly. The investment backlog remains huge, and can only be reduced gradually and over a couple of years, even if substantial efforts would be made.

3.22 The Department for Chemicals and Plant Protection estimated the overall demand for mineral fertilizer at around 320,000 tons in 2004, including 160,000 tons of ammonium nitrate, 110,000 tons of ammonium phosphate, and 50,000 tons of potassium chloride. At that time, total supplies comprised 95,000 tons of fertilizer or 30% of the estimated demand, including 90,000 tons of ammonium nitrate and 5,000 tons of ammonium phosphate, i.e. an average use of 67 kg per hectare of arable land.

3.23 Most of the fertilizers are imported from Russia, Kazakhstan and Uzbekistan by a very small number of private companies importing up to 5,000 tons each and a larger number of individual importers importing very small quantities of a few truck loads (50-300 tons)[1]. This group of importers is mostly constrained by the lack of sufficient funding of these importations.

3.24 The International Fertility Development Centre (IFDC) has recently started to support local traders of agro-inputs in the Osh and Jalalabad oblasts, and provides some direct lending to members of the "Association of Agro-Businessmen in Kyrgyzstan" (AAK) to improve their supply of high quality inputs to farmers. The IFDC and the KAFC each contributed an amount of KGS 0.8 million to a loan fund, from which the KAFC lends to members of the AAK at prevailing interest rates (14% in August 2005). The standard loan duration is one year, with six months of grace, and the loan amounts are in the range of KGS 0.1-0.3 million. This system better meets the demand by agro-input traders than a previous arrangement with Bai Tushum and KAFC, under which the IFDC extended a 20% guarantee on loans granted by these institutions to the members of AAK. After only a bit more than one year, it is premature to assess the viability of these operations, but so far, the dealers have repaid their loans promptly and fully. However, the available lending resources under this project are grossly insufficient.

3.5 Agro-Processing

3.25 The agro-processing industry is relatively important for the country, but underdeveloped. The total domestic market demand for processed fruits and vegetables alone was estimated at about KGS 1 billion[2]. Most of this demand comes from the urban population, in particular Bishkek. In 2002, the contribution of agro-processing to GDP was estimated at 4.3%[3]. The total number of registered agro-processing companies was 342 in January 2002, of which about 100 were functional and the remaining ones largely defunct. Of the total registered companies, 34% were producing pasta products and bakeries, 18% dairy, 12% wineries, 10% meat processors, 8% fruit and vegetable processors, 7% cake and confectionery producers, and 5% mills and fodder producers.

3.26 In general terms, many processors use old and obsolete machinery, have poor or unattractive packaging and labelling, offer their products in poor design, often sell unbranded and generic products and compete on price and not on quality. Management is often not very qualified, and often lacks marketing skills. Companies that have survived the collapse of the former Soviet Union and the break away of traditional markets appear to be very fragile and operate in small volatile markets with narrow margins. Many of the larger privatized Soviet era

1 Sulaimanova (2004): http://www.bisnis.doc.gov/bisnis/bisdoc/0410Agribusiness_KG.htm
2 See Helvetas Kyrgyzstan (2004): http://www.helvetas.kg/publications/F&V%20Strategy%20Eng.pdf
3 Erkin Nusurov (January 2002): http://www.bisnis.doc.gov/bisnis/bisdoc/020129foodproc_kg.htm

enterprises have excess under-utilized production capacity, and still assume that their major problem is low production output.

3.27 Recent investments have been made by foreign companies in the sugar refinery, meat processing, dairy, juice and pasta production sectors. These companies are usually characterized by better management, good knowledge about marketing opportunities and conditions, and access to term finance.

3.28 Where enterprises compete more on price rather than on quality, their margins are mostly very small, and they are unable to generate sufficient profits to finance new investments into machinery, product design, packaging and marketing. As their profit rates are low and the risks rather high, they appear unattractive to banks.

3.29 With the disappearance of the centrally controlled economy in the early 1990s, the system of vertical integration and industrial coordination of farmers and processors in production chains also disappeared. The change of the economic system and the economic crisis also led to the destruction of infrastructure for collection, payment and processing of produce. Processors are now forced to collect produce from many small-scale producers, leading to increased production costs. Furthermore, the changes led to a decline of mutual understanding and confidence between producers and processors, and to a decline of the enforceability of contract farming agreements.

3.30 On the other hand, there are numerous cases of closer collaboration between producers and processors, contract farming and nascent arrangements that comprise elements of supply chain operations in the processing of tobacco, cotton, meat, vegetables, fruits and berries. While a few of these include larger numbers of producers, e.g. in the cotton, tobacco and meat sectors, others are limited to a few dozen farmers. In the sample of 30 agro-processing companies, cotton processors collaborated with very large numbers of farmers (mean of 669), who delivered very big quantities worth substantial amounts (KGS 93 600). Vegetable processors collaborated with lesser but still substantial numbers of farmers (mean of 172), but the quantity and value of the deliveries were much smaller than in the case of cotton (KRS 19 600). Processors of fruits, berries, melons and gourds had concluded sales contracts with a large number of producers (mean of 227), but both the quantity and the value of the goods transacted were very low (mean below KGS 1000). In other cases, some small-scale processors of vegetables (cucumber, tomatoes etc. used for pickles) offered comprehensive financial support and delivery of all required inputs (seeds, fertilizer, chemicals, tractor, transport) against the promise to sell a certain portion of the total harvest with mostly 15-25 farmers. With such arrangements, they secured supplies above what they could produce on their own farm and avoided the high fluctuation of prices that comes in times of glut and poor harvests. Leaving apart cotton, the fruit, vegetable, berries, meat and seed production sub-sectors already comprise many or most elements of a supply chain, but the potential is far from being exhausted. Some key data related to existing contract farming arrangements are provided in the table below.

Table 7: Deliveries under contract farming arrangements (2005)

Product	No. of companies	No. of contract farmers	Deliveries per year (in tons)	Av. delivery per farmer (in Kg)	Value of deliveries (in '000 KGS)	Av. value of deliveries per farmer (in KGS)
Berries	5	1,133	9	8	242	213
Cereal crops	3	13	1,138	87,538	4,496	345,815
Cotton	3	2,008	513	255	188,000	93,625
Fluor	1	1	20	20,000	200	200,000
Fruits	7	1,189	711	598	671	564
Melons and gourds	3	18	72	4,000	9	500
Cattle	7	3,060	129	42	2,614	854
Poultry	1	1	1	800	62	62,400
Seeds	1	10	2	200	14	1,440
Vegetables	6	1,033	4,562	4,416	20,249	19,602
Total	37	8,466	7,156	117,857	216,557	25,580

3.31 In many of these cases, finance is apparently the main 'entry point' for arrangements. Most farmers do not have the required cash for the payment of inputs (fertilizer, seeds and chemicals) and services (tractors, storage and transport), or at least prefer to use their scarce funds for other purposes. The primary concern for the processors is to get the quantities needed in the quality required, and the timeliness of delivery and the prices paid are of secondary importance. However, contract farming arrangements seem to have a positive impact on the production costs of processors, who find it quite cumbersome and expensive to secure adequate supplies through the open market or bazaars. Where the necessary confidence between the contractual parties exists, the amount available to pre-finance these operations and recover their costs upon delivery or through the processing activities is the most important limiting factor. Processors also need a combination of credit facilities, including short- and medium-term loans and overdraft facilities. However, banks seem to regard overdraft facilities with flexible payments as a comparatively high risk and are not prepared to grant such facilities. In other cases, the product development of and operational guidelines for overdrafts are still inadequate.

3.32 The interest in and attention to the agro-processing sector is apparently growing. Since January 2006, the Agribusiness Competitiveness Centre has been established by the Government with funding by the World Bank with the aim to assist agro-processors to improve their efficiency, output and profitability through improved management and processing techniques.

3.33 Some limited support to the fruit and vegetable segment comes from the recently created "Fruit and Vegetable Association of the Kyrgyz Republic", which embraces about 20 small- to medium-scale food processors. The association provides training on marketing of fruits and vegetables to members and has elaborated a new brand for canned fruits and vegetables called "Taste the Sun". It allocates the right to use this brand to members which meet certain quality criteria. Total sales of branded products were about KGS 20 million in 2005.

3.6 Conclusions

3.34 The agricultural sector in the Kyrgyz Republic is rather small, compared with its size in some neighbouring countries, such as Uzbekistan or Kazakhstan. It mainly serves the domestic market, and to a much lesser degree the sub-regional markets (Russia, Kazakhstan, and Turkey) for raw/fresh or semi-processed products. Producers and processors often serve small market niches, as they do not have the raw material basis and production capacity to serve larger markets in particular in Russia, or lack the organizational skills and finances to increase output.

3.35 Production is mostly scattered and dispersed over a larger area or several oblasts. The rather shallow domestic markets do not permit large-scale investments in machinery and equipment to reach higher levels of economies of scale. This applies to both the farmers as providers of raw material as well as to agro-processing companies. Within the foreseeable future, Kyrgyzstan does not appear to be able to deliver the weekly wagon-loads as demanded by central Russia, the Ural or Siberia regions. Instead, its future seems to lie more in supplying smaller to medium-sized market segments with above average to higher quality products, which are produced and processed along international quality and hygiene standards.

3.36 According to the data obtained on the production outputs and costs, most of the agricultural ventures seem to be profitable, and farmers would not undertake these if they were not. More specifically, some sectors and crops appear to be quite profitable even if production would be partly financed by bank loans at current interest rate levels, and have a good market at the same time. These include:

- in the seasonal crop sector: cotton, tobacco, barley, sugar beet, lucerne seeds, seed potatoes;
- in the fruits and vegetable sector: tomatoes, cucumber, cherry tomatoes, berries, cherry, fresh beans, medicinal herbs,
- in the livestock sector: cattle, goat and sheep breeding in general, for both dairy and meat production; horse milk; yak and pig raising;
- silk and wool production; and
- fresh water fish production.

3.37 As regards agro-processing, it is very difficult to make general statements, as the situation from one company can be so different to another. However, processing of milk, meat and sausages, medicinal herbs from the mountainous regions, juice, vegetables, pickles, sea-buckthorn, fruits and berries, and many others seem to have a good potential for expansion and exports. However, the key issue and constraint for most of the crops and products is marketing, and this applies to all products in raw/fresh form, semi-processed or fully processed. Gluts have in the past led several times to a collapse of prices, with the implicit negative impact on farmer incomes and their ability to repay loans. These features require that financial institutions

undertaking loan appraisals put more emphasis on the analysis of markets rather than on production side only.

4. FINANCIAL SECTOR

4.1 Overview

4.1 **Institutions**. The financial sector of the Kyrgyz Republic comprises 19 commercial banks, one government-owned agricultural development finance institution, the Kyrgyz Agricultural Finance Corporation (KAFC), 106 microfinance institutions (MFIs), about 306 credit unions, one leasing company, a dozen investment funds, about 20 private insurance companies, the Kyrgyz Stock Exchange, two pension funds, 116 pawnshops[1], and 266 foreign exchange bureaus.

4.2 **Central bank**. Financial institutions are regulated and supervised by the National Bank of the Kyrgyz Republic (NBKR), the country's central bank. The NBKR also formulates the monetary and foreign exchange policies and ensures the stability of the national currency, the Som. It also undertakes foreign exchange sales to the inter-bank market and auctions treasury bills and credit to commercial banks.

4.3 **Importance of the financial sector**. Despite the rather big number of institutions, the relative importance of the sector is low. Total loans outstanding of all licensed financial institutions as at the end of 2005 accounted for only 12.5% of GDP[2]. This puts Kyrgyzstan into the category of the least developed countries, in which the financial sector is one of the major obstacles for further economic growth. Like so many other countries, the share of cash inside the banking sector in both domestic and foreign currencies accounted for 38.9% of M2, against 61.1% outside it[3]; recently, the growth rates of cash outside the banks were slower than of bank deposits.

4.4 **Regulation and supervision**. As said above, all regulation and supervision of financial institutions is vested with the NBKR. Although not totally independent from government[4], the central bank undertakes its role in a rather strict manner and closely supervises banks and non-bank financial institutions (NBFIs). The central bank closed a number of bankrupt banks and credit unions over the past years and put some under scrutiny.

4.5 A number of laws and regulations have been passed over the past few years to create a more favourable environment for the growth of the financial sector, including the laws on commercial banks, credit unions (1999), pledges and collateral (2005), and MFIs (2002).

4.6 **Interest rates** fluctuate widely between different types of institutions and within sub-sectors. Commercial banks accept deposits and lend in both the national currency as well as in foreign currencies, mostly in USD. By March 2006, average interest rates of bank loans outstanding were 25.1% for loans in KGS and 18.2% in USD. The respective average interest rates for loans disbursed in March 2006 were slightly higher for loans in national currency

1 As at the end of 2004.

2 Based on NBKR data on banks and NBFIs, data obtained from MFIs and credit unions, and own estimates. This share of loans over GDP was calculated at 10.2% for the end of 2004 and at 7.3% for the end of 2003. See NBKR: Banking System Development Trends, First Half of 2005, Bishkek 2005.

3 NBKR: Inflation report 4 (18). Bishkek, February 2006, p. 10.

4 The NBKR is principally accountable to Parliament.

(25.4%) and slightly lower for loans in dollars (16.5%). Over the past five months, the gap between loans in soms and in dollars at month ending was in the range of 9.0-11.5%[1]. Commercial banks usually lend to SMEs at around 18-20% in USD and at around 25-33% in soms, but decrease their lending rates to 13-14% in the case of larger loans above USD 50 000 to good clients.

4.7 Commercial banks are so far the only type of institution permitted to accept deposits from the general public[2]. The average deposit rates paid by commercial banks were 4.0% for som accounts and 1.6% for dollar/forex accounts. However, banks only paid 2.1% on average on new deposit accounts in soms and 0.3% in dollars.

4.8 The KAFC has been ordered to reduce its lending rate to about 12%, whereas it was lending at around 14% in 2005 and at around 16% in 2004. There is certainly an overall downward trend of interest rates in the market, and it is generally expected that the trend will continue for some time subject to stable inflationary and monetary conditions and political stability. The rates charged in the informal financial sector are not known, but may not be exorbitant in all cases[3].

4.9 Microfinance institutions charge lending rates in accordance with the overall strategy adopted: those pursuing operational sustainability, rapid growth and profitability charge higher rates around 25-35%, while those not under much pressure to achieve higher levels of profitability charge about 10-15% p.a. Credit unions also have a wide range of interest rates, which may be in the range of 18-35% p.a.

4.2 Commercial Banks

4.10 **Importance**. Commercial banks are by far the most important type of financial institutions. By the end of 2005, they accounted for 69% of all loans outstanding by the financial system, and 100% of all deposits. The total value of assets, loans outstanding and deposits of all 19 commercial banks was equivalent to USD 484, 205 and 312 million. The biggest three banks combined account for 50% of total assets, 48% of total loans outstanding and 51% of all deposits in the banking sector. Annex 2 presents the main balance sheet and income statement items of the commercial banks as of December 31, 2005.

4.11 As at January 2005, the 19 licensed commercial banks operated 160 branches, or 179 points of transaction including the head offices, throughout the country. The spread of banks over the country is rather even, and there is not much concentration on the capital Bishkek. Of all branches, 26 were located in Bishkek, 26 in Chui,, 23 in Issykkul, 13 in Naryn, 8 in Talas, 28 in Jalalabad, 27 in Osh and 9 in Batken oblasts.

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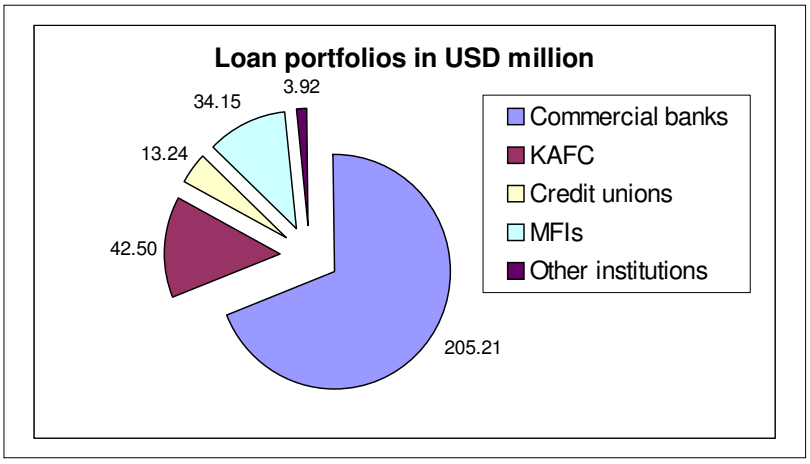
1 See http://stat.kg/nsdp/index.htm

2 The NBKR has withdrawn the licenses for deposit mobilization to credit unions. Two or three larger MFIs are planning to apply for a deposit taking license, but no licenses have so far been granted by the NBKR to them.

3 Five out of the 53 farmers who had applied for a loan over the past 12 months had borrowed from moneylenders. The annual interest rates charged were in the range of 13-25%, with mean and median around 21-22%.



4.12 On the lending side, commercial banks do not only compete among themselves, but also have other competitors. As shown in the diagram on the left, KAFC accounts for USD 42.5 million, equivalent to 14% of all loans outstanding by the end of 2005, while MFIs for another 11% and credit unions for 4%.

4.13 **Characteristics**. The capitalization of the banks has been traditionally rather low. Ten banks have equity funds below USD 3 million. However, some progress has been achieved recently. By the end of 2005, the total equity funds accounted for almost 16% of total assets, and only five of the 19 banks have shareholder funds below 12% of total assets. With a few exceptions, profitability was rather modest, with return on assets of 2.4% and return on equity of 15.1% on average. This low profitability, in combination with the wide spread between deposit and credit rates (23.3% on som basis and 16.2% on dollar basis), indicate a rather high level of inefficiency related to loan collection or administrative costs.

4.14 **Lending**. In line with their deposit base, commercial banks lend in both soms and dollars. The recent strong growth of deposits in dollars also pushed the banks to expand lending in dollars more rapidly, which was facilitated by the increasing differential of interest rates for loans in soms and dollars as shown above. By the end of 2004, loans in foreign currencies accounted for 70.1% of all loans outstanding. In line with the deposit structure, most commercial bank loans are short term. However, the share of term loans in the entire portfolio grew from 21.7% to 27.5% in 2004. As a result, the average loan duration (weighted loan term before repayment) increased from 12.7 to 14.8%.

4.15 Lending has been one of the key constraints of the commercial banks after the collapse of the Soviet Union. Many banks became insolvent and had to be closed by the NBKR. One of the reasons was the lack of capacity to undertake loan appraisals along classical banking standards. As a consequence, the intermediation rates have been traditionally rather low. With increased confidence, capacity building, new banking regulations, stronger emphasis on compliance of banks with prudential guidelines, and increasing competition, banks have gradually increased their loan portfolios and the quality of their portfolios. As indicated above, these are still at rather low levels, as total bank loans outstanding accounted only for 8.6% of GDP in 2005.

4.16 **Loan purposes**. Most of the portfolio of commercial banks is traditionally vested in trade (49% of all loans outstanding in 2004) and industry (18%). The aggregate share of other loan purposes was 9% to households for consumption, 6% for construction and 4% for real estate. Loans for agriculture made up for 1.3% of all loans outstanding by the end of 2004.

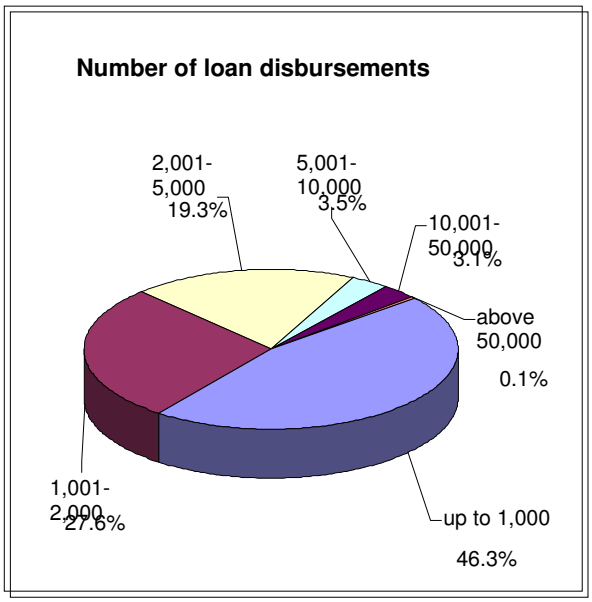
4.17 **Profitability of lending**. In the absence of a comparative analysis on the basis of bank-internal data on the profitability of lending, one may have to assume that in general terms, lending to the small enterprise sector is more profitable than lending to corporate clients. Some data obtained from commercial banks imply bad debt provisions of 6-8% for corporate clients, while those for the smaller loans only amount to about 2%, which is the standard provision for all loans[1]. Interest rates for small loans are at least 3-4% higher than those for corporate clients, and the slightly higher operational costs for small-scale lending are more than offset by the higher interest received and the lower risks.

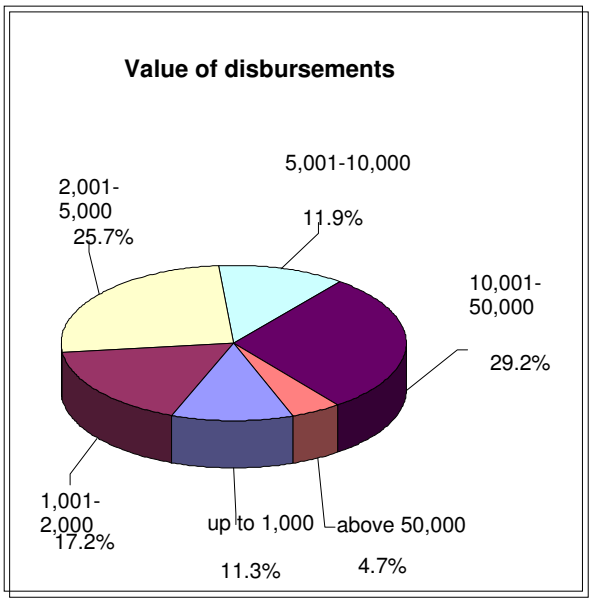
4.18 **Small enterprise lending**. Much of the progress achieved in the small loans sector can be attributed to the MSFF, which provides a combination of refinance funds for lending and technical assistance and capacity building to improve lending under a down-scaling approach. This project is jointly funded by the EBRD, IFC, USAID, Swiss State Secretariat for Economic Affairs and the Commission of the EU (TACIS Program). Emphasis of the project is laid on (i) sound preparation and training of staff, (ii) sound loan procedures; (iii) quick loan processing along standard banking techniques; (iv) close monitoring of clients by loan officers; and (v) flexible collateral arrangements. Most loans have been granted to individuals, and only a handful loans to farmer associations – with mixed results. The project embraces six partner banks, among them two of the big three. Lending began in April 2002. Loans are in the range of 3-36 months, and up to six months of grace period can be negotiated on a case-by-case basis. By March 2006, the monthly disbursements reached 3 528 loans worth USD 8.4 million. At the same time, the number and value of loans outstanding stood at 19 564 loans and USD 36 609 856. The total value of loans disbursed over the almost four years was USD 87.1 million to 44 349 clients. As at the end of March 2006, the number of loans in arrears was 0.93%, while the portfolio in arrears for one day and more was 0.9%. The highest arrears that occurred since inception of the program were 1.26% of the number and 1.25% of the value of the portfolio outstanding. The highest amount in arrears for more than 90 days that occurred over this four year period was 0.65% of the portfolio. These arrears are considerably below the general risk provisions to be made in accordance with the law (2%).

4.19 The average amounts disbursed per month, an indicator for the depth of outreach to the low-income groups in the society, has been in the range of USD 1287 and 2952. Since November 2002, the mean amount has been always below USD 2 000. The mean amount decreased constantly to about USD 1 300 in February 2005, and has gradually increased since then to the current level of USD 1 871. The current number and value of monthly disbursements by size of loan are shown in the diagrams below. Loans below USD 2 000 accounted for almost three quarters of the number and almost 30% of the value of all loans disbursed in March 2006. The diagrams below show the number and value of MSFF loan disbursements as at March 2006.

[1] The portfolio in arrears of MSFF loans is below 1% of the loans outstanding.

Diagrams 1 and 2: Number and Value of Disbursements by Size of Loan (March 2006)





4.20 The MSFF has been very successful in terms of: (i) increasing the number and value of loans; (ii) making banks accept new lending approaches; (iii) accepting other forms of collateral than real estate; (iv) making banks aware of the potential of the sector; (v) creating more confidence among clients about the interventions of the commercial banks; and (vi) bank profitability. All six participating banks are prepared to expand their SME portfolio further.

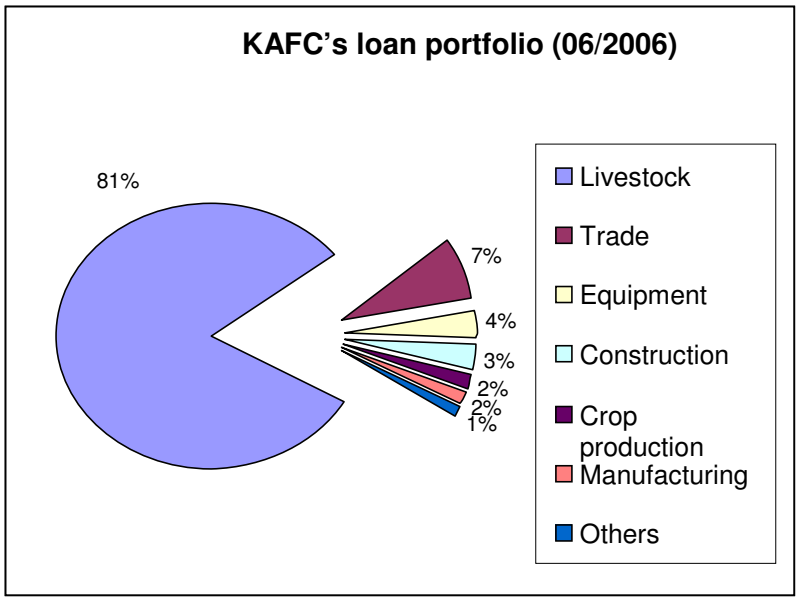
4.3 KAFC

4.21 **Genesis**. The KAFC was created in December 1996 with the support from the WB with a view to provide loans to farmers and agro-businesses with a commercial orientation. Since inception, other donors such as the AsDB, IFAD and DFID, have also supported the corporation. It is fully owned by the government. In 2005, there was a general agreement about the privatization of KAFC, and initial discussions with some potential buyers took place. However, some doubts about the principle and modalities of privatization emerged during the second half of 2005 and in 2006, which brought the negotiations to a halt.

4.22 **Key performance parameters**. The corporation is set-up as a NBFI without the license to mobilize deposits. By mid 2005, the corporation had total assets worth USD 46.1 million. Its net loan portfolio was USD 41.5 million, equivalent to 90% of total assets. Total equity amounted to USD 16.8 million or 36% of total assets. Return on assets was in the range of 5.4-7.8% over the period 2002 to mid 2005, and return on equity was in the range of 15-21% over the same period. The portfolio in arrears over 30 days was 1.7% as at the end of June 2005, while total provisions for bad and doubtful debts were 3% at the same time. Over the past four years, the corporation always realized a profit at the end of the year. This puts the corporation as number 2 in terms of loan portfolio, number 4 in terms of total assets and number 8 in terms of return on

equity in the financial sector. Most of its lending resources come from a number of IFIs (mainly IDA) via the Ministry of Finance. Most of its loans were in the past granted at 14-18% p.a., but have been lowered in 2005 and again 2005 to about 12% p.a. These rates have been possible only because of the rather low cost of funds, a rather high productivity of loan officers, rather low general and administrative costs[1], a relatively wide branch network[2] and low provisions for bad debts.

4.23 **Lending**. The corporation lends for all projects related to agriculture, food processing and rural businesses. More than 80% of its portfolio was concentrated on the livestock sector, a sector known for its rather low risks in the past. As shown in the diagram on the left, purchase of equipment accounted for 4% and crop production for 2% of the value loans outstanding. Within the livestock sector, cow breeding was by far the most important activity (65% of all livestock loans), followed by sheep breeding (25%), horse raising (5%) and goats (3%). Yak farming and poultry were insignificant loan purposes, with 0.3% and 0.1% of the portfolio respectively. The corporation wishes to reduce this concentration on a single sub-sector. KAFC undertakes straight forward and conservative loan appraisal as do most other financial institutions as well. However, loan processing even of small loans may take up to three weeks. This is more than many small clients are prepared to accept, and could constitute a considerable comparative advantage for commercial banks.



4.24 **Regional distribution**. Regionally, the corporation's portfolio is concentrated on Osh and Jalalabad oblasts, with 24% and 20% of the portfolio respectively. However, the regional distribution also reflects the production and business portfolio, and Chui held 13%, Issykkul 12% and Talas and Naryn 9% each of the entire portfolio[3].

4.25 **Clientele**. The corporation had 33 494 active clients as at June 2005, thus an average loan outstanding of USD 1239. This is not very different from the mean amount realized by the commercial banks under the down-scaling program MSFF. In terms of size distribution, 49% of the number and 9% of the value were for loans below USD 1 000. Loans above USD 1 000 and below 5 000 made up another 49% of the number and 27% of the value of loans, while loans above USD 50 000 accounted for less than 1% of the number and 5% of the value of loans

[1] In June 2005, expenses for salaries, operating costs and depreciation account for about 3.3% of net loans outstanding.
[2] The corporation maintains 11 branch offices, which monitor 47 representative offices.
[3] Bishkek town accounted for 7%.

outstanding. The largest loan balance outstanding was slightly below USD 0.2 million. The above average includes group lending for small groups loans of 5-6 persons, which are treated as one account by KAFC, and would this be slightly lower if the individual loans would be counted[1].

4.26 **Outlook**. The future of the corporation will depend much on its ability to attract relatively cheap funds from whatever source, either from donors, or through the mobilization of deposits, which in turn requires its transition to a fully-fledged bank.

4.4 Microfinance Institutions

4.27 **Overview**. Microfinance Institutions (MFIs) have emerged in Kyrgyzstan in the mid 1990s and are relatively important within the financial sector and for the low-income groups. By the end of 2005, all 106 MFIs combined had a loan portfolio of USD 34.1 million, which was equivalent to 11% of total financial sector lending or 1.4% of GDP. Three MFIs are relatively big and strong, and account for about a quarter of the loans outstanding of all MFIs. These MFIs are also in the process of applying for a license from the authorities to mobilize deposits.

4.28 **Legal background**. According to the law on MFIs of July 11, 2002, MFIs are specialized lending institutions established as a legal entity with the purpose to provide micro-credits to certain categories of individuals and legal bodies. Before starting their business, MFIs need a license from the NBKR. The law distinguishes three types of MFIs:

(a) Micro-credit agencies (MCAs) are non-profit organizations that provide loans from various sources of funds, including own funds or funds from donors and local or international financial institutions;

(b) Micro-credit companies (MCCs) are for-profit organizations established as legal bodies of any kind that provide loans from various sources of funds, including own funds or funds from donors and local or international financial institutions;

(c) Micro-finance companies (MFC) are specialized finance and credit institutions established as joint stock companies providing loans from own funds, funds from donors and local or international financial institutions, as well as time deposits made by borrowers as collateral payments, which are to be reimbursed upon repayment only. MFCs are also permitted to offer financial leasing to their clients. Other forms of savings mobilization require the prior approval of the NBKR.

4.29 MFIs carry out their business independent of government and at their own discretion. Government bodies and their officers are prohibited to interfere into their internal affairs. MFIs are permitted to establish branches, as long as these are not established as separate legal entities. MFIs are permitted to realize and sell off pledged collateral items, provide consultancy services to their clients, open bank accounts and borrow funds from any source. All MFIs are to apply the current set of regulations issued by the NBKR, and are in particular obliged to establish loan loss reserves, make bad debt provisions and write off past due loans. All MFIs are obliged to get their annual accounts audited externally.

[1] Group lending accounted for about 5% of the corporation's loans outstanding in mid 2005.

4.30 By mid 2005, 78 MCAs and 26 MCCs had a valid license from the NBKR, and no license for a MFC had been issued. Two or three MCCs are in the process of transition to a MFC in order to widen their lending bases.

4.31 **Key performance parameters**. As at the end of 2005, MFIs had a loan portfolio of USD 34.1 million. Their total number of clients may have reached about 58 000[1]. The sector is highly heterogeneous, with about four larger organizations with a portfolio above USD 2 million, about 20 medium-sized MCCs with a portfolio between USD 0.1 million and two million, and about 80 rather small ones with portfolios often not more than USD 50 000. The table below shows some performance parameters of the three major MFIs.

Table 8: Key Performance Parameters of MFIs as at June 2005

Performance parameter	Bai Tushum	Kompanion	Finca
Loan portfolio	4.4	3.658	10.223
No. of clients	2500	11059	24805
Total assets	5.4	4.284	11.183
No. of loan officers	25	58	125
Lending products	Crop, livestock, SME and equipment loans; group lending	Group lending to women; individual lending	Group and individual lending for businesses and consumption
Total staff		181	250
Branches and field offices	8	28	100
Average loan size	1760	331	412
Percent women among clients		99%	
Portfolio at Risk	1.6%	4.4%	0.7%
Operational Self-sufficiency		122%	
Financial Seld-Sufficiency		89%	
Return on Asset	10%	28%	10%
Loans per loan officer	100	191	198

4.32 **Outlook**. At least two of the MFIs have a good potential to achieve the transition to a higher level and start mobilizing deposits, which should in the medium run also have a positive impact on their sustainability. These two institutions also already receive external loans from various sources, including the EBRD. The future of the many smaller and micro agencies depends in the short run on their ability to attract funds, manage these properly and account for their use in a transparent manner. In the medium run, most of the smaller MFIs will certainly disappear if their grant support ends before they become operationally sustainable. One should expect in the long run the upward transition of a few MFIs, very few mergers and acquisitions, and the disappearance of many smaller agencies.

[1] This based on a number of 40 000 clients estimated at the end of 2004 and an assessment of the growth rates of MFIs during 2005 based on MFI figures.

4.5 Credit Unions

4.33 **Overview**[1]. Credit unions are another relatively important type of financial institutions in particular for the low-income rural population. By the end of 2005, the about 306 credit unions had a combined loan portfolio of USD 13.2 million, which was equivalent to 4% of total financial sector lending or 0.6% of GDP. The credit unions are somewhere in the middle between a two-tier and a three-tier system, with grass-roots credit unions at the base, regional associations at the centre and the Financial Company for Support and Development of Credit Unions (FCCU) at the top. The FCCU is entirely owned by the NBKR, an anomaly for an apex institution of a credit union movement. Given the poor performance of many primary unions, the NBKR has withdrawn the license to mobilize deposits.

4.34 **Legal background**. The law on Credit Unions of 30/09/1999 defines credit unions as non-commercial financial institutions pooling member shares and savings and providing loans to members at reasonable rates of interest. Before a credit union could legally start its business, it would need to have a license from the NBKR. The model adopted in Kyrgyzstan follows the usual standards: the general meeting is the supreme body of the credit union, which decides on policies, elects members of committees and makes all major decisions. The affairs are run by a management board, which is in charge of all day-to-day activities. The credit committee is in charge of loan applications and decisions. The supervisory committee is in charge of internal audits. All committees must have at least three members and are elected by the general assembly for a specific period of time. Of particular importance are the regulations on audit. The law provides that the accounts of the credit union "may be audited", but does not impose compulsory audit on them. In addition, if no external audit was conducted, the supervisory committee is charged with the authority of an external auditor, and performs the annual audit. This substantially reduces the value of audit, and effectively prevents the building of trust and confidence into the system. Credit unions are permitted to borrow externally from various sources, provided that the aggregate debts do not exceed 100% of the paid-up saving shares of the respective society. External creditors are protected by the law against default of a credit union; in case a credit union is in arrears with either principal or interest, it is prevented by the law to grant any further loans, pay dividends or permit the withdrawal of shares, until the arrears have been fully paid or settled. Many of the regulations for the credit unions are outdated and old-fashioned and constitute a barrier for strong growth.

4.35 **Key performance parameters.** By mid 2005, there were 310 credit unions with a valid license, which embraced 28 972 members, representing a 5% growth over six months. Their total share capital amounted to USD 7.2 million, their total loans outstanding to KGS 547 million (USD 13.2 million). The average loan outstanding thus amounted to KGS 23 656 or USD 577. Total arrears at the credit union level amounted to KGS 15.4 million or 2.8%[2]. The same amount has been kept as total reserves for doubtful debts by the credit unions. Total deposits of the few credit unions which were still permitted to mobilize such, amounted to KGS 2.1 million, equivalent to USD 51 000.

[1] All data as at June 30, 2005.

[2] It is not know what standards for measuring arrears the credit unions apply, and whether all apply the same standards.

4.36 **Outlook**. The future of the movement is very uncertain. The management capability of most credit unions is still very poor, and substantial investments are required to build a technically and financially strong movement. With the end of the GTZ-funded support of the movement in 2005, there are no more external funds for capacity building purposes. The AsDB, which has been a traditional supporter of the credit unions, has also not decided whether to step in. Another impediment is the lack of refinance facilities, which have in the past been granted by the apex financial institution. The anomaly that this apex is owned entirely by the central bank needs to be corrected, but there are hardly any solutions in sight. Primary societies do not have the funds to buy out the apex body from the NBKR, and a cession free of charge is also hardly possible given the debts assumed by the government (AsDB). The mere restructuring of the apex financial body would not suffice. Furthermore, the current credit union law, under which credit unions are perceived as providers of cheap funds, should be regarded as a mistake and turn into a wrong direction, but the existing perceptions may be very difficult to correct. Finally, without a functioning apex structure, which would provide at least financial services, the future of the movement is at stake. It finally appears doubtful whether the movement can survive without substantial capacity building measures.

4.6 Lending to Agriculture

4.37 The total volume of loans to agriculture is not exactly known. Amounts reported to NBKR refer to primary production, and do not reflect agro-processing, such as flour mills, cotton ginning, leather processing or the extraction of edible oils, which is normally contained in the industrial loans category.

4.38 The total amount of loans outstanding to agriculture as at the end of 2005 is estimated at around USD 54.1 million or KGS 2.2 billion[1], which was equivalent to 18% of total loans outstanding or 2% of GDP. It appears that commercial banks have significantly increased their exposure to agriculture. In 2003, agriculture accounted for about 3% of total commercial bank loans, which had increased to 4.9% by the end of 2005[2]. These figures show that agriculture is an important purpose, is not neglected, and is still gaining importance, especially in the banking sector.

4.39 Under the MSFF, lending to agriculture started only in January 2005. Between this date and March 2006, a total of 2 747 loans worth USD 4.2 million have been disbursed by the six participating banks. Initially, the number of loans disbursed in a month were quite low (28 loans worth USD 52 000), but monthly disbursements have been growing to 657 loans most recently (March 2006), when one out of six loans was for agricultural purposes.

4.40 By the end of March 2006, 2 204 loans worth USD 2.96 million were outstanding for agricultural purposes. This represented 11.3% of the number and 8.1% of the value of loans outstanding under the MSFF. About 80% of loans disbursed so far were for working capital requirements and 20% for investments. Within the working capital loans, 20% of the total loans

[1] Based on: (i) 70% of KAFC's total portfolio of USD 42 million; (ii) USD 1.2 million for Bai Tushum; (iii) USD 3.0 million for the MSFF; (iv) USD 7.0 million for commercial banks, including USD 3.35 million for AKB, USD 1.06 million for Ineximbank, and USD 2.0 million for all other banks; (v) USD 6.6 million for credit unions (estimated 50% of the portfolio); (vi) and USD 6.31 million for other MFIs (estimated 40% of total portfolio).

[2] The share of 1.3% reported by the NBKR in its Annual Report for 2004 is thus too low.

were for livestock and 60% of the total for crop production. Items financed include fuel and lubricants for tractors, spare parts, tools and ploughs, tractors, combined harvesters, fertilizer, purchase of cattle for breeding, construction and repairs of farm houses, stables and barns, etc.

4.41 This evolution was made possible because of the efforts undertaken by the technical service provider in terms of preparing bank management for the task and challenge, and by providing technical training on the specifics of agricultural loan appraisal to the credit officers. The banks on their side have appointed at least one staff as agricultural loan officer in those branches with a higher concentration of and demand for agricultural loans. The evolution was also facilitated by the temporary contraction of KAFC during the phase of negotiations over its proposed privatization, which made farmers look at viable alternatives.

4.42 The current penetration levels of all financial institutions in rural areas are not known, but should reach probably around 15-20% of all private farms, excluding all households with minor agricultural activities. These levels are comparatively low, and permit banks and other financial institutions to expand further.

4.7 Key Issues and Constraints

4.43 **Savings mobilization**. Financial institutions in the Kyrgyz Republic are under-liquid, with the exception of the Savings Company, which does not lend. This applies to commercial banks as well as to MFIs and credit unions at the same time. The loan portfolio growth of the past two years has been financed by the growth of deposits.

4.44 Commercial banks are however not yet very active to enhance their deposit base. They usually have two types of customers, the depositors and the borrowers, and these roles usually do not change. Efforts by banks to cross-sell products have so far been marginal.

4.45 Access to long-term funds in the domestic market or within the sub-region is only easy for foreign-owned banks, but not for Kyrgyz banks. Access to donor funds is also highly restrictive, as these are tied to projects and subject to due diligence appraisals, in which the IFIs usually apply stricter criteria than demanded by the national legislation or NBKR regulation. MFIs do not yet have a license for mobilizing deposits from the domestic market and are entirely dependent on external borrowing and grant funding. Credit unions have been restricted to mobilize deposits and most of them are permitted only to sell shares to members, which restricts their ability to expand their lending resources. Their apex structure, the FSSU, has also slowed down the refinancing of credit unions, as it is obliged to repay some of the funds borrowed from the AsDB.

4.46 **Constraints of savings mobilization**. One of the key issues raised by people in both urban and rural areas is the safety of deposits. People generally do not have much confidence into commercial banks, or financial institutions in general, and some have lost their deposits in bankrupt banks. Banks on their side have done little to gain back confidence of the general public, and are yet to find out that such confidence could be one of the major factors of growth, sustainability and profitability. Banks have also not started to undertake more reasonable market studies, design new products beyond the “classic 3”, i.e. demand, savings and fixed deposits, and overcome the market segmentation between depositors on the one hand and borrowers on the other. Concepts of how to link savings and credit and integrate these into packages are absent.

4.47 At the national level, a deposit insurance mechanism appears to be one of the indispensable ingredients to increase depositor confidence and the volume of deposits. It would be important to set up such a mechanism as an independent company under private sector law and outside the public sector, but under the control of either the NBKR or a supervisory agency for insurance companies. The model of establishing bridge and rescue funds as a self-help mechanism among the banks is unlikely to work in view of the heterogeneity in the banking sector. Furthermore, the contribution into an emergency fund administered by the NBKR as practiced in some countries is also not likely to produce the desired result, as the ordinary citizen could hardly understand how such a mechanism could protect all banks and her/his savings.

4.48 **Collateral**. The excellent results achieved by the commercial banks in terms of loan repayment even where no collateral has been requested confirm that in the micro and small loan categories, collateral does not play a very important role. The flexible collateral arrangements adopted by the banks are more important as psychological signals that banks are serious and would not tolerate default rather than covering the risks of default. With a view to push the frontiers further and open more segments for this type of lending, it would sound reasonable to increase the zero-collateral thresholds further upwards, say to USD 2 000. As regards loans above USD 2 000, banks usually insist on mortgages. However, mortgaging of houses is not a suitable option in remote areas and where houses are not solid constructions. Farm land, even where farmers have title deeds, is in most cases not a suitable form of collateral due to many legal restrictions and their rather restrictive interpretations through the courts. Banks which received a title to foreclose pledged land only have three months to sell off the land, which is mostly insufficient. Some reflections within the administration on how to remove the barriers for lending seem to take more shape slowly, and the regulations related to mortgages as well as the procedures for foreclosure are apparently under government review. In addition, the complaints about the maladministration and corruption in the government land register are legion, and should be addressed as soon as possible.

4.49 The massive improvements in the small enterprise lending sector have led to substantial efficiency gains related to costs of loan appraisal, loan processing between branch and head office and bad debt provisions. These gains have only partially been passed on to clients, and banks have reduced their lending rates more with a view to be abreast of market trends rather than passing on gains to clients. The challenge here for the financial system as a whole and the commercial banks in particular is therefore how best to pursue the path of accelerated growth to permit the economy to grow and to reduce efficiency and implicitly the lending rates.

5. DEMAND FOR AGRICULTURAL FINANCE

5.1 As regards the demand for agricultural finance, there is a need to distinguish quantitative aspects (gap between supply and demand unmet by financial institutions) and qualitative aspects (type of services offered and their terms and conditions).

5.1 Quantitative Demand Assessment

5.2 As regards the quantitative aspects, there are no current projections on the demand for agricultural finance in Kyrgyzstan. The following may serve as a preliminary estimation of the amounts that are required to gradually narrow the gap between demand and supply.

5.3 According to official assessments, the total 'demand' for fertilizer amounts to 320,000 tons, against a consumption of 95,000 tons. This estimation has apparently been based on the widespread and use of inorganic fertilizers in full compliance with the technical recommendations of the MAWRPI. Assuming that farmers are interested and willing to buy about 50% of the additional requirements, the additional supplies would amount to about 110 000 tons per year, worth about USD 33 million or KGS 1.35 billion. Under a more conservative assumption of a (rather low) average fertilizer consumption of 100 kg/ha, the value of the additional supplies amounts to USD 14 million or KGS 567 million. The additional requirements for agro-chemicals (herbicides, pesticides, fungicides, insecticides) can be estimated at least at around 30% of the above additional requirements, i.e. a shortfall of not less than USD 4 million or KGS 170 million.

5.4 The parallel survey of the 200 farm households has shown that 27% of all farmers had submitted a loan application to a financial institution during the last 12 months. A total of 125 farmers indicated their general interest to borrow externally to finance their business. On the other hand, 52% of farmers indicated that they would prefer to borrow from a bank instead of starting to save. It might thereafter be reasonable to assume (conservatively) that about 40% of farmers have a concrete interest in financing their planned investments through a loan. Excluding one exceptional case, the mean, median and modus amounts of the planned investments by the farmers in the four regions desirous to expand suggest an average demand of KGS 150 000 or USD 3 700[1]. Further assuming that only private farmers would be eligible borrowers, thereby excluding household farms and collective farms, the total market for agricultural loans in this segment could be estimated at around USD 300 million[2] or KGS 12.3 billion. Given the current supply of about USD 54 million, the shortfall would amount to about USD 250 million or KGS 10.25 billion.

5.2 Qualitative Demand Assessment

5.5 The 200 farmers surveyed made some recommendations as regards suitable terms and conditions for bank loans to enable them draw a maximum benefit from their investments. The most important of these recommendations was to lower the interest rate, which was shared by

[1] This discards one single exceptional case, where a farmer sought finance to fund a KGS 500 million investments into cattle breeding.

[2] Assuming that 40% of the 250 000 private farms would borrow on average USD 3 000.

more than one third of respondents. The mean interest rate recommended by them was 8-10%. The table below presents the most important farmer recommendations related to lending.

Table 9: Farmer Recommendations to Financial Institutions

RECOMMENDATION	NO.	IN %
To lower the interest rates	69	34.5
To offer long term credits	21	10.5
To simplify the process of collecting and registration of the documents	15	7.5
Minimum three years for loans	14	7.0
To grant loans for seeds, fertilizer, other inputs and equipments	14	7.0
Consulting/informing	8	4.0
Justify the assessment of collateral	7	3.5
Others	42	21.0

5.6 Most farmers advised that the loan duration should be long enough. Only 6% of farmers were interested in short-term loans below 12 months, but 25% wanted medium-term loans (1-3 years), 31% loans for a duration of 4-6 years and 15% wanted even loans for a duration exceeding 6 years.

5.7 As regards the mode of repayment, 10% of all farmers preferred monthly instalments without a grace period, 31% monthly instalments with a grace period, ad 32% a single payment of capital at the end of the loan period. Those in favor of a grace period opted mostly for one full year and in a range of 6-30 months.

5.8 Over and above these recommendations related to terms and conditions of lending, there seems to be a general perception among rural dwellers that the loan application process is too cumbersome. Many farmers apparently do not understand the banking terminology, and are often lost in loan applications and the depth and width of information required by commercial banks. It is therefore not surprising that 14% of all farmers would like to have some help in preparing the necessary documents for receiving credits. An additional 5% of farmers asked for consultancy services when elaborating business plans, and another 4% asked for some training on the technical and economical sides of preparing business plans. This group of persons ready to admit their difficulties constituted one quarter of all farmers, which is a confirmation of the general policy adopted under the MSFF that credit officers elaborate the business plans for consultants, even without charging clients for the service rendered.

5.9 Bribery and corruption do not seem to be an issue in the case of commercial bank and MFI lending to small entrepreneurs and farmers. The only cases reported about bribes being paid to get a loan were related to KAFC and occurred in the Chui region.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

6.1 Commercial banks are not the only providers of agricultural finance, but compete wit some MFIs, the credit unions and especially KAFC, the second largest lending institution in Kyrgyzstan and by far the biggest institutional provider of agricultural loans. The competitive advantages that commercial banks presently have comprise:

- faster loan processing: micro express loans can be disbursed within a week after application, and sometimes even within 24 hours, whereas KAFC needs much more time, probably up to three weeks in case of a new client;
- option to lend in both KGS and USD, depending on the client's preference, markets and risk absorption capacity;
- option to offer other banking services, such as call deposits, savings, transfers and payments;
- providing loans up to USD 1 000 without collateral, granting loans up to USD 2 000 without mortgages, and accepting almost everything that has any material or psychological value as collateral, without the need to register pledges or mortgages in all cases;
- availability of sufficient lending resources[1].

6.2 There is a big demand for loans by the agricultural sector which is far from being met. Behind one rural client served by all financial institutions, there is a queue of another five who are not served, and the current demand for loans is at least USD 300 million, against a delivery of USD 54 million. This crude estimates do not imply that all prospective borrowers are creditworthy, but it indicates the magnitude of a market for financial services, which is very likely to grow for quite some time. By using their comparative advantages, by reshaping their products, the commercial banks can tap more of this market potential. The MSFF experience shows that SME-lending is presently more profitable than corporate lending, and that agricultural loans are repaid as promptly as other loans and are as profitable as loans to other sectors.

6.3 With some training of the loan officers by the technical service provider, and the appointment of specialized loan officers by commercial banks mandated to handle and appraise agricultural loan clients, loans for agricultural purposes expanded faster than the overall portfolio. With both the demand for loans being unmet and the rural branches prepared to serve clients, one

[1] In the privatization process, KAFC has stopped or substantially reduced lending in many branches. Some experts expect that about 50-60% of ex-KAFC clients who are now served by the commercial banks would turn back to KAFC if KAFC's lending rate would be substantially lower than that of the commercial banks. If the difference would not be more than 2-3%, most of the clients would probably remain with the commercial banks.

should expect a normal growth path of agricultural loans up to probably about a quarter or a fifth of the entire micro and small loan portfolio.

6.2 Recommendations to Commercial Banks

6.4 The financial sector has not yet penetrated the group of private farmers[1], and the demand for agricultural loans if still far from being saturated. Under these circumstances, the MSFF experience and premise of expanding into the agricultural sector with only some basic preparation and some rather low-cost investments into training and capacity building are still valid. This permits to draw the conclusion that this path of growth can be pursued by the commercial banks for some more years without lots of investments.

6.5 **Collateral**. Commercial banks would be able to increase their penetration of rural areas and reduce their transaction costs by increasing the threshold for collateral from the current level of USD 1 000 to USD 2 000 for good clients and make this an official policy. It is very probable that this measure would permit serving a much greater number of clients without substantially adding risks to the banks. Such modification would however require the endorsement by the NBKR. Furthermore, banks should gradually reduce the collateral coverage (expressed as the total present market value of all collateral over the loan applied) for good clients with track records, to 150% in a first step and further to about 130% in the near future.

6.6 **Modification of repayment schedules**. Commercial bank products and services are not yet very competitive and attractive in comparison to international standards. Commercial banks could gain a competitive edge by improving the attractiveness of their services. Adjusted repayment schedules could play a very important role in this regard. This would directly respond to a major concern expressed by many existing and potential clients. First, banks should handle loan duration less restrictively, and loan officers should be permitted to fix repayment schedules not only on the basis of asset-liability management concerns of the bank, but also in line with the real cash flow projections for the project. Second, banks should encourage their loan officers to build grace periods into the repayment schedules where this would be technically required by real cash flows. Although most banks permit to build in grace periods, this is rarely done. Both modifications of current practice is a concern of many farmers, who feel that they are obliged to reduce consumption unnecessarily by sacrificing family requirements for the sake of standard bank regulations.

6.7 **Lending to individual farmers**. In the past, the commercial banks have only lent to individuals, enterprises and companies. Private farmers are under normal circumstances the most natural type of bank clients. Under normal circumstances, households produce much for home consumption or as fodder for animals, and the size of landholding does not permit them any substantial investments. Exceptionally, households could also qualify in cases where these would want to invest in machinery or business activities, for which not much land is needed, poultry for market production, silk worm raising and silk production, bee keeping and similar cases.

6.8 **Lending to credit unions**. Credit unions have emerged as another pillar of the rural financial sector and serve substantial numbers of members. However, their lending operations are relatively small, and they lack loanable funds to expand their services. The question therefore

[1] As described above in Chapter 3.3.

arises whether commercial banks could become refinanciers of credit unions. For a variety of reasons, this is not a feasible option for commercial banks. First, the law does not impose upon credit unions a compulsory audit by chartered accountants, or at least by a specialized audit cooperative. The data contained in their annual reports are therefore not necessarily reliable, which implies that banks would have to undertake rather costly individual loan appraisals. Second, credit union lending rates are already in the range of 18-25% p.a. Given the current lending rates of banks in the national currency for clients with relatively high risks, and the levels of operational costs and provisions for bad debts, the credit unions would not be in a position to make a profit from such borrowing. Third, the credit unions would be more interested in term funds, rather than short term money. However, the EBRD funds do not permit the use of these funds for lending to other intermediators, and it is very unlikely that commercial banks would use their scarce own longer-term funds for this purpose. Fourth, the management quality of a large number of credit unions is rather low, and it is rather unlikely that commercial banks would accept credit unions as a whole unless the reputation of their management quality is perceived to be at satisfactory levels. Finally, the issue of competition or concurrence with the apex structure FSSU would have to be addressed prior to any moves. Unless all the above issues would be sorted out and adequate technical support be provided to the credit union movement, this is not a valid option.

6.9 **Lending to service cooperatives**. Another option for providing refinance could be the trade and service cooperatives. Over the past 2-3 years, about 36 of these societies have emerged with the assistance of a bilateral donor (GTZ). At this initial stage, no assessment of their ability to serve members and make a profit from input supplies or marketing has been made, which would permit to draw any even preliminary conclusion. However, a few isolated cases of investments with external financing from KAFC indicate that some societies have an economic potential. At this present stage, most of the cooperatives are under-capitalized, and access to finance is one of their major constraints for the provision of inputs, the purchase of raw material from farmer-producers and the construction of storage and cooling facilities. As they have almost no valuable assets of their own, banks could not lend to them on the basis of collateral. A possible solution to overcome this impasse is the creation of multi-tier guarantee mechanisms, under which primary and secondary societies would contribute to guarantee funds under their own control, but which would be kept in bank accounts. Instead of using the available loan funds contributed by the donor, their use as guarantee fund in combination with a mutual guarantee declaration of primary and secondary societies would very much increase their leverage. It is therefore recommended to the IPC as technical service provider under the MSFF to discuss the issue with the donor (GTZ) and representatives of the cooperative sector, and pursue the discussions further in case the banks show interest. As probably about a third of the societies have smaller units of informal groups below the formal cooperative level, which still obtain loans from other financial institutions, such as Bai Tushum, KAFC and the Training and Extension Service (TES) Centre, the issue of double loans would have to be addressed during the process in order to avoid double and over-borrowing.

6.10 **Lending to associations**. Under the MFSS, three loans have been extended to farmer associations, of which one went into default. Reasons behind this case where a group of farmers borrowed for the acquisition of farm machinery (combined harvester) were poor internal organization, some withdrawals from membership and some new admissions, leading to confusion on the side of the bank as regards who is the borrower, and late disbursement of the loan, which prevented the farmers from using the machinery already in the year of acquisition. As

they had no income from the hiring of the machinery, the association did not earn an income from which it could pay the monthly instalments. This case illustrates both the complexity of such loans and the conditions for success. Small-scale farmers can under normal circumstances not afford a bigger tractor or a combined harvester, and if these services cannot be hired in the village, the costs of production are high and productivity remains low. Once such machinery could be used profitably by the members, such term loans should remain a valid option for banks. At the same time, both cooperatives and farmers associations need excellent management abilities in ensuring the rational use of the equipment, proper maintenance, equitable services to members, and proper financial management. The appraisal of loans to formal (cooperatives) and semi-formal bodies (associations) is also quite different from the appraisal of individual loans, as it requires an assessment of several features not applicable elsewhere, such as good leadership and governance, accuracy of record-keeping, functioning of internal and external control mechanisms, etc. Numerous commercial and development banks have provided such loans in other countries, and there is no reason why such loans could not be granted in principle in the Kyrgyz Republic as well. However, the knowledge about group loan appraisal (associations, cooperatives) does not widely exist. Before such loans should be granted, some more preparatory work at two levels would be required, including (i) the elaboration of a basic manual or guidelines about lending to formal and semiformal associations, and (ii) the concrete training of loan officers of banks interested in this type of business.

6.11 As a first step, the technical service provider of the MSFF should undertake a brief survey of the participating banks abut their interest in this matter, and upon a positive response, elaborate a brief manual for the operations. The training of loan officers could then be provided by the MSFF technical service provider to the agricultural loan officers of interested banks to overcome this skills gap.

6.12 **Leasing**. The most striking feature of the Kyrgyz financial system is the near absence of leasing facilities. In a situation where few rural dwellers have sufficient collateral for the acquisition of machinery and equipment, leasing facilities are the classic approach to overcome the collateral gap. Apparently, the legislation related to leasing facilities has been upgraded recently, in particular through the Law on Pledges, which implies that there are no principle legal obstacles for financial institutions. In addition, financial institutions are permitted by the laws to offer leasing facilities. Offering leasing facilities to clients without sufficient collateral would therefore be the most logical step to improve rural lending.

6.13 There are two critical issues that would need to be addressed here prior to offering such services. The first relates to the availability of medium- to long term funds, as banks mostly have only short-term funds at their disposal, and as there is no domestic source for borrowing of long-term funds in the country. The second issue relates to the knowledge and skills of credit officers, which do not have sufficient experience with leasing. The first issue could in the meantime only be addressed by opening the MSFF for leasing services, and the latter by offering training facilities for branch office staff. Prior to this, the pros and cons of leasing and the implications of offering leasing facilities would have to be fully explained to commercial banks. Finally, a training programme for selected middle level management staff of the participating banks and some direct short-term technical assistance through consultants would be required to assist the banks creating a functional leasing unit.

6.14 **Linking savings and credit**. Another striking feature of the Kyrgyz financial system is the clear cut separation between borrowers and depositors: borrowers do not save, and

depositors do not borrow. At the same time, the rural population in parts of southern Kyrgyzstan, Chui and Talas oblasts is occasionally engaged in one of the rotating savings associations, in which members make fixed contributions at fixed intervals. The household survey indicates that 10% of farmers were currently engaged in such savings associations, and that an additional 5% had been members in the past. The average contribution per member amounted to KGS 717 per month. This shows that farmers are interested in saving and use these informal arrangements where banks are not accessible. It would thus sound logic to build on the savings propensity of the rural population and offer a special product that links this savings propensity with the interest in loans on an individual basis without the group involvement as follows. A client would determine the amount of regular savings and the frequency of its payment into her/his bank account. In most cases, the frequency would be monthly, but exceptionally fortnightly. The minimum savings duration is two months, the maximum 6 months. Once clients have saved regularly throughout the period determined by them, they would receive a loan twice the accumulated savings. Clients would then repay the loan received in the same interval as chosen for savings. In the last month, they would make a final additional payment, which is the net interest due. The advantages of such a product would be that (i) people would be attracted to the banks at little or no costs for the bank, (ii) paperwork and monitoring would be very little, (iii) the bank could finance almost the entire operations from the savings mobilized, (iv) banks could generate information about the financial discipline of clients at zero costs, and that (v) clients could move up to higher loan amounts upon good performance. Clients are likely to be attracted by a quick and easy-to-understand product that resembles the practices of the informal sector, and where they would not be `bothered` by collateral requirements. This product would most certainly do well where banks start their mobile banking units. Some further details are provided in Annex 1.

6.3 Other Technical Support and Training

6.15 Some loan officers and head office credit staff of the banks have raised the issue of insufficient knowledge of loan officers about agricultural production, as most of the agricultural loan officers are not trained agronomists or agricultural economists. As it would not be feasible to transform them into that, other alternatives have to be assessed. One option could be the preparation of so-called “tech-cards”, which contain relevant information about the different crops and types of agricultural activities in a condensed form, including cultivation patterns, input requirements, yields under different conditions and scenarios, production costs, and marketing issues. Such cards could assist loan officers to decide much quicker upon loan applications. In homogeneous environments, where production and marketing patterns are rather uniform, such information has in the past been a valuable assistance to loan officers. On the other hand, there is no economic information readily available in the Kyrgyz Republic that could be used as inputs for cards. As a consequence, the elaboration of such cards would be quite expensive, and the additional benefits may not warrant such investments. In addition, some loan officers already have some good knowledge about cropping and farming systems, and would thus not benefit much from such cards. Finally, the key constraint is often not related to primary production, but to marketing. Without undertaking a short survey on loan officers of the participating banks, it would not be possible to indicate whether such activity should be pursued.

6.16 Other information requirement cited by bank management was related to (i) the availability and prices of agricultural machinery and equipment; and (ii) price statistics for agricultural commodities. As these can change from week to week, it would be quite expensive to organize the accurate, timely and reliable provision of such data on a permanent basis.

6.17 Some of the participating banks have pointed at the general weakness of loan officers in charge of the agricultural portfolio to adequately appraise the different types of agricultural investments. The list of issues where loan officers needed some additional training and guidance in the loan appraisal process included: (i) beekeeping methods and yields; (ii) growing of flowers and market potential assessment; (iii) use of hotbed cultivation; (iii) cattle breeding; (iv) farming calendar and cultivation methods of major crops, including selection of varieties, input requirements, yields and production costs; (v) methods of crop storage, costs, risks and losses; (vi) major insects and pests and their treatment; (vii) disease prevention methods and disease treatment of cattle and poultry; (vii) methods to monitor cattle movement; (viii) appraisal methods for micro agricultural loans in household farms with various sources of incomes; and (ix) appropriate repayment schedules for livestock loans, including the assessment of grace period requirements.

6.18 However, no standard picture emerged as regards training requirements, and it would be too expensive to prepare training sessions for a few loan officers only on all these issues. It would thus be appropriate to undertake a short survey on loan officers and middle-level bank managers on these issues before any concrete steps would be undertaken.

6.19 It is therefore recommended that the IPC as technical service provider elaborates a questionnaire on the above two issues and presents the results to the EBRD. Follow-up activities would be undertaken in accordance with the results and subject to the availability of funds.

6.4 Supply Chain Finance

6.20 The analysis of the agricultural sector showed that marketing and finance are likely to be the biggest constraints for expansion. Farmers more or less manage production technology, but their weakness is selling their products. As the markets for agricultural products are the urban centres, their absorption of additional products depends much on the population growth and the urban purchasing power. Growth rates above the normal expansion can therefore only be achieved if external markets can be explored.

6.21 The assessment of the existing linkages and contractual relationships between producers and processors shows that some progress has been achieved, e.g. as regards cotton, meat, flour milling, vegetables and fruits. Further progress seems to depend on three critical issues. These centre upon (i) the price fixing mechanism, (ii) the enforceability of the contracts, and (iii) the availability of adequate financial services. Kyrgyzstan's chances to expand production and exports to neighbouring countries depends on her ability to secure higher quantities at satisfactory quality levels, which would in turn permit some reduction of transaction costs.

6.22 Experience shows that under the prevailing open market system, small domestic producers and processors have enormous difficulties to produce and deliver the quantities required, and to comply with the quality requirements. Experience further shows that these are best achieved under a supply chain approach, which embraces all relevant actors in the supply chain. The case of sea-buckthorn exports shows that with relatively little inputs in terms of advisory services, moderation of a group decision making process, and finance for the purchase of produce and construction of a cold storage facility, exports of low-income farmers and higher incomes could be achieved.

6.23 The key issue is then how to ensure the creation and maintenance of the financial sector with the producers and processors, as banks have no experience and little interest in organizing supply chains. The most obvious first step would be to establish links between the MSFF, the participating banks and the Agri-business Competitiveness Centre, through which banks would receive comprehensive information about the potential of some agro-processors assisted under this project, and through which processors would be informed about the services of the participating banks. First contacts have been made involving the Centre and the MSFF, and some banks have apparently reacted favourably as regards this potential clientele.

6.24 However, there is a limitation to what the Agri-business Competitiveness Centre and the MSFF operator can achieve. The existing unused potential could be only be tapped if additional advisors for linking banks with supply chain operators could be tapped if two professionals could be deployed on a full-time basis to identify potential value chains, assist in their proper organization and linking the chain participants to the interested commercial banks. Of these, one person should be in charge of the agricultural and agro-processing side, while the other would concentrate on financial arrangements and financial institutions. The latter expert would also be mandated to train middle level bank managers in the provision of structured finance in supply chains and loan officers in the analysis of applications emanating from supply chain actors. Both advisors may have an important role to play in the moderation of a negotiation process between farmers and processors, which has in the past often been difficult. Apparently, these relationships were not very balanced, and terms and conditions mostly dictated by the processors. Producers have then reacted by reducing the quantity of supplies, or delaying the deliveries, or by not supplying anything. In many, if not most cases, contract farming has been hampered by the inability of both producer and processor to agree on economic principles and methods to determine the purchase prices for produce. Price definition has been mostly done in a short-sighted manner, with horizons not exceeding the end of the current planting season. As farmers have nowadays various options to sell their produce, the key issue here is to ensure that all actors embrace a vision that only a balanced and equitable sharing of responsibilities and benefits will be mutually beneficial. Outside and neutral moderation of the process is likely to contribute to better results than leaving actors alone to sort out their difficulties.

6.25 An initial period of about two years would suffice to assess whether the results achieved would further warrant further investments into functional value chains.

6.5 Recommendations to the NBKR

6.26 In line with the above recommendations related to collateral regulations, it is recommended to the EBRD to insert this topic into the regular discussions with the central bank and to the NBKR (i) to approve the increase of collateral-free lending from the current USD 1 000 to USD 2 000, and (ii) approve the acceptance of personal guarantees as collateral for small enterprise lending. An endorsement of these modifications is likely to open the banking sector further and increase its accessibility in rural areas.

6.6 Recommendations to the EBRD

6.27 The major recommendation to the EBRD is of course to continue to provide the required loan capital to the commercial banks. Commercial banks are short of term funds, and the

further injection of the MSFF term funds would permit the banks to continue expanding their micro- and small-scale lending operations.

6.28 In line with the above recommendations related to collateral regulations, it is recommended to the EBRD to insert these topics (i.e. increase of collateral-free lending from the current USD 1 000 to USD 2 000, and acceptance of personal guarantees as collateral for small enterprise lending) into the regular policy dialogue discussions with the central bank. In case a reasonable number of commercial would opt for the introduction of leasing facilities, the bank should attempt to provide the required support to the banks; these are mainly a permission to use the MSFF (loan) funds for leasing facilities as well, and to fund the costs of technical assistance.

6.29 The matrix below summarizes the main recommendations and at whom they are directed.

No.	Recommendation	Directed at	Comment/issues
1	To increase the threshold for collateral-free lending to USD 2 000	Commercial banks	Can be introduced by banks without and external assistance
		NBKR	Requires modification of policies
2	To fix repayment schedules (loan duration, grace period) more in line with cash flows	Commercial banks	Requires clear statements from senior management
3	To principally endorse lending to service cooperatives operating under donor assistance programmes	Commercial banks	Requires some limited support (manuals, training of staff)
		IPC as technical service provider of MSFF and GTZ as technical assistance agency supporting the cooperatives	• Agreement required on the transformation of loan funds into a guarantee mechanism • Monitoring of cooperative members to avoid multiple borrowing
4	To principally endorse lending to associations of farmers	Commercial banks	Requires some limited support (manuals, training of staff)
		IPC as technical service provider	Elaboration of guidelines and training for agricultural loan officers required

No.	Recommendation	Directed at	Comment/issues
5	To introduce leasing facilities	Commercial banks	Requires extensive discussions prior to the banks' decisions and substantial support (manuals, training of staff)
		EBRD	• Approve the use of MSFF for leasing facilities • Funding of technical assistance and training for banks interested to offer leasing
6	To introduce products linking savings and credit	Commercial banks	Can be done immediately without external assistance
7	To elaborate Tech-Cards	EBRD (as financing agency)	• Survey on demand required prior to any decision • Expensive exercise with limited applicability
8	To undertake a Training Needs Assessment of agricultural loan officers	EBRD (as financing agency)	Training needs assessment to be conducted by IPC
9	To provide agricultural finance through supply chains	Commercial banks	Requires some limited support (manuals, training of staff)
		IPC + Agri-Business Competitiveness Centre	Agreement on approaches, selection of potential clients and appraisal methods required
		EBRD (as financing agency)	Agreement of funding of additional costs
10	To increase the MSFF	EBRD	

KYRGYZSTAN

EXPANDING FINANCE IN RURAL AREAS

ANNEX 1

PROPOSED PRODUCT: MICRO-LOAN "WHITE CASSA"

ANNEX 1

PROPOSED PRODUCT: MICRO-LOAN "WHITE CASSA"

1. **Justification and rationale**: In parts of southern Kyrgyzstan, Chui and Talas oblasts, there are many rotating savings associations, in which members make fixed contributions at fixed intervals and distribute the amounts collected on a rotatory basis to contributors. In the December 2005 survey of 200 farm households commissioned by FAO under an agreement with the EBRD, about 10% of farmers were members of such associations, and an additional 5% had been members in the past. The average contributions per person amounted to KGS 717 per month. This shows that the rural population has a strong demand to save and uses the more risky informal arrangements if banks are not around. At the same time, banks need to enhance savings mobilization to increase their lending amounts and to decrease their cost of funds.

2. There is still a margin to simplify the application procedure for micro loans and reduce costs of monitoring. Some commercial banks in Kyrgyzstan have recently started to offer express loans[1], under which clients deposit 30% of the loan amount and receive a loan upon the finalization of collateral arrangements without much delay.

3. **Product description**: The Micro-Loan "White Cassa" would take up the propensity of rural clients to save and integrate that into the banking system, with a few modification of the already existing practice. The important aspect here is to replace the single down-payment of clients by a regular process, through which banks can easily determine the creditworthiness of clients. It is assumed that savers who are prepared to save for a specific purpose would continue to do so after obtaining a loan.

4. A client would determine the amount of regular savings and the frequency of its payment into her/his bank account. In most cases, the frequency would be monthly, but exceptionally fortnightly. The minimum savings duration is two months, the maximum 6 months. Once clients have saved regularly throughout the period determined by them, they would receive a loan twice the accumulated savings. Clients would then repay the loan received in the same interval as chosen for savings. In the last month, they would make a final additional payment, which is the interest due.

5. To give a **practical example**: A client chooses to save KGS 1 000 on a monthly basis for a period of three months. The balance of savings including the interest accrued[2] would thus be KGS 3008. The client would then receive an amount of KGS 6 000, of which 50% is secured. The client then pays KGS 1 000 over the next three months and makes a final payment of KGS 162.07 to reduce the balance to zero[3]. If a client would prefer a savings period of six months, the repayment would be stretched over six months plus the final closing payment pay of in month 13 of KGS 608.15.

6. The **advantage for the bank** is that this requires little paperwork and almost no monitoring. Only clients defaulting on payments would need to be visited. Another advantage would be that once the system has been accepted by clients, almost the entire loan amount would be funded from the incoming savings, in particular during an expansion phase. Another advantage

[1] For example Express Mortgage Loans.
[2] An interest rate of 5% p.a. is assumed.
[3] An interest rate of 33% p.a. is assumed

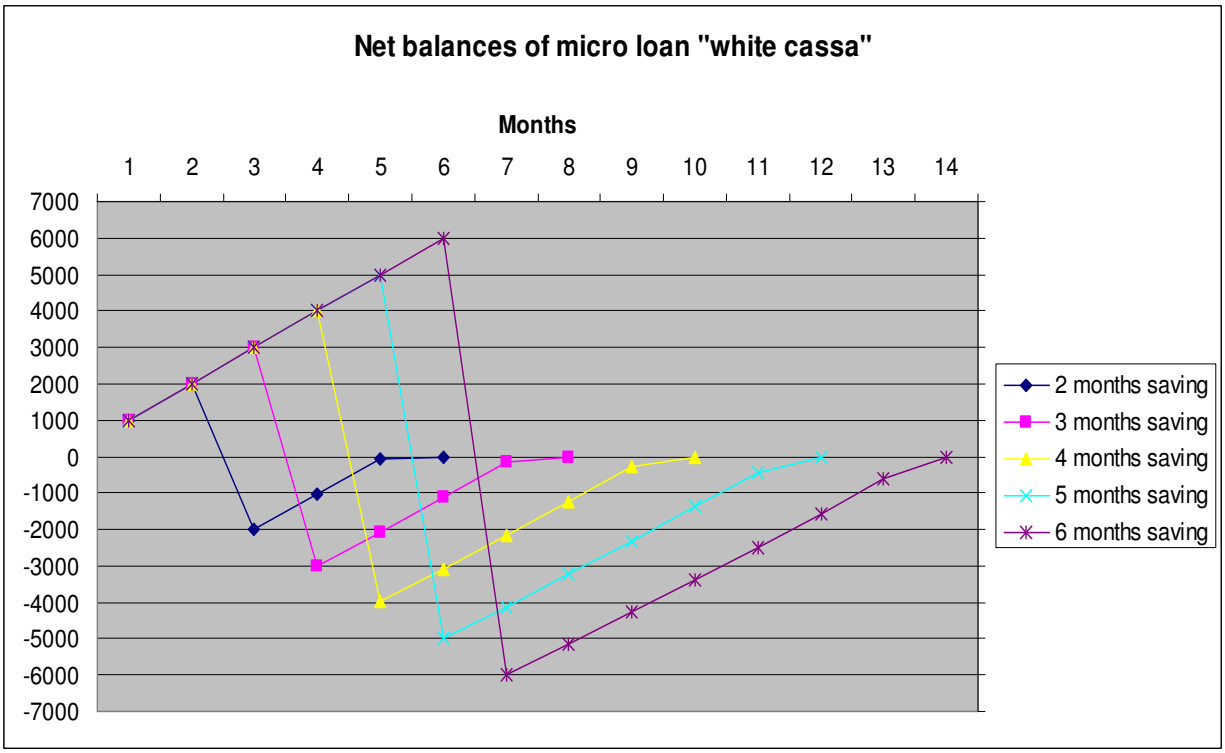
would be that these loans can be funded from demand deposits, while the source deposits are savings deposits – a minor term transformation. The inconveniences are that the number of transactions at the counter increases substantially, once the number of clients increases. However, these regular contacts also provide the bank with cheap and reliable information on the financial discipline of potential clients, and also provide an opportunity for cross-selling of services.

7. The **advantage for the client** would a simple loan product with clear terms not much different from what is done in the informal sector, and easy to understand. Except for the last payment, the amount of payment would always be the same. Financial planning can thus be made easier for households. If for example a person needs KGS 6 000 in June, and s/he could save KGS 600 per month, s/he would have to start saving in January. If s/he could save say KGS 1 000 per month, s/he could start in March.

8. **Implementation**: It is recommended to limit the amounts of savings to KGS 1 000 per month in the first cycle and the duration to three months to allow clients get quick results. In subsequent rounds, this may be slowly increased up to a maximum to be determined by the respective bank. Loan amounts below KGS 20 000, of which KGS 10 000 have already been saved, should not require any additional collateral. It is further recommended to test this product in a rural area with a higher population density and a diversified rural economy, where rural households undertake many different income-generating activities at the same time, and consequently have a regular cash flow. Good clients with prompt payment could be permitted to obtain 2.5-times their savings in the third round, and further triple their savings in round four or five.

9. **Location for testing**: It is likely that this product will initially attract many women, once they have seen that it works, i.e. that banks honour their commitments. This product would also sell quite well through a mobile banking unit. It could also be well used by farmers.

10. The diagram below illustrates the flow of funds from the initial savings payment to the final closing payment for a savings period of 2-6 months, equivalent to a payment period of 4-12 months for both savings and loans. It assumes that the monthly savings contribution and repayment instalment is KGS 1 000 in all cases.


Net balances of micro loan "white cassa"
Months
1
2
3
4
5
6
7
8
9
10
11
12
13
14
7000
6000
5000
4000
3000
2000
1000
0
-1000
-2000
-3000
-4000
-5000
-6000
-7000
2 months saving
3 months saving
4 months saving
5 months saving
6 months saving

KYRGYZSTAN

EXPANDING FINANCE IN RURAL AREAS

ANNEX 2

BALANCE SHEET AND INCOME STATEMENT OF COMMERCIAL BANKS IN KYRGYZSTAN AS OF 31 DECEMBER 2005

№	Name of the Bank	Cash and cash equivalents	Securities	Net loans	Other Assets	TOTAL ASSETS	Deposits	Credits	Other Borrowings + accrued interest	Capital (Net Worth)	Liabilities & Capital	Net Interest Income after LLP	Net profit (Loss)
1	Asian Universal Bank	83,352	14,964	19,088	1,245	118,649	90,976	13,364	3,613	10,696	118,649	1,024	1,051
2	Ineksim	8,063	1,435	58,027	4,706	72,231	49,437	8,756	682	13,357	72,231	3,613	1,760
3	Kyrgyzstan	17,177	3,707	22,583	3,382	46,849	18,740	10,104	13,743	4,262	46,849	3,235	888
4	DKIB	20,280	1,214	4,895	2,428	28,817	22,404	83	579	5,751	28,817	1,106	1,416
5	Kazcommerz-bank	11,967	320	17,392	2,095	31,774	9,490	16,785	1,816	3,683	31,774	947	612
6	Energobank	4,274	1,944	17,679	2,078	25,975	16,010	4,180	345	5,440	25,975	2,121	902
7	Savings Company	11,566	11,614	0	2,249	25,429	21,308	0	1,434	2,686	25,429	667	173
8	KICB	13,904	225	17,108	421	31,658	14,259	2,564	6,962	7,873	31,658	1,560	904
9	Promstroi	4,308	4,376	9,806	3,326	21,817	16,788	0	1,961	3,068	21,817	2,021	283
10	Bakai	5,627	0	3,999	1,887	11,514	8,474	0	381	2,659	11,514	757	722
11	Nat. Bank of Pakistan	6,421	262	2,331	548	9,563	6,056	0	3,186	321	9,563	300	227
12	Ecobank as of Dec31, 04	5,009	150	5,635	1,820	12,614	7,405	7	1,794	3,408	12,614	884	987
13	Halyk Bank Kyrgyzstan	4,919	2,105	7,321	446	14,791	11,585	20	766	2,421	14,791	381	243
14	Tolubai	868	224	4,688	708	6,488	4,237	495	160	1,596	6,488	731	393
15	Bank of Asia	1,217	0	2,719	904	4,841	2,864	0	45	1,932	4,841	477	404
16	KyrgyzCredit	810	943	4,738	477	6,968	3,163	461	406	2,938	6,968	497	315
17	Aman	1,270	299	2,489	703	4,761	2,620	0	511	1,631	4,761	432	150
18	Doscredo	1,311	2	2,605	1,036	4,955	3,015	165	222	1,553	4,955	422	106
19	Issyk-kul	1,826	26	2,104	510	4,466	2,741	0	201	1,523	4,466	264	38
	Total	**204,170**	**43,810**	**205,209**	**30,970**	**484,158**	**311,570**	**56,984**	**38,806**	**76,799**	**484,158**	**21,440**	**11,574**

TAJIKISTAN

EXPANDING FINANCE IN RURAL AREAS

TAJIKISTAN

EXPANDING FINANCE IN RURAL AREAS

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Currency Equivalents
(2005)

USD 1 = TJS 3.2

Abbreviations

ADB	Asian Development Bank
AIB	AgroinvestBank
AMFOT	Association of Microfinance Institutions of Tajikistan
BN	Billion
CALF	Central Asia Leasing Facility
CASEF	Central Asia Small Enterprise Fund
CJSC	Closed Joint Stock Company
DF	Dekhan Farm
EIU	Economic Intelligence Unit
ETC	Early Transition Countries
FAO	Food and Agricultural Organization
GOT	Government of Tajikistan
GTZ	German Agency for Technical Cooperation
HA	Hectares
IFC	International Finance Corporation
MEDA	Mennonite Development Association
MFO	Microfinance Institution
mn	Million
MSDSP	Mountain Societies Development Support Program
MSE	Micro and Small Enterprises
NBFI	Non-Bank Financial Institutions
NBT	National Bank of Tajikistan
NPL	Non-Performing Loans
OJSC	Open Joint Stock Company
PAR	Portfolio at Risk
RFF	Rural Finance Facility
ROA	Return on Assets
ROE	Return on Equity
SECO	Swiss State Secretary of Economic Affairs
SME	Small and Medium Enterprises
TJS	Tajik Somoni
TMSEF	Tajik Micro and Small Enterprise Finance Facility
TSOB	TojiksodirotBank
UNDP	United Nations Development Programme
USSR	Union of Socialist Soviet Republics

EXECUTIVE SUMMARY

(i) Tajikistan is a small, landlocked country with 6.7mn inhabitants. Sparsely populated mountain terrain accounting for 70% of the total land area splits the country into three regions and makes transport between them extremely difficult. During the winter months, direct road traffic between north and south is interrupted. All rail and road traffic must go through Uzbekistan which also carries 95% of the exports. This adds costs to the Tajik economy and makes it extremely vulnerable to the vagaries of regional politics.

(ii) **Recent economic trends**. *Due to these unfavourable natural conditions, Tajikistan was already the poorest country in the former Soviet Union and remains at the bottom of the CIS countries in terms of GDP per capita. The contraction of the economy after independence was further exacerbated by the civil war which only ended in 1996. Economic recovery started in 1997 and the economy grew at two digit levels since 2000. This growth was fuelled by improved political, macroeconomic and fiscal stability. Inflation rates came down from 38% in 2001 to 7.1% in 2004 and the exchange rate has remained stable, showing only a very modest devaluation trend. Recent economic growth remains fragile due to the high dependence of the country's economy on aluminium and cotton exports and the inflow of worker remittances, which are largely subject to external economic and policy risks. Economic growth is constrained by a poor business climate due to excessive licensing requirements, high taxes and red tape. Despite Tajikistan's open trade regime, trade and export diversification are hampered by non-tariff barriers to trade such as geographic isolation, tensions with neighbouring countries, high transaction costs and delays at customs.*

(iii) **The agricultural sector**. *Overall, some 70% of the population lives in rural areas. Agriculture remains an important sector of the economy accounting for 24% of GDP, 66% of employment, 26% of exports, and 39% of tax revenue. The rural non-farm economy, especially small and medium-sized firms with various forward and backward linkages to agricultural production, is still poorly developed. This is mainly due to the slow pace of reform and restructuring of state and collective farms and the dominant role of a few dozen large companies in cotton marketing and processing.*

(iv) Tajikistan has good climatic conditions for growing a wide range of crops. It has a continental climate, with hot and dry summers in the lowland areas, but cooler and wetter in the mountain valleys and foothills. Soils are reasonably good in the south and in the upland valley areas, and less fertile in the northern valleys. However, the agricultural resource base is characterised by limited arable land, heavy reliance on irrigation for crop production, and substantial areas of permanent pastures. Tajikistan's mountainous topography limits the potential for crop production. Only 30% of the total territory of Tajikistan, around 4.1 mn ha, can be used for agricultural production. Of this land, some 800,000 ha are arable, equivalent to only 0.21 ha/capita of the rural population. The remaining 3.3 mn ha are pastures.

(v) **Trends in crop and livestock production.** *After a sharp decline in crop and livestock production following independence, production and productivity levels have increased since the mid-1990s. Since 2000, the agricultural sector has grown at two-digit levels. Crop production increased by 65% between 1999 and 2003 and contributed to 81% of total sector growth during*

this period. This growth was mainly driven by non-cotton crops. However, overall productivity and output levels are still below those prior to transition.

(vi) The overall structure of crop and livestock production has changed significantly in recent years following independence, resulting from changes in cropping patterns and livestock numbers. The most notable trends include i) a strong expansion in wheat production, often on marginal land, ii) a decline in fodder production and pastures, iii) an expansion in potato, fruit and vegetable production. Cotton remains the most important crop, accounting for one-third of the cropped area, two-thirds of the value of crop outputs and between 75 - 90% of exports. It also accounts for 85% of the total amount of fertilizer used in the country. Livestock numbers and output contracted even more than crop production after independence. However, numbers of cattle, sheep and goats have grown in recent years, leading to increased dairy and meat production. The availability of winter fodder is the main constraint on increases in productivity and output.

(vii) **Land reform**. *The land reform and farm restructuring process in Tajikistan has been slow and uneven and has not yet led to a profound change in the ways in which farms operate. Officially, land reform is almost complete after the conversion of 662 out of 850 kolhkozes and sovkhozes into 27,000 so-called Dekhan Farms, accounting for 60% of the total agricultural land. However, these farms are based on inheritable use rights that can be withdrawn under a series of vaguely defined conditions, including "irrational" use of land. This leaves ample scope for local government interference and red tape. Moreover, land rights cannot be sold or mortgaged, with the exception of land under buildings.*

(viii) The farm restructuring process has had mixed results in terms of improving the governance and incentive structures of a significant share of the newly created farm entities. In order to meet privatisation targets, the government has embarked on a wholesale approach to farm restructuring, converting large state farms into smaller collective units, often along previous brigade structures. Many of the resulting Collective Dekhan Farms are managed by former brigade heads and members are often not aware of their new status as shareholders of private farms. Overall, the land reform process lacked transparency and only a relatively small part of the rural population managed to carve their own Dekhan Farms out of collective structures.

(ix) **Contribution of different farm types to agricultural output**. *The agricultural sector consists of three basic types of farms: i) Large, capital intensive state and collective farms carried over from the Soviet system; ii) Dekhan Farms resulting from the land reform process; and iii) tiny household plots of 0.1–0.3 hectares. Though household plots only account for less than 2% of the agricultural land, they contributed to 54% of sector output in 2003. Their share in horticultural and livestock production is even higher. Output on household plots increased by 56% between 1999 and 2003 and contributed to 51% of the overall sector growth during this period. The strong growth of production on household plots also reflects the better incentive structure, because households are free from state interference in cropping decisions and do not have to pay taxes.*

(x) Output from Dekhan Farms has also increased strongly. However, much of this growth might be attributable to their increasing numbers and the concomitant transfer of land and other farm assets, rather than to increased productivity levels. This farming segment is quite heterogeneous, consisting of large collective farms as well as small and medium-sized family farms, with varying management levels and incentive structures. Despite their access to

considerable land and water resources, the growth of Dekhan Farms has been hampered by deteriorating irrigation systems, buildings and farm machinery, as well as by limited access to quality inputs, extension services and finance, especially outside the cotton sector. Further constraints include high indirect costs due to taxes and other charges. The cotton debt also affects a significant part of these farms. However, in the future, agricultural growth will mainly come from this farming segment.

(xi) **The cotton debt problem.** *The limited outcomes of the land reform process are closely intertwined with the marketing and policy framework in the cotton sector and the associated debt problem. Due to the importance of cotton for the economy, the government has been reluctant to relinquish control over the sub-sector. Though marketing and processing have been privatised, the government still maintains an unofficial production quota enforced by local governments. In many cotton growing districts, farmers are forced to devote 70% or more of their land to cotton, otherwise their land certificate could be revoked.*

(xii) Due to the impossibility of financing the huge working capital requirements of cotton from domestic sources, the government started to mobilise external resources from international cotton traders in the mid-1990s. This commodity financing system is based on forward contracts by which international traders pre-finance production costs against a certain quantity of cotton to be delivered. Given that the only guarantee of loan repayment lies in the future cotton harvest, local intermediaries (so-called "investors") become the critical link in the system. These private companies maintain a de facto monopoly over cotton marketing and processing in a couple of districts each. These arrangements function with the tacit approval of district governments which need to fulfil their respective shares of the national production target.

(xiii) This system entered into crisis when, for a number of reasons, cotton output fell and no longer covered the cost of inputs, marketing, processing and interests for a subsequent number of years. As a result, a huge amount of debt has accumulated, estimated at over US$200 mn. Debt levels vary considerably across farms. According to the ADB cotton debt assessment (ADB, 2004a), the bulk of the debt seems to be concentrated in a limited number of very large farms, while 15% of mainly smaller farms have no debt at all. Although the amount and structure of this debt are subject to debate, all stakeholders now acknowledge that a continuation of the system is unfeasible. The government has convened an Independent Commission with is charged with assessing the exact amount and structure of the debt and elaborate debt resolution strategies that are feasible and acceptable to all stakeholders.

(xiv) **Potentials and constraints for diversification**. *A review of the fruit and vegetable and the cattle and dairy sub-sectors illustrates some of the potentials and challenges for diversification away from cotton. Despite suitable agro-ecologic conditions for horticultural production and a vast pasture resource for cattle production, both sub-sectors are plagued by low levels of productivity and efficiency. Production and trade are spread across a huge number of very small actors leading to high transaction costs in marketing and access to services. Actors at different levels of the value chain are poorly integrated and spot market transactions prevail. Farmers face difficulties getting the right quality and quantity of inputs while processors lack reliable and constant access to raw material of the needed quality. The processing industry in both sub-sectors consists of a few medium and large operators and a huge number of small scale producers. With one recent exception, foreign direct investments are absent. Outdated processing equipment as well as poor hygienic conditions, packaging and labelling undermine the*

competitiveness of processed horticultural and dairy products, both in export markets as well as in the upper segments of the domestic market.

(xv) These numerous constraints at various levels could best be addressed through a value-chain approach aimed at a better integration and coordination of the various actors involved in production, marketing, processing and trade. Consolidation of the sub-sectors would be facilitated by improved access to financial services. However, in view of current profitability levels, such finance needs to be prescribed carefully.

(xvi) **The banking sector.** *Tajikistan has a two-tier banking system, which is composed of 12 banks, 6 credit societies and 7 Non-Bank Financial Institutions (NBFIs). The National Bank of Tajikistan is in charge of the prudential regulation and supervision of the banking system, including commercial banks, Non-Bank Financial Institutions (NBFI) and Microfinance Institutions (MFOs).*

(xvii) Considerable progress has been made in banking regulation and supervision in recent years, with assistance from different donors. Prudential regulations have been improved and NBT's supervisory capacity has been strengthened. The increase of minimum capital requirement up to US$5 mn, coupled with stricter enforcement of prudential regulations, has led to a considerable consolidation of the banking system in recent years. Currently, 9 out of 12 banks fully meet NBT's prudential regulations. The purging of weak banks led to an improvement of portfolio quality and profitability of the banking sector. The ratio of Non-Performing Loans (NPL) declined from 32% in 2001 to 11% in September 2004. Banks averaged a ROA of 3.4 %, a ROE of 12% and a ratio of total capital to total risk-weighed assets of 37.5% in September 2004. The banking sector is now highly concentrated. End of 2004, Agroinvestbank (AIB), Oriyonbank, Tojiksodirotbank (TSOB) and Amonatbank held about 85% of total deposits and 75% of outstanding loans of the banking system.

(xviii) Despite the improved macro-economic stability and financial soundness indicators of banks, the financial system remains shallow. The monetisation of the economy measured as broad money to GDP is low, fluctuating around 8% since 2000. Total deposits in the banking system oscillated between 4 and 5% of GDP between 2000 and 2004. Total outstanding loan portfolio of the banking system as percentage of GDP remains low, at 14% in 2000, 19% in 2002 and 17% in 2004. However, statistics about total lending of the banking system are inflated by the huge amount of cotton debt estimated at approx. 60% of the total loan portfolio. Until recently, commercial banks' activities have mainly been focussed on short-term trade financing, often to insiders and related parties, and foreign exchange transactions. In 2004, loan books vary between 43–74% of banks' total assets and interest income only contributes 23% to banks' gross earnings (IMF, 2005). However, bank lending and deposit mobilisation have expanded over the last two years.

(xix) **The microfinance sector**. *The microfinance sector in Tajikistan is still in its infancy. It consists of micro-credit NGOs which evolved as part of multi-sectoral emergency relief and development programmes funded by donors. Many development programmes and NGOs have started with in-kind lending, e.g. through the provision of agricultural inputs such as improved seeds. Credit was complemented by non-financial services such as extension and Business Development Services (BDS). The new Microfinance Law, enacted in April 2004, has terminated the legal ambiguity under which MFOs were operating before. It also requires NGOs to separate*

their financial and non-financial activities and transfer their microcredit portfolio to separate entities to be licensed and supervised by NBT.

(xx) The total outstanding portfolio of the MF sector amounts to about US$8 mn. The sector is composed of a few larger, a handful of medium-sized and a huge number of very small institutions. IMON, the largest MFO, has a loan portfolio of about US$2 mn, about one quarter of the total outstanding portfolio of the sector. The four largest MFOs together account for about half of the total MFO portfolio. Only 8 MFOs have more than 1,000 active borrowers. The remainder consist of a huge number of small and highly decentralised institutions, mostly located in remote rural areas. They include hundreds of Village Organisations created by the Agha Khan Development Network under its Mountain Areas Development Programme (MSDSP), mainly in GBAO and in the Rasht Valley. Several hundred Jamoat Revolving Funds have been created by UNDP.

(xxi) There is likely to be considerable consolidation of the microfinance sector in the next few years. The Microfinance Law has created the basis for MFOs to access a wider range of funding sources, including deposits and commercial borrowings, thereby removing a major stumbling block to their growth. Borrowing at commercial terms will be primarily accessible for larger MFOs. As of now, only a few MFOs have been able to negotiate such funding.

(xxii) **Leasing.** *The leasing industry is still in its infancy. A leasing law was passed in April 2003 with assistance from the IFC under the first phase of its Central Asia Leasing Facility (CALF) project. The law sets out a framework for financial leasing and related accounting following international standards. IMON is the only MFO which has started Microleasing. According to the IFC, only 7 leasing operations have been carried out so far by banks and 4-5 by IMON. The second phase of the Central Asia Leasing Facility Project will assist the three above-mentioned banks in developing and improving leasing procedures. The slow start of the number of leasing operations is attributable to delays in enacting regulations regarding accounting and taxation by NBT and the Ministry of Finance, as well as by the lack of familiarity of banks and clients with this new financing instrument.*

(xxiii) **Current lending by banks and MFOs to rural clients**. *Bank lending in rural areas and particularly for agricultural purposes is limited. Although, according to official statistics, agriculture accounts for about 60% of the total outstanding loans in 2005, this figure includes the huge cotton portfolio (current and past-due) held by CreditInvest. Commercial banks have some limited lending to non-indebted cotton farmers as well as to non-cotton farmers and processors. The bulk of this lending goes to larger farms and legal entities. Under the Tajik Micro and Small Enterprise Facility (TMSEF), only 0.25% of the cumulative loan disbursements by the end of 2005 has gone to the farming sector. A further 1.8% was dedicated to food and beverage processing. The limited branch network of most banks in rural areas is an important constraint on further engage in financial intermediation in rural areas.*

(xxiv) Due to their background, MFOs have a larger outreach in rural areas. It is estimated that almost half of the entire outstanding portfolio of MFOs is used for crop and livestock production. Cattle fattening and vegetable production under greenhouses on household plots are activities which are frequently financed through micro loans.

(xxv) **The potential market for rural finance**. *The universe for rural financial services includes 700,000 producers on household plots, 27,000 Dekhan Farms and an unknown number of rural non-farm enterprises. Small and medium-sized Dekhan Farms are probably the group with least access to loans. The demand from producers on household plots or rented land also seems far from being saturated, in view of their high share in agricultural output and growth.*

(xxvi) The extent to which this potential market can be served depends to a significant degree on the outcomes of current donor-led reform initiatives aimed at addressing key policy issues which hamper the growth of the rural economy and the expansion of rural financial services. The most notable issues are: i) the reform of the cotton sector and restructuring of the cotton debt; ii) further progress in land reform in order to enhance the security and tradability of land rights and establish viable farm structures; iii) an enabling legal and institutional framework for secured transactions including the mortgaging of rural land. Though the pace and outcome of these reform initiatives are difficult to predict, significant progress is likely to be achieved over the next three years.

(xxvii) Further uncertainties regarding the scope for increased lending in rural areas relate to the unknown size of the domestic market for fresh and processed agricultural products and to the ability to increase and diversify exports. These uncertainties call for a gradual approach in expanding rural loan supply.

(xxviii) **Current mismatches between supply and demand**. *Despite these caveats, there is a huge gap between current demand and supply for financial services in rural areas. This gap not only refers to the quantity, but also to the quality of existing financial services in terms of their ability to match the features of the demand. Banks' lending skills remain poorly developed. Products and procedures are not well adapted to the needs of farmers and other small and medium enterprises in rural areas. Most loans are short-term and carry high interest rates. These product features do not fit well with the longer production cycles of most agricultural activities and the longer amortisation periods of invested funds. In the case of seasonal lending, quick loan application procedures and timely disbursement of funds are critical due to the dependence of crop production on weather conditions and the agricultural calendar. Delays quickly turn into losses for farmers if inputs or machinery services cannot be purchased in time. However, banks' loan application and approval procedures are slow and bureaucratic. Heavy reliance on conventional loan collateral, formal records and business plans are cumbersome and often hard to fulfil by rural MSEs. Distance to bank branches further increases borrower transaction costs.*

(xxix) These shortcomings prevent many farmers and other rural entrepreneurs from applying for bank loans. Moreover, banks have a poor image among rural clients. There is a widespread perception that banks are not interested in dealing with rural clients. The red tape associated with the loan application procedure is another frequently voiced concern. According to the IFC SME Business Environment Survey, about 25% of the respondents who received banks loans indicated that they had to make unofficial payments to bank officials, averaging about 12% of the loan amount (IFC, 2003).

(xxx) MFOs have a better image and are able to process loan applications faster. However, most of their loans are small, short-term and subject to rigid group lending procedures. These products allow financing of small-scale agricultural activities with quick turnover, such as cattle fattening, vegetable production and home processing, but are less suitable for activities with longer gestation periods and higher capital requirements.

(xxxi) Access to savings products is another area that needs improvement. The widespread investment in animals despite their extremely low productivity levels indicates a considerable demand for deposit facilities. In rural areas, deposit mobilisation is constrained by the limited branch network of most banks. Restrictions on cash withdrawals combined with periodic cash shortages of banks further reduce the attractiveness of bank deposits to clients. MFOs are still credit-only institutions, none of which has yet obtained the legal permission to mobilise deposits. Savings-based institutions such as credit unions do not exist, due to the absence of a suitable legal framework.

(xxxii) **Main target markets for the Rural Finance Facility.** *Two different layers of demand could be targeted under the Rural Finance Facility (RFF). The first layer consists of rural households and small DFFs with less than 5 ha, or farmers operating on rented land. Potential clients in this market segment are typically engaged in intensive production of high value crops such as greenhouse vegetables, cattle fattening, potatoes, dairy products, as well as niche market products like honey, herbs, etc. It further includes small processors and traders. Loan sizes would be in the range of between US$300 and US$5,000. Recent trends show a strong demand for slightly larger individual loans of between US$1,000 and 3,000. Additional absorption capacity over the next few years could easily be in the range of US$2-3 mn. The portfolio should, however, be spread geographically in order to avoid saturation of local markets. Moreover, product innovations will be key to sustaining portfolio growth and quality and avoiding saturation of certain local output markets (cattle, vegetables).*

(xxxiii) The second layer consists of small and medium-sized DFs (5–50 ha), as well as other small and medium-sized enterprises engaged in processing and trade. An estimation of the potential loan market size for this farming segment is more challenging, due to its diversity and lack of more disaggregated data on management structures, resource endowments, cropping patterns, costs and yields. Concerns about limited markets for agricultural outputs apply more to this farming segment since an increased loan supply might have a more significant impact in overall output levels. Production costs and gross margins exhibit important variations across different farms and locations. Therefore, the potential market size is conservatively estimated, assuming seasonal working capital requirement, at US$300-$500 per ha on average.

(xxxiv) Loan demands for working capital would be in the range of between US$3,000 and 5,000 for a 10 ha farm and between US$15,000 and 25,000 in the case of a 50 ha farm. In view of the above-mentioned uncertainties, it seems prudent to assume that only a limited number of DFs are profitable enough to take loans in the next three years. If these conditions applied to 10% of all DFs, the resulting demand for working capital would be between US$3 and 5 mn, plus another 3 mn for investment loans. These figures do not include demand for livestock and processing.

(xxxv) **Key design features of a RFF**. *In view of the structure of supply and demand for loans, it is proposed that the RFF should operate through two different windows. The first window (Window A) would work through selected commercial banks as an expansion of the existing TMSEF. The second window (Window B) would operate through microfinance institutions with presence in rural areas and a proven track record in lending to agriculture and related activities. As in case of the TMSEF, a combination of long-term funding and technical assistance (TA) would be required under both windows.*

(xxxvi) The focus of Window A would be support to banks in the development of lending products targeted at the small and medium-sized farming segment (5–50 ha), as well as to other rural small and medium enterprises engaged in marketing, processing and input supply. Loan sizes would be primarily in the range of US$5,000–20,000, but some loans might be above or below this range.

(xxxvii) Window B would support MFOs to expand their existing lending operations to the micro and small loan segment of between US$300 and US$5,000. The prime focus would be on the introduction and up-scaling of larger individual loans with longer maturities for working and investment capital purposes. Moreover, product innovations which allow clients to finance new activities, other than cattle fattening and vegetable production, should also be supported.

(xxxviii) **Products and procedures.** *Under the facility, a range of products should be introduced, including short-term working capital loans, medium-term investment loans, leasing and rural savings products. Core product design features include quick and un-bureaucratic access, especially for repeat borrowers, and maximum flexibility in terms of collateral, repayment schedules and maturities.*

(xxxix) The design of rural lending products must be adjusted to the seasonality of cash flow and gestation periods of agricultural activities. The demand for loans and the repayment capacity of rural clients depends to a large extent on a close match between the repayment schedule of the loans and the cash flow of the borrower. This can be achieved through various loan design features, including grace periods. Irregular repayment frequencies may be required or the amount payable with each instalment may change in line with seasonal variations in the borrowers' cash flow. This implies a departure from the principle of equal monthly instalments currently practised by the TMSEF. Obviously, such flexibility must be traded-off carefully against moral hazard risks. It definitely increases the complexity of lending operations and liquidity management.

(xl) Farmers and processors have a strong demand for term loans in order to renew or upgrade their equipment and productive infrastructure. Increasing the supply of term loans should definitely be an objective of the RFF. However, in view of the limited experiences of banks and MFOs in providing such loans, a gradual approach is recommended. Banks should first master seasonal lending to the above-mentioned target segment and MFOs need to become fully acquainted with individual lending and larger loan sizes. Once products and procedures are well developed and a critical mass of reliable clients has been established, maturities can be lengthened.

(xli) The feasibility of providing term loans will also depend on the further improvement of the legal and institutional framework for secured lending. The new pledge law and registry for moveable assets are important steps in this direction. Leasing may overcome some of the constraints related to conventional loan collateral due to the ease of repossession and selling of leased items. The new facility could support design and introduction of agro-leasing products for farmers and processors through banks and MFOs. It could build on the general TA on leasing that will be provided by the new IFC leasing project to two of the TMSEF partner banks.

(xlii) Under Window A, AgroInvestBank would be the prime candidate for a down-scaling project in rural areas. Apart from its branch network and experience in agricultural financing, this bank has expressed a strong interest in expanding its rural lending with a focus on small and

medium-sized farms. However, in order to encourage competition, the Rural Finance Facility should also operate through other TMSEF partner banks or even be open to other interested banks.

(xliii) In view of the specific features of the rural economy and the higher complexities of rural lending and the other proposed product innovations, a different type of TA would be required. At least one agricultural economist, one agro-business specialist and one rural finance specialist should support the existing team in further market research, initial product design as well as training and backstopping of loan officers and credit committees. They would also be needed in order to build knowledge at the facility and its partner banks on key parameters underpinning the profitability of agricultural production and processing and the development of markets.

(xliv) Under Window B, EBRD could directly lend to larger MFOs and complement this with TA for product development. Oxus and Humo might be candidates for direct funding from EBRD. Several medium-sized MFOs have experience in rural lending and an existing client base, but face greater difficulties in accessing commercial funds. Given EBRD´s limitations in directly financing small MFOs, some viable institutions might be re-financed by commercial banks. Under a RFF, interested commercial banks could be offered TA in the assessment of MFOs and the possibility to re-finance a part of their exposure (say, up to 50%) through a long-term loan from EBRD. A similar approach, though on a limited scale, is already practiced by the GTZ Microfinance Project through the First Microfinance Bank. Albeit adding to the complexities of a RFF, such an approach would stimulate competition amongst MFOs and contribute to enhancing the diversity of lending products and delivery mechanism.

1. INTRODUCTION

1.1 The European Bank for Reconstruction and Development (EBRD) has been supporting the introduction of loans for Micro and Small Enterprises by commercial banks through the Tajik Micro and Small Enterprise Finance Facility (TMSEF). Under this project, which commenced in October 2003, eligible commercial banks interested in expanding their services to the micro and small enterprise sector have received support in the form of (i) loans to expand their own lending base and (ii) technical assistance to adjust their lending operations to the demand of the sector and to upgrade these in line with good international practice.

1.2 By mid 2005, after about two and a half year of implementation, the TMSEF was largely successful in terms of lending and loan portfolio quality. However, the number and value of loans granted for agricultural and related businesses was insignificant. In view of the importance and potential of agriculture in Tajikistan, the high poverty rates in rural areas, and the need to support the Government's vision to increase the support for the agricultural sector, the EBRD requested the Food and Agriculture Organization of the United Nations (FAO) to undertake a feasibility study on the different options for enhancing the supply of loans to farmers and other micro, small and medium enterprises in rural areas of Tajikistan.

1.3 This report mainly draws on the data and information collected during two missions to Tajikistan in December 2005 and March 2006. During these missions, discussions were held with staff from banks, Microfinance Organisations, donor funded projects in the agricultural and financial sectors, government officials and farmers. Several field trips to different regions and districts were conducted in order to get a clearer picture on the diverse conditions for agricultural production and marketing as well as the demand and supply of financial services in rural areas. An earlier version of this report has been discussed with EBRD and the technical service provider during the second mission and comments received have been incorporated in the present version. The opinions given are those of the author and do not commit neither the FAO, nor the EBRD or any government institutions.

1.4 The report is structured as follows: The first chapter gives a brief overview of key features and recent trends of the overall economy. The second chapter explores different aspects of the rural economy and the agricultural sector. It first provides a brief overview of the agro-ecologic potential and regional features and analyses the overall trends in crop and livestock production since independence. It then discusses in greater depth two key issues which severely affect the growth of the rural economy and the expansion of rural finance, namely the land reform and farm restructuring process and the cotton debt problem. The following two sections outline the key features of the fruit and vegetable and the cattle and dairy sub-sectors, including production, marketing, processing and export. The purpose is to illustrate potentials and constraints for diversification of the rural economy away from cotton.

1.5 The third chapter deals with the financial system. It provides an overview of the structure and trends in the banking, NBFI and microfinance sectors, including the legal and regulatory environment. It further discusses the strengths and weaknesses of banks and MFOs as well as challenges for enhancing their outreach in rural areas. Based on the first three chapters, chapter four explores scope for expanding rural finance and further describes the type and size of different market segments. Chapter 5 concludes with proposing some general design features of a Rural Finance Facility including key products features and delivery mechanisms.

2. THE OVERALL ECONOMY

2.1 Tajikistan is a small, open, landlocked economy with a total population of 6.7 mn inhabitants. Its narrow economic base is dominated by aluminium, cotton, electricity and by massive inflows of labour migrant remittances. Sparsely populated mountain terrain accounting for 70% of the total land area splits the country into three regions and makes transport between them extremely difficult. During the winter months, direct road traffic between north and south is interrupted. All rail and road traffic must go through Uzbekistan which also carries 95% of the exports. This adds costs to the Tajik economy and makes it extremely vulnerable to the vagaries of regional politics.

2.2 Due to these unfavourable natural conditions, Tajikistan was already the poorest country in the former Soviet Union and received the highest transfers from the federal budget as a percentage of its total government revenues (47%). These transfers together with subsidised imports from other FSU countries were discontinued in 1991 following the collapse of the Soviet Union. By 1992, the economy was just 60% of its size in 1988. The civil war during 1992-97 led to further disruption of the economy and much of the productive infrastructure was damaged or deteriorated. Between 1991 and 1996, the economy shrunk by an average of 17% per year and in 1997, the GDP had fallen by 60%. Economic recovery started in 1997 due to increased political stability, an improving macro-economic environment and substantial support from donors and IFIs. Following an initial period of modest growth of about 4% p.a. during 1997-99, the economy expanded strongly after 2000 with average growth rates around 10% per year (EIU, 2005, World Bank, 2005a, GOT, 2005).

Table 1: Selected Macro Economic Indicators

	2000	2001	2002	2003	2004	2005
Real GDP (TJS mn)	1,806.7	2,528.8	3,365.4	4,757.8	6,157.5	7,201.1
Real GDP (US$ mn)	986.9	1,066.0	1,217.7	1,554.1	2,072.9	2,322.3
GDP growth (%)	8.3	10.2	9.5	10.2	10.6	6.7.
GDP Agricultural Sector (TJS mn)	486.0	670.1	888.5	1,184.7	1,330.0	1,541.0
GDP Agricultural Sector (US$ mn)	265.5	282.5	321.5	387.0	447.7	497 .1
Agricultural Product Growth (%)	12.9	11.2	15.0	9.6	11.3	6.3
Official Exchange Rate TJS / US$	1.83	2.37	2.76	3.06	2.97	3.1
Consumer Price Index (%)	60.60	12.50	14.50	13.70	5.70	7.1

a) Average first 9 months.
Source: NBT, Statistical Bulletin September 2005.

2.3 Since 2001, the government's record of prudent macroeconomic and fiscal stabilisation has improved. Inflation rates came down from 38% in 2001 to 7.1% in 2004 and the exchange rate has remained stable, showing only a very modest devaluation trend. Foreign debt was reduced from 80 to 42.8 percent of the GDP (GOT, 2005). The country has a fairly open trade regime with tariffs averaging around 7.5%. However, non-tariff barriers to trade pose formidable challenges to the expansion and diversification of trade. These are caused by geographic isolation, tensions with neighbouring countries, excessive licensing requirements, and widespread corruption.

2.4 Recent economic growth remains fragile due to the high dependence of the country's economy on aluminium and cotton exports and the inflow of worker remittances, which are largely subject to external economic and policy risks. The increased capacity of the TADUZ aluminium smelter and an expansion of the area under cotton production after the war were the prime drivers of growth (Chemonics, 2003, GOT 2005). As can be seen in Table 2, aluminium and cotton exports account for about 80% of the total export revenues in 2004. According to IMF estimates, remittances may have generated up to 20 percent of the GDP in 2004. The current outlook for inflation and exchange rate stability is favourable, but will ultimately depend on future impact of remittances and trade flows on the external current account deficit (WB 2005a). This underlines the need for economic diversification.

Table 2: Key Indicators on Current Account Transactions

	2000	2001	2002	2003	2004
Exports (US$ mn)	784	652	734	798	914
Exports as % of GDP	80	59	56	51	44
Exports Aluminium (% of total exports)	53.8	61.1	57.0	53.8	62.6
Exports Cotton (% of total exports)	11.7	11.0	18.3	24.1	17.7
Worker Remittances (US$ mn)	3.5	47.5	65.4	189.3	312.7
Imports (US$ mn)	675	682	721	881	1372
External Debt as % of GDP	128	99	82	73	42

Source: WB (2005a), based on GOSCOMSTAT, Ministry of Finance, IMF and WB staff estimates, GOT, (2005).

2.5 Despite this strong growth, Tajikistan remains the poorest Central Asian Country. Total GDP in 2004 was US$2.1 bn and GDP per capita was measured at US$329, against US$357 in Uzbekistan, US$431 in Kyrgyzstan and US$2.,708 in Kazakhstan (EIU, 2005). Real output in 2004 was only about half of the level in 1989. Income poverty has fallen from 81% to 64% from 1999 to 2003 at national level. Poverty levels in rural areas are higher than in urban areas, with 64 against 45%, respectively (World Bank, 2005a).

2.6 The growth of Small and Medium Enterprises (SMEs) has been constrained by a poor business environment characterised by high taxes (equivalent to about 30% of profits) and excessive regulations, offering rent seeking opportunities. According to a survey of the business environment for SMEs conducted by IFC in 2003 [1], half of the respondents considered administrative requirements as difficult to fulfil due to their complexity and the poor conditions of the public agencies administering them. Such requirements include licensing, certification, standardisation, import-export documentation and taxes. According to a survey conducted by the World Bank, 80% of senior managers surveyed in Tajikistan had to pay bribes to secure contracts or receive licenses. Tajikistan ranks in the bottom ten of 145 countries listed in Transparency International's Global Corruption Perception Index from October 2004 (EIU, 2005; IFC, 2003).

2.7 Despite a nascent private sector, most of the labour force is still employed by the government and paid extremely low wages. Average government wages in 2004 were TJS74/month (US$25), with teachers and healthcare employees just earning TJS43/month and 25/month, respectively (EIU, 2005, based on IMF data).

[1] The survey covered 700 randomly selected non-agricultural SMEs and 600 Dekhan Farms.

2.8 The level of investment is low and the country lacks foreign investment. This is due to the small size of the market, poor infrastructure, geographic and institutional barriers to trade and the poor business climate. The low level of domestic savings discourages domestic investment.

2.9 Tax revenues remain low as a percentage of GDP, just over 15% (EIU, 2005). A new tax code was introduced in November 2004. It established a two-tiered income tax, with a rate of 8% for those earning less than TJS100/month (US$33), and 13% for those with higher earnings (EIU, 2005). A single tax was introduced for agricultural producers who formerly had to pay up to 7 different taxes. Despite this simplification, the overall tax rate increased.

2.10 Migration is an important strategy for Tajik people to cope with poverty, insecurity and lack of employment opportunities. During 1991–'95, almost 285,000 people left the country and emigration continues until today. According to estimates of the International Organization for Migration, between 600,000 and 800,000 Tajik nationals are working abroad, around 17% of the economically active population (EIU, 2005). The main destinations are Russia, Uzbekistan, Kyrgyzstan and Kazakhstan. Migrants include seasonal workers, of which some stay abroad for several years, visiting their families infrequently. Others are traders who undertake shuttle tours several times a year. Earnings from migration are an important source of income for rural and urban families.

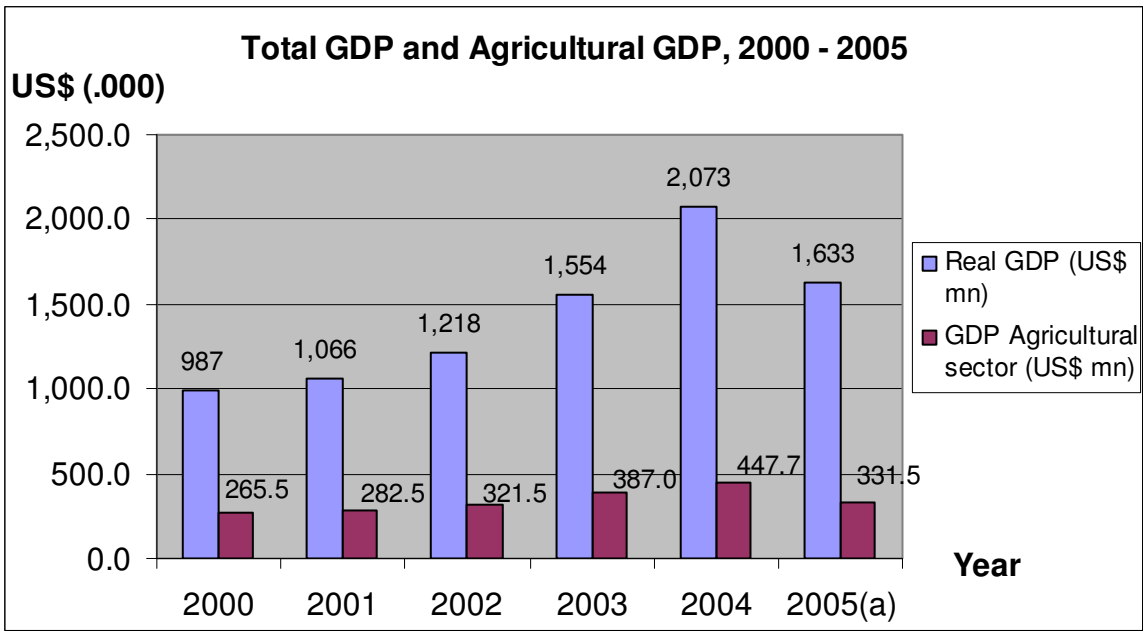
2.11 Table 2 shows the increasing amount of remittances transferred to Tajikistan through the banking system. In addition, large sums are assumed to enter the country through informal channels. Migrant workers bring foreign goods into the country on their trips home, and shuttle traders bring goods to sell. The combined value of money and goods flowing into the country through these channels was estimated between US$200-230 mn in 2002. (ADB, 2004c). In 2004, the remittances through the banking system have increased to US$312.7 mn, equivalent to 15% of the GDP. The transmission of remittances through the banking system has been facilitated by the abolition of a 30% tax on trans-border bank transfers in 2001. Migrant workers can remit funds through any commercial bank without maintaining a current account.

3. THE AGRICULTURAL SECTOR AND THE RURAL ECONOMY

3.1 Agriculture is the second largest sector of the economy, after services. In 2004, it accounted for 24 % of GDP, 66% of employment, 26% of exports, and 39% of tax revenue (WB, 2005a). Cotton is the main agricultural export crop, contributing to 90% of agricultural exports. It accounted for 24.2% of the total export revenue in 2003 and 17.3% in 2004. Other agricultural exports include fresh and processed fruit and vegetables (around 9% of the agricultural export value) and silk and silk products (about 1%).

3.2 Overall, some 70% of the population lives in rural areas. Despite the unavailability of disaggregated data on the composition of the rural economy, available evidence suggests a dominant position of the agricultural sector in terms of output and employment. According to the 2003 Living Standard Measurement Survey, out of a total of 689,288 households in rural areas, 407,029 were categorised as farm households and 282,259 as non-farm households. Of the farm households, 310,616 were mainly engaged in the cotton sector[1] (World Bank, 2005a). The rural non-farm economy, especially small and medium-sized firms with various forward and backward linkages to agricultural production, is still poorly developed. This is mainly due to the slow pace of reform and restructuring of state and collective farms and the dominant role of a few dozen large companies in cotton marketing and processing (ADB, 2004c).

Figure 1: Total GDP and Agricultural GDP, 2000–2005



a) First 9 months.
Source: NBT, Statistical Bulletin September 2005.

3.3 Average population density of 43 persons per square kilometre is low compared to many Asian countries, but high compared to several Central Asian countries. Most of the

[1] The following definitions were used: Farm households: At least the household head or two household members work primarily in the agricultural sector. Cotton households were defined accordingly.

population and the country's most productive agriculture are located in the western part of the country where 7 percent of the land defined as lowland agriculture is found. Unlike most developing countries, the rural population has been growing more rapidly than the urban population. Average household size is larger in rural than in urban areas: 6.5 persons on average compared to 4.5. Many rural households are very large. Households with 10 persons or more comprise 14.1 percent of rural households compared to 4.6 percent in urban households (ADB, 2004).

3.4 Rural poverty fell from 84% to 64% between 1999 and 2003. However, poverty remains high in the cotton growing regions Sogd and Khatlon at 66% and 78% of their rural population, respectively. The most important survival strategies include production on small household garden plots averaging about 0.15 ha, livestock production, and, in many cases, migration to neighbouring countries in search of work.

3.1 The Agricultural Production Base

3.5 Tajikistan has good climatic conditions for growing a wide range of crops. It has a continental climate, with hot and dry summers in the lowland areas, but cooler and wetter in the mountain valleys and foothills. Soils are reasonably good in the south and in the upland valley areas, and less fertile in the northern valleys. However, the agricultural resource base is characterised by limited arable land, heavy reliance on irrigation for crop production, and substantial areas of permanent pasture. Tajikistan's mountainous topography limits the potential for agricultural production. Only 30% of the total territory of Tajikistan, around 4.1 mn ha, can be used for agricultural production. Of this land, some 800,000 ha are arable, equivalent to only 0.21 ha/capita of the rural population. The remaining 3.3 mn ha are pasture.

Table 3: Agricultural Land Use ('000 ha), 1988 to 2005

Land Use	1988	1992	1999	2003	2004	2005
Arable	857	803	735	714	718	699,2
Perennial crops	101	103	98	98	98,6	98,6
Hayfields	27	22	19	17	17,6	17,6
Pastures	3259	3236	3258	3065	3064,4	3064,4
Fallow	25	19	17	23	22,3	22,3
Total agricultural land	4269	4181	4127	3917	3921,0	3902,1

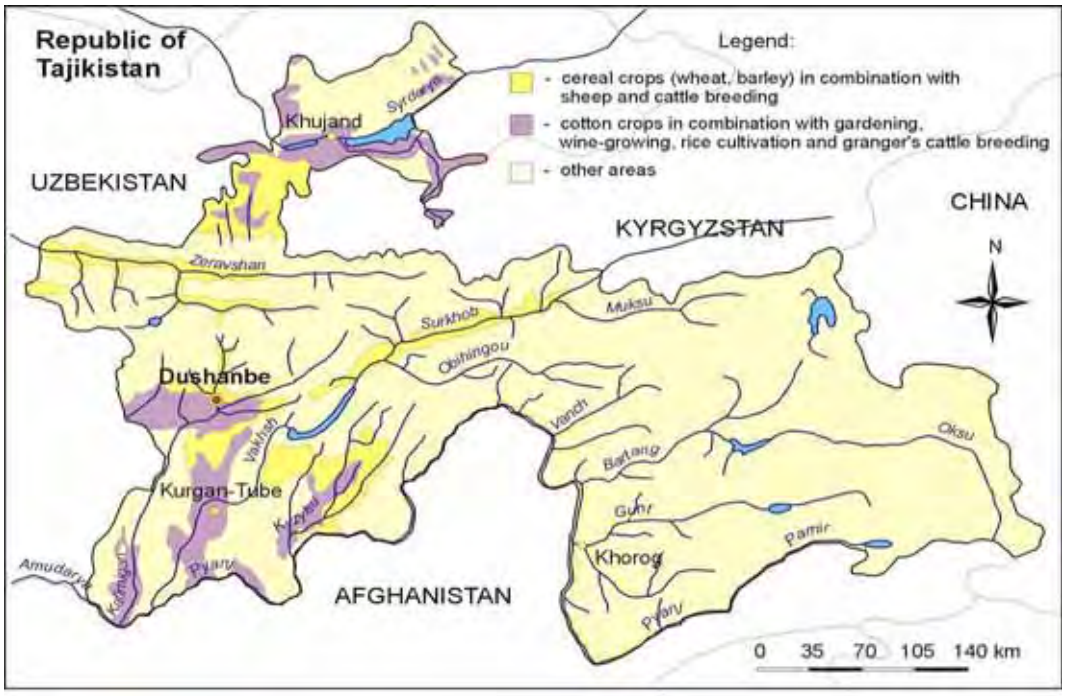
Source: Statistic Compendium on Agriculture, Tajikistan, 2005.

3.6 The main agricultural areas are located in altitudes between 300 and 1500m, though in the Pamirs crops like vegetables, potato and barley are grown up to 3900m. Soil erosion is a major problem, including wind erosion from former pastures now planted to wheat, and water erosion and land slips especially in steeper areas. Overall, the agricultural land area is decreasing. This applies both to arable and pasture land.

3.7 Low precipitation levels limit the scope for rain-fed agriculture and cause a heavy reliance on irrigation for crop production. However, water resources are abundant and approximately 85% of arable land (720,000 ha), are located within the command area of an irrigation system. Design weaknesses and lack of proper maintenance of the irrigation and drainage network and pump systems in recent years have resulted in decreasing efficiency of

water use, and rising water tables and increasing salinity in some areas. Only about 515,000 irrigated hectares are currently in use[1]. Low-cost, river-fed gravity systems supply approximately two-thirds of irrigated land while pump systems cover the rest. Cotton, wheat, fruit and vegetables are the main irrigated crops. In contrast to the high pressure on arable land, the 3.3 mn ha of permanent pasture are lightly used due to a fall in livestock numbers after independence (World Bank. 2005a).

Figure 2: Cotton and Cereal Growing Zones



Source: Ministry of Agriculture.

3.2 Regional Dynamics

3.8 Tajikistan is divided into four regions which differ in terms of agro-economic conditions, population densities and market access.

- The **Khatlon** region in the southwest constitutes about 17 percent of the country's area, and about 35 percent of the population (some 2.2 mn people), of which 83 percent are rural. Population density is almost 90 persons per square kilometre, and reaches almost 300 in a few districts. The irrigated river valleys of Khatlon around Kurgan Tyube and Kulyab were among the most productive cotton-growing regions in the USSR. Irrigation systems supply more than 320,000 ha of land, or 16 % of the total area of oblast. During the civil war, the region experienced some of the fiercest fighting and much of its infrastructure was destroyed. Cotton remains the dominant crop in the irrigated areas of Khatlon. Other important crops produced in this region include wheat, rice, potatoes,

[1] Approximately 90,000 ha have been abandoned and a further 115,000 ha have been lost to salinization (ADB, 2004a).

vegetables, lucerne and sub-tropical fruits such as lemons and oranges. It also has a significant cattle industry. The non-cotton crops are mainly grown in the foothill agro-ecological zone, located between 800 and 2000m above sea level.

- The Sogd region in the northwest has about 18 percent of the country's area, about 30 percent of the population (almost 2 mn people) with a population density of 75 persons per square kilometre. About 75 percent of its population is rural. The second largest city in Tajikistan, Khujand1, is located in this region. The Ferghana Valley, shared between Tajikistan, Uzbekistan and the Kyrgyz Republic, has huge irrigated lowland areas. Though cotton is the dominant crop, apricots, apples, grapes, pears, nuts, potatoes and beans are also grown. In the mountainous Zeravshan Valley, wheat, tobacco, potatoes, onions, a variety of other food crops, and fruit are produced, as well as cattle and sheep. The region has one largely rural district, Penjikent, with a population density of over 400 persons per square kilometre. It also has the largest silk factory in Central Asia, supported by the associated silkworm cultivation.

- The Districts under Republican Subordination (DRD) divide Khatlon and Sughd and have about 1.4 mn people, of which almost 90 percent are rural. They have about 20 percent of the country's total area and a population density of about 50 per square kilometre. Most of the territory is quite mountainous, but the irrigated plains around Dushanbe combine high production potential with good market access. Wheat, potatoes, vegetables, orchards and grapes and other food crops are grown in these districts, and there is considerable livestock grazing.

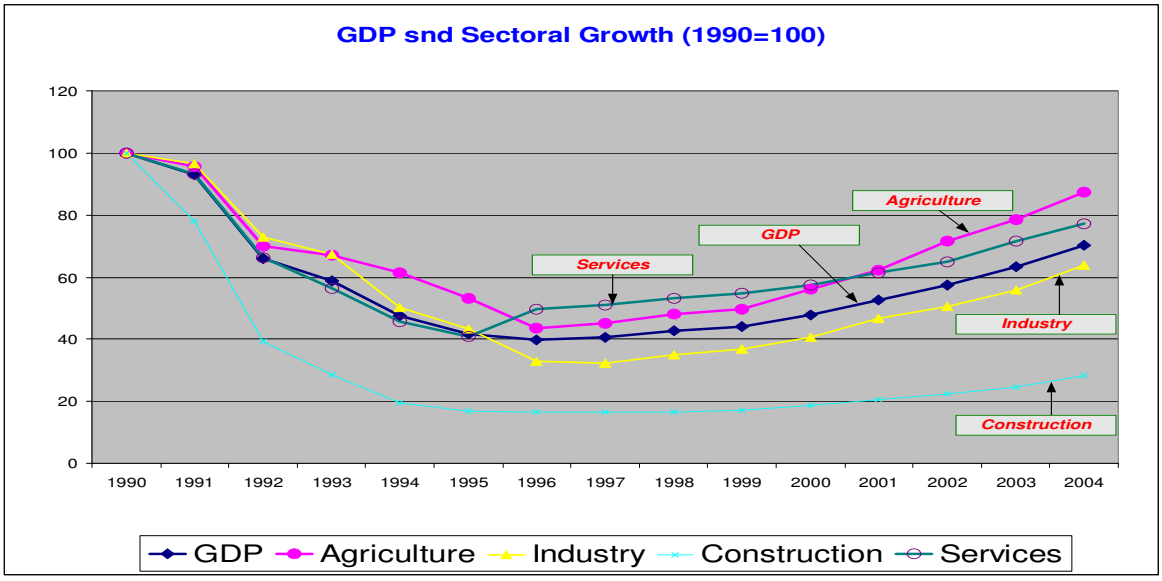
- The Eastern GBAO region accounts for 45 % of the country's total area but only hosts 3% of the total population. Mountainous terrain, low precipitation and extremely short vegetation periods limit the scope for crop production. GBAO has important areas of pastures. During the Soviet period, winter fodder was imported into the region. Livestock production has declined following the disruption of fodder inflow.

3.3 Recent Trends in the Agricultural Sector

3.9 In line with the contraction of the overall economy following independence, agricultural output and productivity declined sharply until the end of the civil war. A combination of several factors caused this trend, including the abrupt termination of subsidised inputs from the Soviet Union, the loss of traditional markets and the deterioration of the irrigation system and farm machinery, exacerbated by the civil war. This was further exacerbated by poor farm management and the slow pace of farm restructuring and land reform. As a consequence, many farms are not able to perform farm operations in a timely manner or use existing resources efficiently.

[1] Sometimes also spelled as "Hogent".

Figure 3: GDP and Sector Growth Rates



Source: Wold Bank, 2005a.

3.10 Recovery started in 1996 and since 2000 the agricultural sector has grown at two-digit levels (view figure 3). Crop production increased by 65% between 1999 and 2003 and contributed to 81% of total sector growth during this period. This growth was mainly driven by non-cotton crops. Livestock production grew by 61% during 1999 and 2003. Figure 3 shows that agricultural growth exceeded overall GDP growth between 2001 and 2004. Despite strong growth in recent years, total output has only recovered to about two-thirds of the 1990 level[1].

3.11 ***Trends in crop production:*** The structure of the agricultural output has changed significantly since independence. Tables 4 and 5 illustrate the main trends in crop production since 1988 in terms of area and output. The most notable trend is the expansion of cereal production, especially wheat, in terms of area and output, even beyond the levels on 1988. The production of potatoes, vegetables and fruits has also increased. In turn, fodder production has sharply declined. Overall, the cropped area has increased since 1995 and now exceeds the levels prior to independence. This reflects the expansion of wheat production which mainly took place on marginal agricultural lands and former pastures, fuelled by the allocation of 75,000 hectares of so-called Presidential Land (see chapter 2.4) in the late 1990s. Although this trend has increased food security of rural households, it has caused considerable negative environmental externalities such as soil erosion.

[1] Comparisons with yields prior to 1991 have to take into account that yields may have been artificially high in view of soil and climatic conditions, due to excessive use of inputs, especially fertilizer, irrigation water and energy, during the Soviet time without considering economic costs, in order to meet production target.

Table 4: Crop Areas ('000 ha), 1988–2004

Crop	1988	1992	1995	1997	2002	2003	2004	2005
Cotton	320.3	285.3	268.4	218.7	269,2	284,3	293,6	288,9
Cereal Crops a/	241.6	263.8	264.9	418.7	364.2	404.6	403,7	396,0
Potato	11.2	13.0	9.4	12.8	22.6	25.9	28,6	27,5
Vegetables (total)	23.7	28.2	26.5	24.3	29.9	30.2	32	32,5
Fruits (total)	71,4			71,0	77,0	78,5	78,7	N/A
Forage Crops c/	228.2	200.7	161.6	107.6	98.5	96.1	97,6	N/A
Other (beet-root ,trefoil, etc)	23.2	21.0	27.1	27.2	9.9	10.9		N/A
Total cropped area d/	848.2	812	757.9	809.3	822.7	886.8	905,6	N/A

a) Mainly wheat.
Source: *Statistic Compendium 'Agriculture of Tajikistan, 2001" (1992, 95, 97). Statistic Compendium "Tajikistan in figures, 2005" (2002, 03, 04).*

3.12 Cotton area first decreased by about one-third by 1997, but has almost recovered its levels prior to transition. This does not apply to cotton output which only recovered to about 60% of the previous levels.

Table 5: Output of Major Crops (000 tons), 1988-2004

Crop	1988	1992	1995	1997	2002	2003	2004	2005
Cotton	963,8	513,2	411,5	353,3	514	537,3	557,0	447,9
Cereal Crops a/	381,3	275,7	249,1	559,4	700,7	884,4	891,6	934,8
Potato	182,7	167,4	111,6	128,1	356,7	473,3	527,2	555,0
Vegetables b/	555,7	542,6	491,4	350,6	473,5	583,0	681,5	715,0
Fruits	215	80,9	49,5	112,6	147,4	88,9	144,4	148,2

Sources: Statistic Compendium 'Agriculture of Tajikistan, 2001" (1992, 95, 97). Statistic Compendium "Tajikistan in figures, 2005" (2002, 03, 04).

3.13 ***Trends in livestock production:*** The conversion of pastures into farmland was accompanied by a reduction in fodder crop production. Accordingly, livestock numbers fell dramatically following independence, although there is now some recovery as numbers of cattle, small ruminants and poultry have increased steadily in recent years. For cattle, the proportion of cows in the herd has increased (52% in 2003 compared with only 38% in 1988) reflecting the increased importance placed on dairy production.

Table 6: Changes in the Composition of Livestock

	Average Numbers		Change in #
	1991-1995-	1999-2003	
Cattle	4,257,400	3,535,600	-721,800
Sheep	2,102,400	1,540,600	-561,800
Goats	791,400	798,200	6,800
Pigs	40,900	1,000	-39,900
Horses	55,000	71,800	16,800

Source: World Bank, 2005a, based on Goscomstat.

3.14 The major change has been the shift to small-scale production in household plots from the large-scale forage-based production system on state farms and collectives. In addition, the intensive grain-based poultry production on state farms and collectives collapsed following independence, with most poultry now produced in the household plots. There has also been a substantial increase in honey production in recent years, primarily based on small individual activity. Overall, however, the importance of livestock as a percentage of agricultural output is now at only about 20% compared with a figure of around 40% prior to the reforms.

3.15 ***Growth by farm type:*** The agricultural sector consists of three basic types of farms: i) Large, capital-intensive state and collective farms [1] carried over from the Soviet system; ii) smaller so-called Dekhan Farms resulting from the land reform process; and iii) tiny household plots of 0.10.3 ha (see Chapter 2.4).

Table 7: Share of Different Farm Types in Crop Production, 2004 ('000 tons)

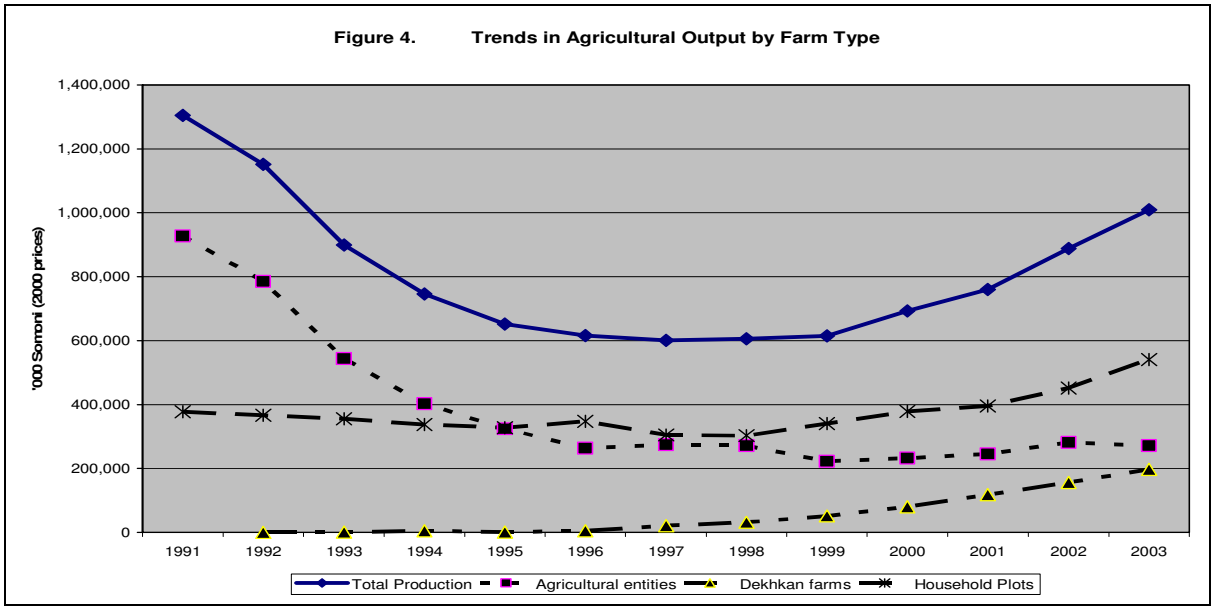
Main crops	Area '000 hectare		Output	Share of farm types in total output		
	(Total)	Irrigated		State/collective	DFF	Household plots
Cotton	293,6	293,2	557,0	340,7	216,3	-
Cereal Crops	403,7	163,7	891,6	216,6	227,0	448,0
Potato	28,6	27,7	527,2	48,4	128,5	350,3
Vegetables	32,0	31,4	681,5	114,0	108,3	459,2
Fruits	78,7	N/A	144,4	22,9	18,3	103,2

Source: Ministry of Agriculture, 2005.

3.16 Figure 4 illustrates the trends in agricultural output by farm size. It shows that most of the growth has occurred on household plots[2]. Output on household plots increased by 56% between 1999 and 2003 and contributed to 51% of the overall sector growth during this period. Though household plots only account for less than 2% of the agricultural land, they contributed to 54% of sector output in 2003. Table 7 shows that the share of households in total output is particularly high in the case of potatoes, fruits and vegetables. On irrigated plots, often two or three crops cycles of vegetables and potatoes are grown during one cropping season. The strong growth of production on household plots also reflects the better incentive structure, because households are free from state interference in cropping decisions and do not have to pay taxes.

1 Kolkhozes and sovkhozes.
2 Including Presidential Land.

Figure 4: Trends in Agricultural Output by Farm Type



Source: World Bank 2005a.

3.17 Output from Dekhan Farms has also increased strongly. However, much of this growth might be attributable to their increasing numbers and the concomitant transfer of land and other farm assets rather than to increased productivity levels.

3.18 ***Sources of growth:*** According to a recent World Bank study (World Bank, 2005a), the growth of non-cotton crops between 1999 and 2003 was primarily driven by increases in yields, rather than in prices or areas. This holds true across all types of farms and may be attributable to improved macro-economic and political stability and enhanced access to inputs. Growth of livestock production was mainly due to an increase in the number of animals rather than increased productivity. It was fuelled by an increase in demand and prices for livestock products in the course of economic recovery. Total factor productivity has increased since 1996. However, this is mainly due to increased labour inputs and the strong decline of capital due to the run-down of collective and state farms, the shift towards small-scale production on household plots and a virtual absence of finance to non-cotton producers. It reflects that two-thirds of the growth of non-cotton crop production and livestock production occurred on household plots characterised by a substitution of capital by labour.

Table 8: Average Annual Growth Rate of Output, Capital, Labour and TFP

Agriculture	1991-95	1996-2000	2001-2004
Capital	-2.4	-5.2	-3.2
Labour	5.7	0.9	1.8
Output	-26.3	2.4	7.1
TFP	-23.1	1.5	3.6

Source: IMF Country Report No. 05/131. April 2005.

3.19 Analysis by region points to the importance of market size and market integration for sustained growth. In Khatlon and GBAO, initial growth during 1999–2001 was driven by high prices. Increased crop production depressed prices in 2001–'03. In Sogd and RRS, producers have access to bigger markets, including the processing capacity and export market in the former and Dushanbe in the latter case. In both regions, increased production was not hampered by price declines (World Bank, 2005a).

3.4 Land Reform and Farm Restructuring

3.20 The land reform and farm restructuring process in Tajikistan has been slow and uneven and has not yet led to a profound change in the ways in which farms operate. This section first outlines the main features of the legal provisions governing land reform, followed by a brief discussion of implementation results and associated issues.

3.21 ***Legal framework:*** Land reform legislation in Tajikistan consists of a large body of laws, presidential decrees, government resolutions and administrative regulations. This body of laws contains many overlapping and conflicting provisions and their hierarchy is not established. Procedures have been developed to grant land use rights to various entities, although regulations are subject to interpretation and are not implemented uniformly, with the degree of commitment and progress in land privatisation and farm restructuring dependent on local authorities.

3.22 According to the constitution of Tajikistan and the Civil Code (Art. 289), land cannot be held in private ownership, but is in the exclusive ownership of the state. Land reform is thus limited to reforming the operational structure of farms by splitting up kolkhozes and sovkhozes into smaller units (so called "Dekhan Farms[1]") through the allocation of inheritable use rights. The Law "On Dekhan Farms" established the right of every citizen to create a Dekhan Farm (DF) (Art. 5). The land of Sovkhozes and kolkhozes should be divided into individual, inheritable land shares, to be certified by proper documentation (Art. 10). Every member of a Kolkhoz or Sovkhoz is entitled to receive a share of the land and farm property including a proper documentation of this share. If a worker wishes to withdraw from a kolkhoz, he/she has the right to withdraw this share in-kind to start a DF. Persons who are not members of a Kolkhoz or Sovhkoz can apply for land kept in the local rayon administration's land reserve fund.

3.23 Though the Laws "On Land Reform" and "On Dekhan Farms" were already passed in 1992, the process only gained momentum in 1996, after the civil war. Presidential Decree No. 522 "*On Restructuring Agricultural Enterprises and Organizations*" (1996), established a timeframe for the farm restructuring process. All *kolkhozes/sovkhozes* had to be re-organised into *Dekhan Farms* by the end of 2005[2]. Only *kolkhozes/sovkhozes* that are designated for seed production, livestock breeding and research are to be kept under the control of the state.

3.24 A Dekhan Farm is an independent managing agent carrying out its activity without forming a legal person (Art. 3). Land remains the property of the state which grants inheritable use rights to members of DFs who receive inheritable use rights to the land. Three types of DFs can be distinguished: In the case of individual DFs, the land certificate is issued to one individual. In the case of a family DF, the certificate is issued in the name of several family members. In the

[1] Dekhan is the Tajik word for "farmer".

[2] This decree is considered by many in Tajikistan to be the fundamental document for establishing the right of individual kolkhoz/sovkhoz members to land shares (Porteous, 2003).

case of a collective DF, the certificate is issued in the name of the chairman of the farm, while all other members are listed as such.

3.25 Though, in principle, long-term use rights can be structured in a way that conveys most of the benefits of private property to the rights holder, this has not been the case in Tajikistan. Land rights can be terminated for a variety of reasons, including "irrational" or "ineffective" use of the land. Criteria for land use are ill-defined and the process for determining if they have been violated is not clearly spelled-out[1]. These vaguely defined conditions provide local governments with ample scope to withdraw land rights. A decision on termination of land rights is made by the district government (Khukumat) upon recommendation of the District Land Committee. The law does not set out procedural safeguards protecting the land rights of Dehkan farmers.

3.26 The provisions regarding the transferability of land rights are vague and contradictory. Some legal provisions refer to the possibility of selling and mortgaging immoveable property, including land under buildings[2]. However, land without a building is not covered by the definition of immoveable property. Most experts consulted during the mission converge to the view that land cannot be sold (being property of the state) or mortgaged and direct transfer of use rights can only take place through leasing[3]. The fundamental lack of land tenure security and the limitations on transferring property rights constrain the development of a land market and reduce the collateral value of land.

3.27 ***Implementation results:*** According to the State Land Committee, 662 out of 850 kolkhozes/sovkhozes have been restructured into 27,000 DFs. The remaining 170 farms are designated for seed production or animal breeding and will therefore not be restructured. DFs now account for 60% of the total agricultural land, while 25% of the agricultural land remains under the management of the state[4] and 10% is managed by other types of agricultural entities, municipalities and households. Thus, according to official figures presented in tables 9 and 10, the farm restructuring process has almost been completed.

[1] Conditions for the termination of inheritable land use rights include productivity levels below a standard indicator identified by a cadastral evaluation, non-use for agricultural production for one year, or for non-agricultural purposes for two years (Art. 37 (h)). The Law on Dekhan Farms further refers to obligations of Dekhan farmers to use the land effectively, with the goal of increasing its fertility, taking measures to preserve the land, forest and water resources, and not allowing the deterioration of ecologic conditions as a result of management activities. Moreover, the farmer has to pay rent and land tax in due time.

[2] According to the Civil Code (Art. 362), mortgage of structures and buildings is allowed and also mortgaging the rights to a land parcel and other natural resources. According to Art. 362 (Civil Code), immoveable property can be sold if a corresponding contract is signed by both parties and registered.

[3] Otherwise, the land certificate has to be returned to the district branch of the SLC, which decides on its reallocation.

[4] This seems high in view of the country's scarce arable land resources. Most farms designated for seed production, livestock breeding or research only devote a small part of their total area to these activities (AAH, 2003) Therefore, it seems exaggerated to remove the entire land of these farms from the land reform process.

Table 9: Farm Reorganization as of 1 January 2006

Years	Number of Reorganised Farms (cumulative)	Number of Established DFs (cumulative)
1998	60	11 620
1999	233	11536
2000	284	13 260
2001	404	11676
2002	444	15 483
2003	544	19 565
2004	598	23 322
2005	662	27 040
Total	662	27 040

Source: State Land Committee.

3.28 However, much of the restructuring has been rather cosmetic without significantly changing the underlying management and incentive structures. Important differences apply between individual and family DFs on the one hand and collective DFs on the other.

Table 10: Land Distribution to Different Types of Holdings as of 1 January 2006

Land ownership	Hectare (th. ha)	(%)
Land of Collective Farms (kolkhozes)	604,9	7,74
Land of State Owner Farms (sovkhozes)	1445,4	18,57
Land of Dehkan Farms	4865,7	60,2
Household and Subsidiary Land (household plots and presidential lands)	91,6	1,18
Land for Agricultural Use by Enterprises and Organisations 1	387,8	4,98
Land of New Forms Farm Keeping (joint-stock companies and etc.,)	452,4	5,81
Land of Jamoats	117,5	1,51

Source: State Land Committee.

– ***Collective DFs*** typically emerged from a fast-track approach to farm restructuring. In order to meet privatisation targets, kolkhozes and sovkhozes were often converted into one or several collective DFs, depending on the size of the previous entities. Usually, the former chief of the kolkhoz/sovhhoz or head of a brigade is "elected" chief of the new DF and the administration continues as before. A certificate is issued in the name of the chief listing all members working on the farm as shareholders. The resulting farms are medium to large, with land sizes ranging from 40 up to 2,000 hectares. Surveys in restructured farms revealed that the majority of the shareholders of collective

[1] Factories, public organisations, governmental ministries.

DFs is barely informed about the change and many believe they are working for a kolkhoz / sovkhoz[1].

- ***Individual and family DFs*** have been created "from below" by an initiative from individuals or families rather than by official restructuring. The land certificates are issued by the Khukumat in the names of the individual(s) or family members who requested the creation of the DF. Individual and family DFs are smaller, usually in the range between 0.5 ha and 40 ha. Individual/family DFs tend to be better managed since they were founded by private initiative and their members have a stake in the farm's success.

- ***Associations of Dekhan Farms*** are a third type of farm organisation emerging from farm restructuring. The associations vary in the degree of autonomy of their member farms. In some cases, member farms are managed independently but certain functions such as input purchase, operation and maintenance of farm machinery and output marketing are carried out by the association. In other cases, state and collective farms have been converted directly into associations of DFs, with the association still functioning like a kolkhoz (Porteous, 2003).

3.29 During 1997–'99, mainly individual and family DFs were created. Following a lending conditionality of the IMF, the land reform approach switched towards fast-track restructuring into collective DFs. Unfortunately, official statistics are not disaggregated according to type of DF, despite the important differences between collective DFs on the one hand and individual and family DFs on the other, in terms of size, management and incentive structures, etc. This lack of disaggregate data constrains the analysis of the different farm types in terms of access to different land types (irrigated, rain-fed, pastures, etc.) and other productive resources as well as to their cropping patterns, profitability, etc.

3.30 Due to the limited knowledge of the rural population on the farm restructuring process, relatively few people have been able to carve their own DF out of the collective structures.

3.31 Individual and family DFs were often founded by persons who know about the land law, have personal connections to local authorities and can afford official (and unofficial) costs for the application process[2]. Altogether, permission is needed from the collective, the village and rayon administration, the local land committee, the Notary, the Ministry of Justice, the Statistics Agency and the Tax authority (ADB, 2001). Many of these individuals have used the non-transparency of this process to acquire significant areas of high-quality land and other farm assets without taking an equivalent share of the farm debt (World Bank, 2005a). A field research conducted by Action Against Hunger (AAH) found several well-to-do individuals who had registered DFs in the names of different family members (Porteus, 2003).

3.32 ***Types of land access:*** According to the Living Standard Survey, conducted by the World Bank in 1999, 84% of all households country-wide had access to a household plot,

[1] Porteous, 2003; ADB, 2004a.

[2] Heads of DFs consulted during the mission include former heads of brigades, warehouse managers, tractor operators, persons responsible for certain specific tasks regarding agricultural and livestock production or person formerly working in the state administration such as Jamoat chiefs, businessmen, and their relatives.

including 92% of rural households and 38% of urban households. Plot owners may also be members of Dekhan Farms or state farms. In 1999, over 45% of consumed food and 60% of the income by rural household stemmed from these plots (World Bank, 2005b).

3.33 A survey conducted by AAH in several districts in Khatlon illustrates different types of land access and their relative importance. The survey confirmed the widespread access to household plots. It also found that:

- only 3% of the interviewed households had their own DFs. The average size was 17.4 hectares, ranging from 1.48 ha to 124 ha.

- 70% of interviewed households had so-called Presidential Land with an average size of 0.115 ha. This land has been allocated according to two Presidential Decrees in 1995 and 1997 in an effort to improve the food security situation of the population. Since this land was part of the unused land of the kolkhozes / sovkhozes, it is usually at some distance from the household and has mixed agricultural potential.

- 6.8% of the households rented land from kollhozes, sovkhozes and DFs. An important part of these households are members of collective farms. The average of the rented land was 1.3 hectares, ranging from 0.1 ha to 5 ha. In some cases, rental payments are in cash. In other cases, land rental is used as an in-kind wage payment to workers on collective farms. Smallholders have to provide between 50 and 80% of the crop output to the large farm (Porteous, 2003).

3.34 During earlier stages of the land reform process, large farms with 500–1,500 ha were leased to their former management.

3.35 ***Regional variations in land reform implementation:*** The progress of land reform is closely linked to the cotton sector and particularly to the cotton debt issue. Local governments find it easier to fulfil production quota through collective farms which are easier to control. The insecurity of land tenure and the associated faculty of local governments to withdraw land rights are prime instruments to ensure continued production. Although during earlier phases of land reform, several well-connected individuals managed to establish DFs without carrying on a share of the liabilities of the former collective farm, this has been changed by Presidential Decree No 1054 of April 2003. According to this degree, all debts of reorganised farms should be allocated according to land size, without accounting for differences in land quality. The huge debt of many collective cotton farms makes it unattractive for their members to establish their own farms.

3.36 In general terms, land reform is more advanced in non-cotton growing areas. Unfortunately, these areas generally have less agro-ecologic potential since they tend to be located at higher altitudes, with less access to irrigation, on inclined terrain, with more difficult conditions for market access. Still, there is potential for fruit, vegetable and grape/wine production, as well as for livestock production and several niche products.

3.37 A number of donors have supported the land reform process. The World Bank-financed Farm Privatization Project privatised 10 pilot collective/state farms, with land transferred to some 5,800 farm families and registered land use certificates provided. The World Bank has

now approved a follow-up Land Registration and Cadastre Project which aims to complete the privatisation process for 300 collective/state farms and provide around 75,000 land certificates. Other NGOs and international organisations have also assisted during the privatisation process, although often on an ad-hoc and uncoordinated basis. Accordingly, since December 2003, FAO has supported a permanent Land Reform Working Group consisting of the main national agencies and international organisations to develop a common strategy and harmonise the approach. Amendments are being proposed which would give banks the right to sell the certificate in order to enable the use of land as collateral. Nevertheless, concerns remain that the state would still retain ownership of the land.

3.5 The Cotton Sub-Sector

3.38 Cotton remains the most important crop, accounting for one-third of the cropped area, two-thirds of the value of crop outputs and between 75 and 90% of exports (World Bank, 2005a). It also accounts for 85% of the total amount of fertilizer used in the country. Agro-ecologic conditions including 10 months of sunny days and abundant water resources are favourable for cotton production.

3.39 Cotton area declined from 303,000 ha in 1990 to 224,000 ha in 2000, but then recovered to 295,000 ha in 2005. Yields have declined from an average of 2.8 tons per ha prior to independence down to 1.8 tons. Cotton output fell from 800,000 tons of seed cotton to 230,000 tons in 2000, recovered to 557,000 tons in 2004 and declined to 447,900 tons in 2005.

3.40 The recovery of yields and area under production in recent years has been offset by a decline in real producer prices leading to a stagnation of output value (World Bank, 2005a). Due to the importance of cotton for the economy, the government has been reluctant to seize control over the sub-sector. Though marketing and processing have been privatised, the government continues to regard cotton as a strategic crop and maintains the unofficial production quota which is enforced by local governments[1].

3.41 ***The cotton financing system:*** The fundamental problem lies in the inability of the government and the national banking system to finance the huge working capital requirements of cotton production. Assuming average direct production costs of US$500 per ha plus US$150 indirect costs, total working capital requirements for the 295,000 ha planted in 2005 would amount to about US$192 mn, against total loans disbursed by the banking system of US$300 mn.

3.42 In order to recover the decline of cotton production during the civil war, the government started to secure funding from international sources. In 1996, a first loan of US$1 mn was provided by Credit Suisse First Boston through Paul Reinhart, the world's second largest cotton trader. The funds were channelled through the state-owned Agroinvest Bank[2] to private intermediaries, also called "investors". Based on the production quota established by the Hukumat for the respective farm, the farm manager receives a certain amount of seed, fertilizer, and fuel, as well as some cash for machinery repair and salary payment from the investor. The production contract established the repayment of the cash and in-kind advances through the delivery of a

[1] These quotas are officially called "production targets". For 2004, Government Resolution # 56 (February 2004) established a national production target of 610,000 ha, of which 365,000 ha is to be produced in Khatlon, 190,000 ha in Sogd and 56,000 ha in other parts of the country.

[2] Agroinvestbank was exempted by NBT from prudential regulations to handle the substantial funds involved.

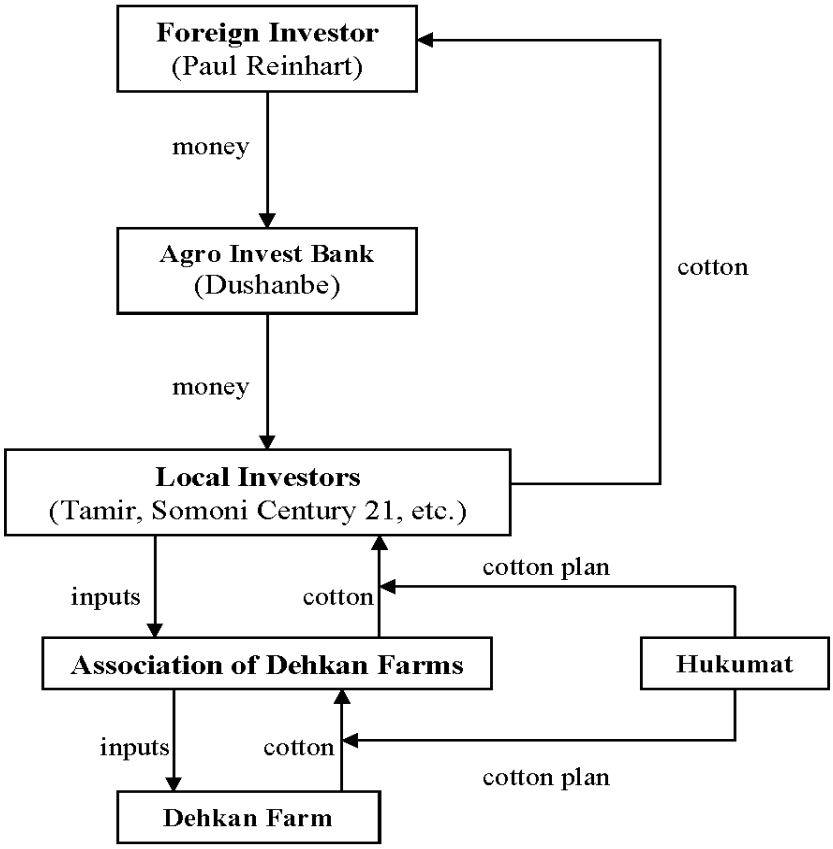
certain amount of cotton (WB, 2004). The harvested cotton is delivered to a ginnery and, after several months, finally sold through the National Cotton Exchange to the international financier. From the sales proceeds, the costs of inputs including interests, ginning and marketing costs are deducted and the balance, if any, is paid to the farm manager. Investors do not take any liability for loan repayment and do not provide any guarantee. Interest rates charged to farms range between 12 and 18%, depending on local conditions.[1]

3.43 The scheme was considerably expanded in the following years and Paul Reinhart has injected over US$200 mn into the Tajik cotton sector (ADB. 2004b). Other cotton traders from the United States and Russia entered into similar financing arrangements with domestic investors[2]. The external cotton debt was initially guaranteed by the National Bank since most of the financing was directed to kolkhozes and sovkhozes. This guarantee was later abolished when cotton producing farms were increasingly converted into private DFs. As a consequence, the international financiers carried the full credit risk. Given the inability to use land as collateral, the only guarantee for loan repayment consists in the future harvest. In order to ensure loan repayment, investors established local monopolies controlling cotton input provision, processing and output marketing in several districts each. This was achieved through close collaboration with local governments which needed the investors to fulfil their annual production targets. Thus, though theoretically farmers are free to purchase inputs and market their output, in practice they have little opportunity to choose their financiers and trading partners.

[1] According to data gathered during field missions to Khatlon and Sogd, farmers and representatives of AIB stated that investors charged annual interest rates of 12%. A World Bank study (2004) does, however, mention higher rates, between 14 and 30%.

[2] However, the latter tended to work directly with investors and not through AgroInvestbank.

Figure 5: Flow Chart of Cotton Financing in Khatlon



Source: (Porteous, 2003).

3.44 ***The cotton debt problem:*** As mentioned above, cotton yields declined but the inputs package was not adjusted to lower productivity levels. This was exacerbated by a strong fall in world cotton prices since the mid-1990s and weather related bad harvests in 1999 and 2001, as well as in 2004 and 2005. As a result, for a number of years, the gross value produced by Tajik cotton farms was not sufficient to cover production costs and a huge debt has accumulated in recent years. Though there is no reliable and commonly accepted figure for the total amount of this debt, a recent ADB assessment of the cotton debt estimated a total debt of US$240 mn as of January 2004, with US$60 mn of bad debt (ADB, 2004a).

3.45 Several intertwined factors have contributed to the low cotton productivity and cotton debt accumulation. Productivity of farms has been undermined by a deterioration of the physical farm infrastructure such as the irrigation system and farm machinery. Moreover, in order to fulfil government production quotas, cotton production has been expanded into areas considered marginal due to agro-ecologic conditions, access to irrigation water, salinisation, etc. Crop rotation has not been observed to the necessary extent, leading to soil compaction and phyto-sanitary problems. According to ADB (2004a), about 50,000 ha of cotton are produced in unsuitable and uneconomic locations, using a conservative break even point of 1.8 tons of cotton per ha.

3.46 The land reform process has been slowest and has had the least impact in the cotton sector. The conversion of state farms into collective DFs has not altered the management and incentive structures of farms. Collective DFs are not legal entities and farm managers are more accountable to local governments than to farm members. Salaries are low, often paid late and provided in kind[1] undermining the incentive to work. The ADB assessment found that most farms are often poorly managed, without accurate record keeping. Due to the poor (and often non-existent) profitability of cotton, farm members often divert inputs into the production of other crops, which are sold or used as in-kind payments to workers.

3.47 The inefficiencies in cotton production are exacerbated by those of marketing and processing. The lack of competition leaves ample room for monopolistic practices such as overpricing and under-delivering of inputs and low farm gate prices. Farmers claim that inputs such as seed and fertilizers are not delivered on time and are often of insufficient quantity and poor quality.

3.48 The 41 ginneries in Tajikistan have a total processing capacity of 1.1 mn tons[2]. Due to outdated equipment, processing efficiency is rather low. The ginned cotton outturn in Tajikistan ranges between 24 and 32% against 36% in Western countries. Long ginning periods further contribute to low farm profits and debt accumulation. Tajik gins take on average 200 days for ginning against an average of 110 to 120 days in Western countries. Cotton is planted in April and harvested until mid-November. With a ginning period of 4 months, farmers would receive the sales proceeds from processed cotton by mid-March, which would provide them with working capital to repay loans and finance the next cropping season. However, with a processing period of 6.5 months there is a resulting loan cycle of 14 months which increases the financing costs of farmers. Moreover, the quality of raw cotton declines after three months leading to further losses for the farmers (World Bank, 2004). Given that many gins are owned by investors, there are few incentives to invest in processing efficiency in order to reduce the ginning period

3.49 The ADB (2004a) cotton debt assessment provides some valuable insights into the structure of the debt. From a total debt of US$240 mn in January 2004, debt to external financiers amounted to US$180 mn while the remainder was internal debt (taxes, wage payments, water fees, etc.). The study further revealed that debts are highly concentrated in a limited number of large farms, fewer than 500. These farms account for 40% of the irrigated area. The majority of these farms are collective DFs with weak management and incentive structures. Total debt on average per farm is substantial: amounting to 70% of total farm gate revenues from cotton production. 15% of all cotton farms have no debt or have managed to repay their debt. In the ADB sample, 125 farms with less than 100 ha account for only 0.6% of the entire external cotton debt. This is due to the fact that prior to 2003, many DFs had received the assets but not the corresponding share of liabilities of collective farms. As a result, the re-organised farms were not allocated any debt.

3.50 A disaggregated assessment of the changes of the level of debt from January 2003 to January 2004 revealed that 351 farms with 53% of the total cotton area decreased their debts while 182 farms increased their debts. In terms of regional distribution, 16 out of 29 cotton-growing districts managed to decrease their debts while 13 showed an increase in debt (ADB,

[1] Often workers receive cotton straw as heating material.

[2] Though processing capacity is far beyond the current production of less than 600,000 tons, it may be justified in view of insufficient power supply during the early months of the year (ADB, 2004).

2004a). 48 farms (6% of all farms) managed to repay all their debts, while 61 farms (14% of all farms) would need more than 10 years to fully repay their debts.

3.51 ADB studied in more detail the cost and revenue structures of 25 farms in 5 cotton growing districts in 2003. On average, these farms were growing cotton on 66% of their arable and 70% of their irrigated land. The rest was dedicated to forage crops, wheat, fruits and vegetables. Average revenue per hectare was US$540. Given that total operating costs were in the same range, the majority of farms were not profitable. This was partly attributable to the low yields of 1.84 ton/ha against a potential of 2.8 tons, while input levels/and resulting production costs were more in line with higher yields. The study also found huge variations in yields as well as in costs even among farms in the same district. Despite this variation, few farms were able to produce a ton of cotton for less than US$280 in 2003 and most had total costs[1] above US$330/ton. Farm gate prices were between US$250 and 330 per ton, depending on quality. This data illustrates serious profitability issues among the sample farms[2].

3.52 The cotton financiers have operated without adequate supervision and outside of prudential norms. Credit assessment is poor or absent, loss provisions are inadequate and financiers continue to finance loss-making farms. Government-imposed production targets and the interest of international and domestic financiers in recovering their outstanding bad debt fuelled the continued flow of funds into the sector, although average repayment rates between 1997 and 2003 were around 70% (ADB, 2004a). However, in 2004, the debt situation became unmanageable and the flow of funds into the sector declined from TJS557 mn in 2004 to TJS306 mn in 2005.

3.53 The total amount of cotton debt is subject to heated debate. The data underlying the ADB assessment (as well as those calculated by NBT) are based on data provided by the investors and have been questioned by some as being biased upwards. The government has established an Independent Commission with the participation of several ministries, donors and representatives of investors and farmers to elaborate strategies to resolve the farm debt problem. The results of the ADB assessment are currently being verified through a detailed assessment of the debt situation of a sample of about 10% of all cotton farms. These farms have been chosen as reflecting the variety of conditions across farms and locations. Several government agencies, donors, representatives of investors and cotton farmers participate in this commission.

3.54 The cotton debt situation and the underlying institutional and policy framework have been major stumbling blocks to the development and diversification of the agricultural sector and the ability of the financial system to offer non-tied loans to farms in the cotton areas. There is some hope that key issues will be resolved in the medium term, given that all stakeholders have recognised the vulnerability of the present situation. This will raise the challenge of developing alternative funding sources and delivery mechanisms to the sector.

[1] Including indirect costs such as taxes, water fees, etc.

[2] The study also noted poor knowledge by farm management of rudimentary subjects related to farm management, such as cost controls and record keeping. The accounts furthermore do not reflect the use of farm resources for unintended purposes such as the sale of inputs or for the cultivation of crops other than cotton. The same applies to undeclared sales of products, farm consumption or use of farm assets for personal gain. In many cases, farm accounts may therefore misrepresent the financial position of farms.

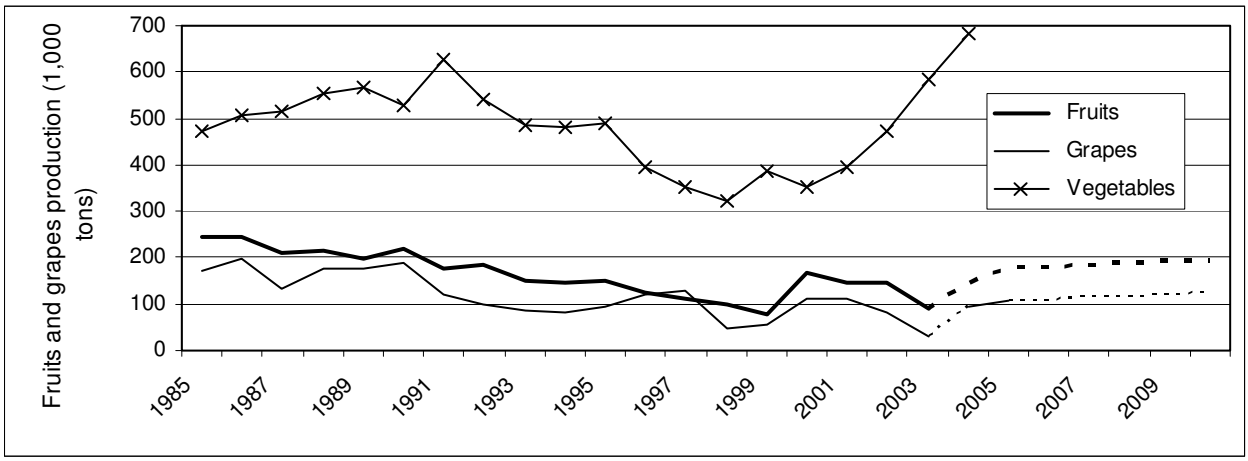
3.55 Despite the overall low profitability of cotton farms and the cotton debt and policy issues outlined above, there are important variations in productivity and yield levels across farms. A minority of about 10–15% of all cotton farms does not have outstanding debts with investor companies. These farms are well managed and were either established without taking over debt from previous collective farms or were profitable enough to repay their debts. Some of these farms already receive loans from commercial banks. There appears to be scope to expand on bank lending and offer alternative financing mechanisms through the financial system that can be further expanded once the overall policy framework improves. 5

3.6 The Fruit and Vegetable Sub-Sector

3.56 Tajikistan's agro-climatic conditions are favourable for fruit and vegetable production. Long vegetation periods with sunny days lead to high sugar contents. The different altitudes allow a staggered production and harvesting in the catchment area of processing plants, thereby extending the availability of raw material over a longer period. Tajikistan's sweet fruits and vegetables are highly appreciated in other CIS countries and the earth country used to be a major producer in the former Soviet Union. Exports amounted to 100,000 tons between 1965 and 1990 of which two-thirds were exported as fresh and one-third as canned products[1].

3.57 ***Production levels***: Figure 4 shows a strong increase in vegetable production since 2001, with current production exceeding 1991 levels. In the case of fruits, production declined by more than 50% between 1991 and 1999 and has not yet recovered significantly. The slow recovery of fruit production is attributable to the significant capital requirements for replanting of old trees and the long amortisation periods.

Figure 6: Total Current and Planned Fruit and Vegetable Production (1,000 tons), 1985–2010



Source: World Bank. 2005b, based on Goskomstat, 2003 and Government of Tajikistan, 2004.

[1] If not indicated otherwise, information in this section is based on the recent World Bank sub-sector review (2005b) and on interviews conducted during the mission with processors in Sogd and Khatlon and agro-business experts from the Ministry of Agriculture, USAID and MEDA.

3.58 Table 11 shows Tajikistan's fruit production in the context of other fruit producing countries in the region. Production levels are similar to those in Kyrgyzstan and Afghanistan but far below those of Turkey and China.

Table 11: Fruit Production in Tajikistan and Selected Countries (tons), 2003

	Tajikistan	Kyrgyzstan	Uzbekistan	Afghanistan	Turkey	China
Fruits Total	247,000	n.a.	3,336,000	n.a.	n.a.	n.a.
Apricots	30,000	13,000	42,000	63,000	440,000	73,000
Apples	83,000	97,000	489,000	63,000	2,500,000	21,102,000
Plum	2,000	na	Na	8,000	Na	4,500,000
Citrus	2,000	Na	3,200	na	Na	1,000,000
Almond	2,000	1,500	6,100	16,000	38,000	22,000
Pistachio	1,000	100	1,000	8,800	85,000	28,000

Note: na: not available.
Sources: World Bank, 2005b, based on Altai consulting, 2004; Gokomstat, 2003 and FAOSTAT.

3.59 Table 12 illustrates the regional distribution of fruit and vegetable production in Tajikistan. More than half of the total fruit producing area is located in the Soghd region, followed by Khatlon and RRS with 17% of total fruit production. Vegetable production is more evenly distributed between Soghd and Khatlon, with these regions accounting for about one-third of the total production area each, followed by RRS. The most important fruits are apples and apricots followed by other stone fruits like cherries and peaches as well as nuts like walnuts, pistachios and almonds. Some sub-tropical fruits including lemons, pomegranates and figs are also produced. Vegetable production areas have increased in Soghd, declined in Khatlon and remained stable in RRS and GBAO.

Table 12: Regional Distribution of Fruit and Vegetable Production in Tajikistan, 2003

	Soghd	Khatlon	RRS	Dushanbe	GBAO	Total
Vegetables, ha and (%)	11,377 (37.5)	10,342 (34.1)	7,920 (26.1)	40 (0.1)	460 (1.5)	30,299 (100)
Melons (ha)	1,807	7,710	1,144	2	8	10,671
Fruit Trees (ha)	42,378 (53.9)	17,348 (22.1)	17,201 (21.9)	1,647 (2.1)	-	78,574 (100)
Grapes (ha)						34,424

Source: World Bank, 2005b, based on Gokomstat, 2003.

3.60 ***Yields:*** Horticulture yields in Tajikistan are generally low but show important variations across regions and crops. Yields of potatoes, vegetables and melons have increased in recent years while those of fruits, berries and grapes have remained at low levels. A comparison with neighbouring Uzbekistan shows that fruit and vegetable yields were similar in both countries prior to transition. However, a decade later, Tajik vegetable yields are 30% below those in Uzbekistan and the difference is even larger for fruits. A serious constraint to improved production and productivity levels is limited access to quality inputs. Most seeds are produced on-farm or bought at local bazaars. Improved or certified seeds are not readily available or farmers lack working capital to purchase them. The use of fertilizers and pesticides is also low and the quality is poor. Most producers only use organic fertilizers such as manure. Loss of fruits and

grapes due to pests and diseases is estimated at about 50% of total output. The majority of producers has limited knowledge of production techniques and only a minority has access to extension services.

3.61 ***Structure of production:*** Table 13 reveals that about 70% of fruit and vegetable production (as % of national output) is produced on household plots. The planted area is quite small, averaging 0.13 hectares. Dehkan Farms have planted on average 1 to 2 hectares with fruit and vegetables.

Table 13: Characteristics of Horticultural Producers by Farm Type, 2003

	Household Plots	Dehkhan Farms	State Farms
Number	≅ 700,000	≅ 20,700	≅ 530
Average ha/unit	0.13 (0.05–0.3)	12 (2–800)	900
Average ha Horticulture/Unit	< 0.13	1–2	n.a.
Fruit Production (% national fruit production)	70°	30°	
Vegetable Production (% national veg. prod.)	70°	12°	18°
Horticulture Area (% sown area/unit)	22	5.3	2.7
Horticulture Area (% national sown area)	22*	27*	51*

Source: World Bank, 2005b, based on State Statistic Committee and Mission Survey.

3.62 ***Marketing:*** Many small growers primarily produce for home consumption and only sell the surplus in the market. Overall, the level of commercialisation is low, ranging between 20 and 40% of total production. The atomised production structure leads to high costs in product assembly and transport. Domestic marketing is dominated by a multitude of small players. These include producers who market their output directly or work as wholesalers purchasing the harvest from neighbouring farms. A second group consists of small traders operating with one to three trucks, either owned or rented. In order to avoid licensing requirements and taxes, much of the trade is handled informally. The low level of integration leads to high marketing margins and low producer prices. There are often several intermediaries between producers and final buyers. The domestic retail trade is dominated by bazaars while supermarkets mainly sell imported high quality products from Russia, other CIS countries and Europe.

3.63 ***Processing:*** There are 40 industrial processing companies, of which 32 are functioning. The total processing capacity is 100 mn litres per year equivalent to 335 mn standard jars. However, only four factories have a capacity of more than 10 mn litres, six have a capacity of between 1 and 10 mn litres, and the rest have a capacity of below 1 mn litres. Thus, the average industrial processing capacity per plant is low, averaging 3.7 mn litres, compared to 20 mn litres in Russia. Several processing plants are part of state or collective farms and source some of the raw material from own production. Eighty percent of the industrial processing capacity is located in the Soghd region which is also the main area for fruit production. Soghd is located closer to export markets and has cheaper labour and fewer power cuts. Moreover, there are huge numbers of artisan processors, producing for the local market. Much of this small scale processing is carried out by producers themselves.

3.64 Two main types of processing companies are to be distinguished: Canning factories and drying factories. The majority of other processors is engaged in canning. Most canning factories produce juice (77%), pickles (50%), tomato paste (50%), and jams (40%). The production period is limited to 5 or 6 months, according to the harvest period of different crops

(Figure 7). Lack of storage capacity and working capital are the main constraints for expanding the production period. Utilisation rates are low, averaging about 40 percent. Production in recent years averaged only 40 mn litres. Small plants tend to have a higher utilisation rate than large plants. Profit margins are said to be low, reaching 5% or less.

Figure 7: Industrial Processing Period

	Months					
	5	6	7	8	9	10
Juice production						
Apricot	◄►	◄►				
Peach				◄►		
Apple				◄	►	
Tomato			◄	►		
Pear				◄	►	
Grape				◄	►	
Pickle production				◄	►	
Cucumber		◄	►			
Tomato		◄	►			
Drying			◄	►		
Onion					◄	►

Source: World Bank, 2005b.

3.65 Some factories have invested in vegetable drying facilities. Equipment is more expensive but the profitability in the drying sector is slightly higher than in the canning sector with gross margins being estimated at above 10%. Production is mainly exported. Fruit drying, being less profitable than vegetable drying, is mainly carried out by small-scale dryers. Most producers of apricots, grapes, plums, apples and berries are engaged in food drying. Dried foods can easily be transported, stored and sold at a later stage.

3.66 Raw material costs make up 40 to 70% of total costs. While some processors source raw material from their own production, most buy it from medium-sized and large farms and intermediaries. Prices offered by processors tend to be far (40 to 50%) below those in the market. Moreover, many processors are not paying cash but return canned products to the farmers, due to a shortage of working capital. As a result, many processors face difficulties in accessing a sufficient quantity of raw material. Farmers prefer to sell on the market or to intermediaries while processors tend to be the last choice. Only 15 to 20% of total horticulture production is processed.

3.67 Some processing factories, especially larger ones, have been taken over by their former managers. A second group of mainly smaller and medium-sized factories have been established or taken over by businessmen. Owners of processing enterprises tend to have good knowledge of production and other technical issues, but are less versed in management and marketing. This applies especially to the first group. Most factories operate with outdated equipment dating from the Soviet period and few investments have been carried out. As a result, processing efficiency has remained low.

3.68 All types of processors face liquidity constraints and difficulties in accessing suitable finance from banks. This further restricts their ability to upgrade their equipment. Those visited during the mission claimed that banks are bureaucratic and loan application procedures take too long. Moreover, long-term investment loans are rarely available and interest rates above 30% are considered too high, even for working capital loans.

3.69 ***Exports:*** It is estimated that around 20% of fresh and 80% of processed horticultural production are exported. Fresh and processed exports together account for 35 to 40% of the total output value of the sub-sector, generating about US$20 mn export revenue per year. This represents about 20% of the total value of agriculture exports. 95% of these exports go onto the Russian market, the rest into Kazakhstan and other CIS countries. Within the Russian market, the main focus is on the traditional markets in Moscow and St.Petersburg, while the closer and less competitive Siberian market is hardly targeted.

3.70 The total export value declined in the late '90s due to the financial crisis in Russia and has not yet recovered to previous levels. Moreover, the structure of export has changed: a notable trend is the increasing share of processed fruit and vegetables, accounting for almost 80% of the total value of fruit and vegetable exports.

3.71 The share of Tajik products in the Russian market has seriously decreased since independence. The country still holds an important share of about 20% of the market for dried fruit but has only a limited share of 3.5% of the market for juices and concentrates. It faces increasing competition from other Central Asian countries, Turkey, Brazil and European countries. Tajik fruits and concentrates compete in the mass-brand juice group, the lower quality market segment. Even though this market is expanding, competition is harsh. Tajikistan's neighbouring countries have successfully attracted foreign direct investment in their fruit and vegetable processing industries, enhancing their competitiveness.

3.72 The Russian market for fresh fruit is expanding rapidly but remains highly competitive. Tajikistan's geographic isolation and other non-tariff barriers to trade apply especially to exports of fresh fruit and vegetables. Almost all exports to Russia have to pass through Uzbekistan, which maintains a rigid trade regime with significant non-tariff barriers to trade. Major constraints are lengthy and expensive customs procedures and corruption. Customs procedures may take three to five days and bribes can double the cost of transport. These costs may add up to 50% of total transport costs. The government is currently negotiating with its neighbouring countries a "green corridor" for Tajik horticultural exports to Russia.

3.73 The structure of export marketing is slightly more integrated than domestic marketing. Juices and other products from the canning industry are either directly exported by the plants themselves or by so-called "business men". Over 90% of all exporters are small and only occasionally engaged in this business with one to three wagons or trucks per year. Less than 10% of all exporters have a larger scale of operations, sending more than 50 trucks or wagons per year. Export costs are high due to the multitude of small actors involved, the lack of coordination between producers and exporters, high unofficial payments and delays at customs. Most exporters have relatives in the importing countries, which facilitates establishing and maintaining flows of goods and information. Field observations during the mission revealed that international trade is often carried out through barter deals. For example, fruits and vegetables from Tajikistan are exchanged for manufactured goods such as motor vehicles, which are then brought back to Tajikistan.

3.74 A further important constraint on the competitiveness of processed horticultural products, both on domestic and export markets, is related to poor packaging and labelling. Only one processor has invested in a TetraPak line. The rest are using standard glass jars which are mainly produced domestically by one company (70%) or imported from Russia and other CIS countries (30%). Jars are often of a poor quality.

3.75 In sum, the huge potential of the horticultural sub-sector is far from being exploited. The numerous constraints at various levels could best be addressed through a value-chain approach aimed at better integrating and coordinating the various actors involved in production, marketing, processing and trade. The government has recognised the strategic importance of the horticultural sub-sector as reflected in a recent strategy document for doubling Tajikistan´s horticultural exports by 2010. The strategy focuses during the first stage on consolidating the shares of Tajik exports in traditional markets while fostering diversification into new markets during the second stage. The government's current effort to negotiate a "green corridor" is an important step for addressing a major stumbling block for exports.

3.76 Few donor-funded projects target the horticultural sector under a value chain approach. Two recent initiatives are the MEDA project "From Farms to Markets" funded by CIDA, and the USAID funded AG Fin Plus Project. Both projects operate in Soghd.

3.77 One foreign investor has recently made a large investment of about €8 mn to build a tomato processing factory close to Dushanbe. The plant is expected to start processing tomatoes in 2006 and has already entered into production contracts with producers in different districts in the RRS and Khatlon regions.

3.7 The Cattle and Dairy Sub-Sector

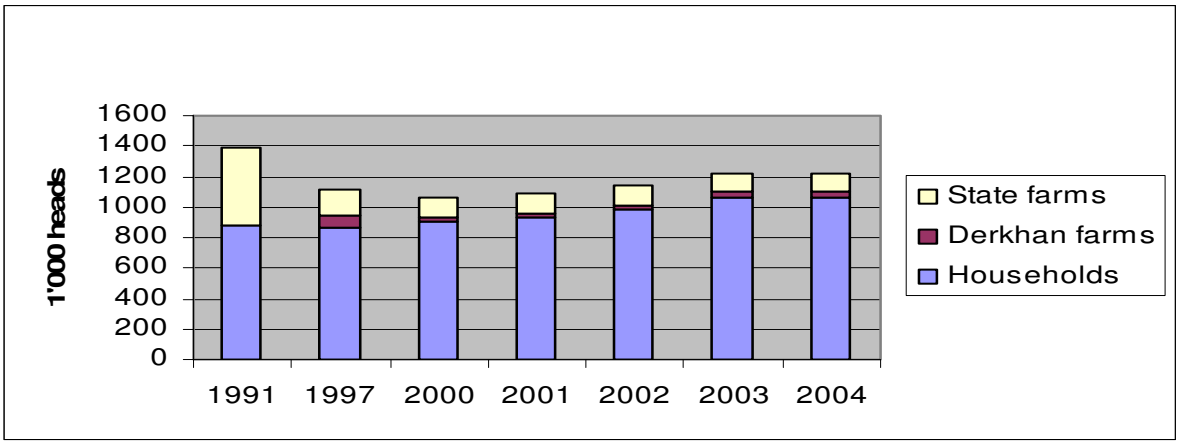
3.78 This section focuses on the cattle and dairy production and processing sub-sector, which accounts for the bulk of commercial livestock production in Tajikistan[1]. Pigs and rabbits are of no economic importance in Tajikistan, since they are not traditionally part of the local diet. Poultry production has declined sharply since independence and commercial production is limited. The same applies to small ruminants.

3.79 ***Structure of cattle production:*** Figure 8 shows trends in the structure of cattle ownership. Most of the increase in cattle numbers occurred in households which own the majority of cattle (87%). Only 3% are held by private Dekhan Farms and 10% on state farms[2].

[1] This section mainly draws on a recent assessment of livestock production in Tajikistan conducted by the World Bank (2005c), and on the World Bank's Agricultural Strategy for Tajikistan (World Bank, 2005a).

[2] Due to the absence of a livestock identification and recording system, statistics on livestock production are based on estimations. Accordingly, statistics on the number of livestock and the production of meat, milk and other livestock products differ considerably between national statistics, FAO statistics and the recent World Bank assessment.

Figure 8: Development of Cattle Ownership



Source: World Bank, 2005b, based on National Statistics of Tajikistan.

3.80 The privatisation of state cattle farms had to face problems related to the indivisibility of fixed assets such as buildings and milking equipment. This situation has favoured the establishment of Dekhan Farm Associations. Often, former managers or veterinarians of former state farms act as managers of the new enterprises based on Dekhan Farm Associations. Despite their specialisation and good knowledge of particular technical matters (such as cattle breeding, dairy production , etc.) few heads of restructured farms have sufficient skills and experience to perform as all-round managers of smaller and less specialised livestock farms. As a consequence, management levels have generally declined. Nevertheless, production and productivity levels are still higher on Dekhan and state farms than household plots. A recent World Bank assessment estimates the average milk production per cow per year at 1,200 litres on Dekhan and state farms, compared to 600 litres on household plots. Calving rates are also higher on Dekhan Farms and the lactation period lasts eight months compared to six months on household plots. Despite their low productivity, the bulk of the milk production—around 350 mn tons per year—comes from households, against 50 thousand tons on state and Dekhan Farms.

3.81 State and Dekhan Farms rarely hold more than 50 animals. Rural households used to keep one cow to meet their needs for milk and, in some cases, heifers and bulls were also kept. It is estimated that about half of all rural households own cattle. In many cases, animals serve as in-kind savings which can be sold if cash is needed. Due to the recent increase in the number of cattle, many households now have three to six cows and some bulls.

3.82 ***Main constraints on growth:*** Access to fodder and sufficient grazing land are the main constraints on expanding cattle production by households. Though the country has vast pasture resources, its use is characterised by over-grazing and the degradation of pasture lying close to villages. Fodder resources in other areas are underutilised[1]. While sheep, goats, small cattle and horses are usually brought to summer pastures in the higher areas from March/April until October, cows and other big cattle remain close to pastures near villages and are being fed with residues from cotton production such as oil cakes.

[1] According to World Bank (2005a) estimates, the current natural pasture herbage production exceeds the animal feeding requirements by a factor close to 15 times.

3.83 In connection with poor pasture management, the availability of winter fodder is the main factor limiting increased animal production. Fodder production has declined over the past 10 years and the hay output fell from around 1 mn tons in 1994/1995 to around 360,000 tons in 2004. Land on slopes that was previously used for grazing or fodder production has been converted into the production of wheat and other cereals.

3.84 Poor nutrition and management are the basis for poor performance and lead to the increased incidence of disease and high mortality rates. Animal reproductive and growth rate performances are just about as low as they could possibly be in the vast majority of animals. Animal losses are high and periodic outbreaks of animal diseases devastate rural livelihoods and pose significant threat to humans. The genetic resources have heavily deteriorated since independence and only a small proportion of good breeds are left.

3.85 ***Profitability:*** The recent World Bank livestock study (2005c) estimated the profitability of a dairy farm with 50 dairy cows based on the few field observations (Table 14).

Table 14: Profitability of a Cattle Farm with 50 Dairy Cows

Income / year	41'035 TJS
Total expenses	30'615 TJS
Net income	10'420 TJS

Source: World Bank, 2005b, based on field data collected in May / June 05.

3.86 The total annual income generated from the sale of milk, bulls and cows for beef amount to TJS41 thousand. Total expenses amounted to TJS30,600, with feeding and labour being the main cost items. This calculation does not include fixed costs such as taxes or the depreciation of buildings and machinery. It shows the limited profitability of cattle production under current management systems and productivity levels. Production costs per litre of milk are estimated at TJS0.21. The price for raw milk varies between TJS0.30 and 0.45 depending on season and region. Milk production is seasonal with high levels during the summer and low levels during the winter, following the availability of fodder.

3.87 In household-based cattle fattening systems, animals change ownership several times before reaching the butcher. Households with milking cows usually sell their calves at the age of seven months. These calves are often bought by better-off households who send them to natural pastures for one or two years. During this time, the only costs are the fees paid to the shepherd. At the age of about two years, the bulls are sold again for about TJS600 to 800 and are bought by households specialised in small-scale bull fattening. This activity is frequently financed by microfinance institutions. The final fattening period takes between six weeks and four months. Small loans of about TJS1000 cover the cost of the bull, transport and feeding. After about four months of fattening, the animal is sold for about double the purchase price. The net income per animal is estimated by the World Bank at TJS282. Residues from cotton production such as oil cakes are used for stall feeding. According to the World Bank study, bull fattening in the Dekhan and state farms is slightly more profitable than in the traditional household systems.

3.88 ***Dairy marketing:*** It is estimated that only 18% (72,000 tons) of the total milk produced is marketed. Though Dekhan and state farms account for only 12% of total milk production, 36% of the total marketed milk stems from these farms. Most of their production is sold to larger processors. Due to higher quantities per farm, higher producer prices are achieved.

An important share of milk production in households is used for calf feeding or home consumption. The remaining milk is processed by the household into sour yoghurt and other products. During the summer months, when milk production is high, households sometimes sell raw milk to local traders, consumers or processors. About 12% of total milk production (46,000 tons) is sold by households either in raw or processed form. All work related to dairy production, processing and marketing is usually carried out by women.

3.89 Table 15 shows the quantity and price of dairy products that can be produced from ten litres of milk. The total price achieved by the producers is TJS14 while the price on the market is about TJS19.5. Given the minimal cost of household processing, the latter is more profitable than the sale of raw milk. Milk and dairy products from households are mainly sold in the bazaars or through local traders. Even in the latter case, the marketing chain is short and producers receive about 75% of the retail price of sour yoghurt and 50% in the case of raw milk. Milk prices are highest in Dushanbe due to the high demand and limited possibility of maintaining cattle for milk and beef production in town.

Table 15: Traditional Dairy Products Produced from 10 Litres of Milk

Products from 10 litres of raw milk	Unit	Price to producer (TJS)	Price in market (TJS)
Sour cream	1 kg	3	4
Sour yoghurt	5 kg	1.5	2
Dry yoghurt	1 kg	3.5	5
Total revenue		14	19
Or			
Butter	0.75 kg	4	6
Sour yoghurt	5 kg	1,5	2
Dry yoghurt	1 kg	3.5	5
Total revenue		14	19.5

Source: World Bank, 2005b, based on field data collected in May / June 05.

3.90 ***Processing:*** Two groups of dairy processing plants can be distinguished: The first group consists of relatively large factories which are owned by the state or operated by private investors as joint stock companies. Processing equipment still dates back to Soviet times. Apart from the biggest plant in Dushanbe, there are few other industrial milk processors working during the entire year. Processing capacities range from 1,500 to 10,000 litres per day. Normally the bigger processing plants do not buy the milk from household farms. They have contracts with bigger Dehkan and State farms for a defined quantity of milk per day and send their vehicles to collect the milk. These cattle farms are mainly located near the main roads where access and transport can be assured year round. In some factories, the milk is inspected on arrival at the plant. If fat content is less than 3.6% a price reduction is foreseen. The payment is normally made twice a month.

3.91 The second group of dairy processors consists of semi-industrial plants with smaller capacities. These companies have been established in recent years, mostly in urban centres. They produce ice creams, cheese or traditional products as curd and sour cream. These plants often only operate during the summer months, when the availability of milk and electrical power is greater. They collect 200 to 500 litres of milk per day, either directly from producers or from traders. Delivered milk is not always of good quality and hygiene conditions are poor. This is exacerbated by poor hygiene conditions during processing which leads to end products of unstable quality. Despite these shortcomings, the recent World Bank study concludes that more specialised

companies, focussing on certain products such as ice-cream, seem to be more profitable than large companies producing a wide range of products (World Bank, 2005c).

3.92 Any type of industrial dairy processing has to the face problems or irregular water and power supply. Seasonality of milk production and poor raw product quality are further constraints. Processing equipment is outdated and hygiene conditions are low leading to the low quality of end products which cannot compete against imports. Shops and supermarkets sell a range of higher quality dairy imported products such as flavoured yogurt, “Holland” cheese and ice-cream, mainly imported from Russia.

3.93 The import of high-quality dairy products indicates some potential for import substitution, if the quality and reliability of milk production and processing can be improved. As in the case of the horticultural sub-sector, this would require an integrated approach addressing the entire value chain. Increased production of winter fodder and improved herd management would be a starting point to fully exploit the existing genetic potential of the animals, enhancing the profitability of primary production. Improved and more balanced fodder supply would increase milk production and reduce seasonality of milk supply. This would enhance the utilisation rate of processing equipment and thus the profitability of dairy processing. Moreover, dairy processing companies need to invest in new equipment in order to improve hygiene conditions and product quality. Price differentiation according to raw milk quality would create the incentive among producers to invest in enhanced production techniques. Access to working and investment loans could facilitate such a process.

4. THE FINANCIAL SYSTEM

4.1 Tajikistan has a two-tier banking system, which consists of 12 banks, 6 credit societies and 7 Non-Bank Financial Institutions (NBFIs). The National Bank of Tajikistan (NBT) was formed in 1991 and is governed by the "Law about the National Bank of the Republic of Tajikistan". In addition to fulfilling the usual monetary oversight duties, the NBT is in charge of the prudential regulation and supervision of the banking system, including commercial banks, Non-Bank Financial Institutions (NBFI) and Microfinance Organizations (MFOs). The banks that it supervises operate under the "Law about Banks and Banking Activity." No specific law on NBFIs yet exists. The latter are governed by Regulation No. 118 of the NBT: "About Credit Companies". The MFOs are governed by the Law on Microfinance Organizations which has been in force since April 2004 (view chapter 3.3)

4.2 ***The financial system remains shallow.*** Despite improved macro-economic stability in recent years, the financial system remains shallow. The monetisation of the economy measured as broad money to GDP is low, fluctuating at around 8% since 2000. Total deposits in the banking system only oscillated between 4 and 5% of GDP between 2000 and 2004. The low level of savings shows a limited confidence among the population towards the banking sector. Despite declining inflation and modest currency devaluations over the past three years, the ratio of foreign to domestic currency deposits has doubled from 1:1 to 2:1 in the same period[1]. This shows that there is still limited trust in the local currency, given that public savings have been wiped out twice by surprise devaluations[2]. The total loan portfolio of the banking system as a percentage of GDP remains low, at 14% in 2000, 19% in 2002, and 17% in 2004. However, statistics showing the total lending of the banking system are distorted by the huge amount of cotton debt, estimated at 60% of the total loan portfolio.

Table 16: Structure of Deposits, 2001–'05

Deposits outstanding, TJS (,000)					
Year	**2001**	**2002**	**2003**	**2004**	**Sept. 05**
Total deposits	102,277	147,416	242,453	291,609	370,997
As percent of GDP	4.04	4.38	5.10	4.74	6.88
In domestic currency	50,157	73,593	117,752	124,792	158,163
In foreign currency	52,120	73,822	124,701	166,817	212,834
By entities	91,945	129,086	166,689	183,029	244,862
By individuals	10,333	18,330	75,764	108,580	126,136

Source: NBT Statistical Bulletin September 05.

4.1 Progress in Prudential Regulation and Supervision

4.3 Considerable progress has been made in banking regulation and supervision in recent years. NBT has received considerable assistance since 2000 from IMF, World Bank and, more recently, USAID. Prudential regulations have been introduced and tightened and NBT's

[1] NBT Statistical Bulletin September 2005.

[2] First when the Russian Ruble was converted to the Tajikistan Ruble and second when the latter was replaced by the Somoni.

supervisory capacity has been strengthened. NBT staff have been trained in on- and off-site monitoring and on-site bank examination. International accounting standards were introduced in 1999 and at least the largest banks now mainly adhere to these standards.

4.4 Minimum capital requirements were designed to foster consolidation of the banking sector. In 2002, minimum capital requirements were set at US$1.5 mn for existing banks and eventually increased to US$5 mn[1] in January 2005. NBT has given a one-year waver to some of the smaller banks in order to meet this ratio. The ratio of liquid assets to liquid deposits has been reduced from 75% to 30% for banks fulfilling all prudential requirements and 50% for those banks failing on one or more criteria. Mandatory reserve requirements against deposits have been reduced from 18% to 12%[2]. Restrictions on bank branching and participation of foreign banks have been removed. The ratio of Liquid Assets to Total Assets (K2-2, previously determined at minimum of 25%) has been excluded from the economic norms to be observed by local credit institutions. A list with prudential regulations and financial ratio requirements can be found in Annex 1.

4.2 Structure and Performance of the Banking System

4.5 The tightening of prudential regulations and banking supervision has led to a considerable consolidation of the banking system in recent years. The number of banks declined from 33 in 2001 to 12 in 2005. In 2004, NBT withdrew the banking license from four banks, bringing the total number of banks since 1997 to 21 (IMF, 2005). Currently, 9 out of 12 banks fully meet NBT's prudential regulations. The remaining three banks will either be closed or restructured. Further consolidation of the banking sector can be expected.

4.6 The banking sector includes ten commercial banks, one Microfinance Bank and one branch of a foreign bank. The sector is now highly concentrated. End of 2004, Agroinvestbank (AIB), Oriyonbank, Tojiksodirotbank (TSOB) and Amonatbank held about 85% of total deposits and 75% of the outstanding loans of the banking system. Tojiksodiotbank and Oryonbank have received considerable financial and technical assistance from IFIs. Four banks are participating in the TMSEF. 6 banks have foreign shareholders.

Table 17: Core Banking Performance Indicators in 2004

Non performing loans	11% (Sept. 2004)
Return on assets	3.4% (Sept. 2004)
Return on equity	12% (Sept. 2004)

Source: IMF, 2005.

4.7 The purging of weak banks led to an improvement of portfolio quality and profitability of the banking sector. The ratio of Non-Performing Loans (NPL) declined from 32% in 2001 to 11% in September 2004. In September 2004, banks averaged a ROA of 3.4 %, a ROE of 12% and a ratio of total capital to total risk-weighed assets of 37.5% (IMF, 2005). After the recent increase in minimum capital requirements, banks have a strong equity base. In 2004,

[1] This applies to the four largest banks since January '05, while smaller banks and Amonat Bank had time to comply until January '06.

[2] As of March' 06.

capital adequacy and liquidity were already quite high, averaging 63% and 54% across the banking system, respectively. Liquidity even increased in 2005 (see Table 18).

Table 18: Bank Equity, Assets, Capital Adequacy, Liquidity as of 31 December 2005

Banks ranked by size of capital	Equity in US$ millions	Total Assets in US $ millions	Capital Adequacy (min.12%)	Liquidity (minimum 25%)
1.Orien Bank	15.7	75.6	100.71%	41.92%
2.Agroinvest	12.6	68.4	35%	65.52%
3.Tajprom	8.7	22.8	49.86%	95.11%
4.Tojiksodirot	7.87	35.27	28.26%	39.72%
5.Amonat	5.3	28.2	30.93%	46%
6.Tijorat	5.2	13.7	174.82%	203.91%
7.Eshata	5.03	13.2	59.61%	130.21%
8.First Microfinance	4.95	9.26	100.71%	116.64%
9. Sohibkor	4.75	8.88	59.02%	125.16%
10.TajikBahrain Invest	2.8	2.83	99.0%	50.3%
11. Kefolat	2.6	4.13	70.24%	42.18%
12. Olymp	1.4	1.8	122.82%	237.32%
Sector total	76.9	284.07		
Equity as % GDP	3.46%	-		
Assets as % GDP		12.78%		

4.8 It should also be noted that some analysts still question the effectiveness of bank supervision and the reliability of data gathered. Five of the large banks have been audited by international auditors and substantial corrections in loan classifications were necessary after the first audits. However, auditing firms stated that after initial learning, balance sheets of audited banks now represent fair value. It can be assumed that similar adjustments are required in the case of smaller banks (IMF, 2005). There are indications that loans are under-provisioned and it is estimated that the prudent level of provisioning would be around 15–20%.

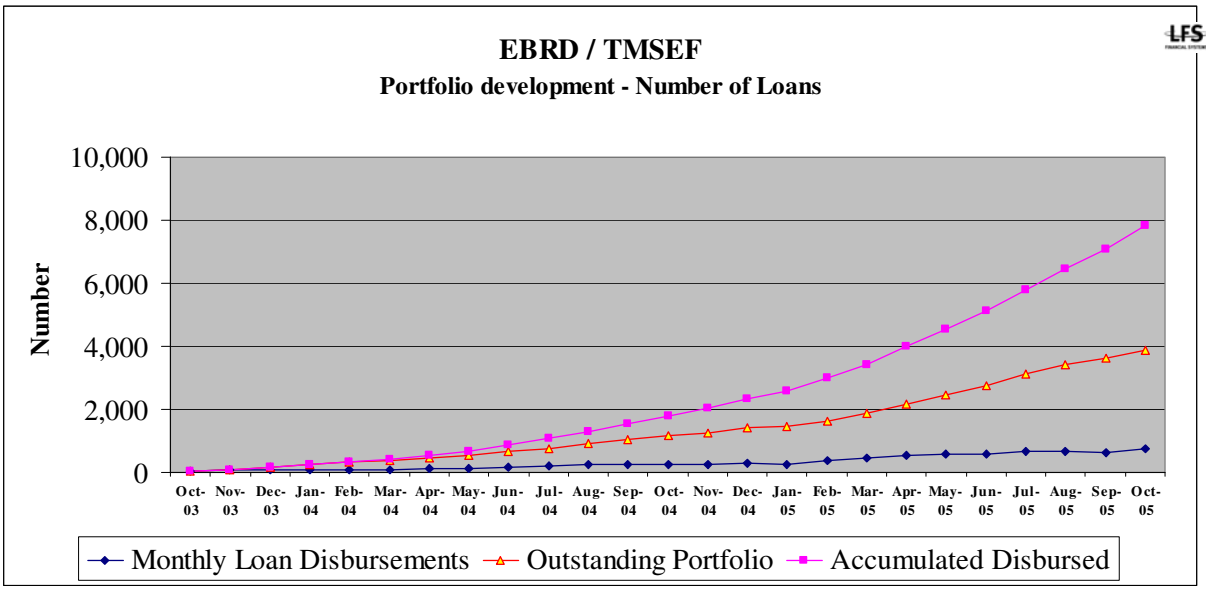
4.9 ***Weak lending skills persist.*** Despite the overall improvement of financial soundness indicators of banks, lending and deposit mobilisation are still poorly developed. Banks tend to base their lending decision primarily on collateral rather than on the profitability and projected cash flow of the enterprise and the character and skills of the entrepreneur. Though this has been addressed by the TMSEF through training in cash-flow based loan appraisal, these skills are not yet widely practised outside the MSE departments of the four partner banks. High collateral to loan ratios prevail, often in the range of 2:1. However, the legal and judiciary system in Tajikistan is less than compatible with the practice of registering collateral and its foreclosure and sale by the lender.

4.10 Until recently, commercial banks' activities were mainly focussed on short-term trade financing, often to insiders and related parties, and foreign exchange transactions. In 2004, loan books varied between 43–74% of banks' total assets (EBRD, 2004) and interest income only contributed 23% to banks' gross earnings (IMF, 2005). However, bank lending has been expanding and portfolio quality has improved. As a result the proportion of interest income from total income has tended to increase, especially in case of the larger banks, exceeding 50% in some

cases. Though large loans above US$100,000 still dominate the loan portfolio of most banks in volume terms, the number of smaller loans has expanded considerably. The TMSEF has contributed to this trend. The average loan sizes in the portfolio of the top three banks (by equity) are low, ranging between US$60,000 in TSOB and Tajprombank, down to US$10,000 in OrionBank. Other banks tend to have lower average loan sizes.

4.11 The success of the Tajikistan Micro and Small Enterprise Finance Facility (TMSEF) demonstrates that a sizeable market exists for loans in the micro-, small and medium enterprise segments. The facility started its operations in October 2003, focussing on institution building in selected partner banks and the delivery of efficient and sustainable financial products to Micro- and Small Enterprises (MSE). Partner banks had to fund initial portfolio growth out of their own resources while EBRD and other international partners[1] provided technical assistance.

Figure 9: Growth of the TMSEF Loan Portfolio



Source: EBRD, 2005.

4.12 Loan agreements were first signed with Bank Eshkata (US$1 mn), followed by Tojiksodirotbank (TSOB), TajProm bank and, most recently, with Agroinvestbank (AIB) (US$2 mn each). The TA component assists the four banks in establishing MSE lending departments, developing client-oriented loan products and training loan officers in cash-flow based credit technologies. Five expatriate long-term advisors seconded by national advisors and short-term consultants are assisting the four banks. The first TA contract, worth US$2 mn, expired in September 2005 and has been extended for another 2 years.

[1] DFID, together with USAID and the EU, has provided funding for the technical assistance component of the TMSEF. SECO has provided a risk sharing guarantee covering half of EBRD loans to partner banks. IFC has provided co-financing to Bank Eshkata (US$1 mn). TMSEF will also benefit from TA funds EBRD's Early Transition Fund from September '05.

4.13 The financial benchmarks set for the facility include: i) average loan sizes below US$5,000; ii) more than 50% of customers to be new clients; iii) maintaining an arrears rate above 30 days below 3%. Since October 2003, the TMSEF portfolio has grown steadily. Accumulated disbursements exceeded US$20 mn and total outstanding loan volume amounted to US$8.3 mn by the end of December 2005. Participating banks can offer MSE loans to local entrepreneurs for sums of from US$50 to US$30,000. More than four-fifths of loans made so far are for less than US$5,000, and more than a third are for less than US$1,000. The average size of the loans disbursed is US$2,700 and arrears rates are below 0.2%. The facility is now operating through 24 branches.

Table 19: Outstanding Loans by Maturities, 2004

Loans disbursed by maturity	Amount (TJS ,000)
Total in domestic currency	789,142
Total in domestic currency less than 1 year	279,782
Total in domestic currency more than 1 year	11,169
Total in foreign currency	498,191
Total in foreign currency less than 1 year	495,574
Total in foreign currency more than 1 year	2,620

Source: NBT Statistical Bulletin September 05.

4.14 Bank lending is characterised by the virtual absence of term lending with maturities above one year. During 2004, total disbursed loans amounted to TJS789.1 mn, of which TJS290 mn were extended in domestic currency and TJS498 mn in foreign currency. The volume of loans with maturities above one year in domestic and foreign currency totalled 11 mn and 2.6 mn, respectively (NBT, 2005). A cursory look at the term structure of deposits suggests that asset liability mismatches seem not be the prime reason for the virtual absence of term loans. Though of a total of TJS291 mn outstanding deposits in 2004 only 51 mn were term deposits of more than one year, this was still three times the volume of term loans[1]. Moreover, of a total bank capital of TJS166 mn in 2004, only TJS70 mn were invested in fixed assets, leaving further scope for term lending. Double digit inflation rates until the end of 2003 and increasing interest rates coupled with weak lending skills and an inappropriate legal and institutional framework for secured lending seem to be more binding constraints.

4.15 Table 20 shows that average interest rates have generally been stable or tended to decline while deposit interest rates have been more erratic and have tended to rise. However, the level of loan rates shown in Table 20 is skewed because the reported rates incorporate the low rates (mostly less than 20% per annum) applied to most of the cotton loan portfolio. Loan rates for other types of credit are much higher. This is reflected in Table 23 (p. 46): The increase in lending rates after 2003 is attributable to the removal of the cotton loan portfolio from Agroinvestbank's books and its subsequent transfer to KreditInvest.

[1] No data is available on the maturity structure of term loans and term deposits.

Table 20: Average Interest Rates—Deposits and Loans, Banking System, 2000–2003

	Average Interest Rates (a)	Deposits	Loans	Av. spread
2000	1st quarter	1.97	26.99	25.02
	2nd quarter	1.97	22.19	20.22
	3rd quarter	1.32	23.29	21.97
	4th quarter	1.16	24.04	22.88
2001	1st quarter	1.83	22.52	20.69
	2nd quarter	2.07	20.34	18.27
	3rd quarter	5.12	20.88	15.76
	4th quarter	5.42	21.48	16.06
2002	1st quarter	9.97	14.26	4.29
	2nd quarter	8.48	14.03	5.55
	3rd quarter	8.17	14.45	6.28
	4th quarter	10.23	14.04	3.81
2003	1st quarter	8.79	14.67	5.88
	2nd quarter	11.16	17.83	6.67
	3rd quarter	7.44	17.67	10.23
	4th quarter	11.31	16.62	5.31

a) Both local and foreign currency for deposits (demand, savings and time) and loans, quarterly averages for 2000, 2001, and 2003 percent per annum.
Source: ADB, 2004c, based on NBT data.

4.16 Deposits play an increasingly important role as a funding source in the banking system. A closer look at the structure of deposits reveals that about three-quarters of all deposits are from entities and only 25% from individual depositors. Entities hold two-thirds of their deposits in foreign currency and in the case of individuals this share is even higher. While entities mainly hold demand deposits, around 80% from individuals are time deposits, of which an important share has maturities above one year.

Table 21: Types of Deposits by Currency, September 2005

	Domestic currency	Foreign currency
Total by entities	144,453	183,660
Demand deposit	65,670	97,153
Savings deposit	153	301
Time deposit	33,045	8,026
Total by individuals	24,191	116,151
Demand deposit	401	2,930
Savings deposit	5,928	15,250
Time deposit	17,843	95,037

Source: NBT, Statistical Bulletin, September 2005.

4.17 In 2004, average deposit rates were positive in real terms at 9.6% against an average inflation rate of 5.7%. Table 22 shows that deposit interest rates are higher in domestic currency than in foreign currency. It also reveals the considerable spread between demand and time deposits, especially in domestic currency. While demand deposits carry almost no interest and interest rates paid on savings deposits were negative in real terms at 3–6%, time deposits had an average rate of 17.5% in domestic currency (from 13–21%, depending on maturity) and 13.6%

(from 10–14%) in foreign currency in 2004. In September 2005, interest rates on time deposits (> 1 year) were 23% in domestic currency and 17% in foreign currency.

Table 22: Interest Rates on Deposits by Currency and Maturity, 2002–2005

Interest rates on deposits, in %					
Year	**2002**	**2003**	**2004**	**2005 (a)**	**Sep '05**
Average all deposits	11.17	10.43	9.64	10.26	7.23
Consumer price index (increase in %)	14.50	13.70	5.70	5.40	n.a.
Deposit interest rates in domestic currency					
Demand deposits	0.08	0.47	0.53	0.56	0.58
Savings deposits	5.28	6.62	3.67	3.52	3.9
Time deposits more than a year	24.09	19.13	21.65	23.34	23.82
In foreign currency					
Demand deposits	0	0.01	0	0.05	0
Savings deposits	3.53	6.13	4.93	3.36	2.23
Time deposits more than a year	16.11	13.25	13.6	14.06	14.24

a) First nine months.
Source: NBT, Statistical Bulletin, September 2005.

4.18 Lending rates are shown in Table 22. During the first nine months of 2005, lending rates averaged 23.7%, ranging from 23–28% in domestic currency and 19.6–29% in foreign currency, depending on maturity.

Table 23: Interest Rates on Loans by Currency and Maturity, 2002–2005

Interest rates on loans, in %					
Year	**2002**	**2003**	**2004**	**2005 (a)**	**Sep '05**
Average weighted interest rate	14.19	16.10	20.74	23.63	24.8
In domestic currency	14.21	16.13	21.1	23.63	24.8
Less than 1 month	13.57	15.09	25.57	27.90	28.06
6–12 months	25.14	23.14	25.64	28.62	31.09
More than 12 months	28.18	23.78	20.18	24.06	21.86
In foreign currency	16.96	15.3	19.97	19.67	17.81
Less than 1 month	28.2	25.23	25.58	22.72	23.57
6–12 months	25.15	23.96	24.65	26.47	24.99
More than 12 months	1.54	23.96	25.18	28.96	31.78

a) First nine months.
Source: NBT, Statistical Bulletin, September 2005.

4.19 NBT refinance rate to banks has tended to decline along with the inflation rate over the past few years, declining to 9% in September 2005. The inter-banking market is poorly developed. The limited availability of government securities is the main constraint on the further development of a liquid inter-bank market.

Taxes on Interest Earned on Deposits, Loans, and on Bank Profits

4.20 There is a 12% withholding tax at source on interest earned on bank deposits. However, interest earned by AmonatBank depositors is exempt from this tax, something that gives the state-owned bank an unfair advantage over private sector banks. Interest collected by banks on loans is exempt from the 20% VAT. On bank profits the corporate tax rate is 25%, recently lowered from 40%.

4.21 ***Collateral.*** The legal and institutional framework in Tajikistan does not provide an enabling environment for secured lending. However, some recent initiatives are likely to improve the situation.

4.22 The Tajik "Law on Pledge of Rights in Moveable Property" was adopted with effect from 1 March 2005. The bringing into effect of the article of this law which governs pledge registration has been delayed for one year in order to allow for the creation of a registry for security interests in moveable property, based on a notice filing system. Such a computerised system has been created at the Ministry of Justice with support from the USAID Commercial Law Project, managed by ARD/Checchi, (training, software and hardware) and will become legally effective on 1 March 2006.

4.23 The situation regarding the registration of security interests in motor vehicles is still ambiguous. The old pledge law (which still governs registration of security interests in immoveable property) allows registration of security interests in motor vehicles in the Hypoteka (registry for immoveable property security interests), though they would otherwise fall under the new moveable property pledge law. There are also several provisions in the Civil Code governing pledge (Articles 359–387), many of which need to be abrogated. The government is being urged by the USAID Commercial Law Project to correct these ambiguities in the law and establish clearly that security interests in motor vehicles are to be filed in the registry system for moveable property.

4.24 Land itself is not included in the definition of "immoveable property" set forth in Article 142 of the Civil Code. Security interests in immoveable property are registered in the Hypoteka (registry for immoveable property security interests) at the Ministry of Justice. The land associated with a building ("small holding") passes simultaneously by operation of law (Article 27 of the State Land Code) when the property right in the building passes.

4.25 Rights in rural/agricultural land are to be registered by the State Land Committee (SLC). At Khukumat and Jamoat level, local government has the authority to grant and revoke land use rights (including household plots and "Presidential Land"). Land use rights cannot be sold or mortgaged, but can be leased. The leases do not, however, convey the necessary tenure security to create long-term investment incentives or to serve as collateral.

4.26 The main collateral currently available to banks in rural areas is buildings (mainly houses/apartments). The use of moveable assets including farm machinery and livestock becomes much more feasible with the new moveable property pledge law and registry system. Due to the concerted pressure from donors on the government to strengthen land rights and improve the related legislation, there is a good chance that the use of land as collateral might become feasible within the next few years.

4.3 Non-Bank Financial Institutions

4.27 Organisations designated as Non-Bank Financial Institutions (NBFIs) are regulated by the NBT. There are only four NBFIs, of which two are formally (and rather artificially) classified as Credit Unions (CUs). Attempts to organise true CUs have been stymied by the minimum capital requirement for new CUs of US$100,000, and other impediments. There is now legal and regulatory framework for member-owned financial institutions.

4.28 Two of the NBFIs, Ganjina and FONAN, were formerly operating as commercial banks but did not meet minimum capital requirements for banks. Rather than being liquidated, they were converted into NBFIs and given the designation of "Credit Unions." Another CU, Ziroat, was formed in September 2003 as a result of the joint World Bank and ACDI/VOCA Farm Privatisation Program (ADB, 2004c).

4.29 The WB Farm Privatisation Program has created 6 NBFIs registered at the Ministry of Justice and in the process of being licensed by NBT. Loans are in the range of US$500 to 1,000 at interest rates of 34% per annum.

4.30 ***Creditinvest.*** This NBFI is a cotton debt recovery company and does not perform financial intermediation. Its dual purposes are: i) to serve as the medium through which foreign cotton financing flows in and out of the country; and ii) to attempt to collect as much of the outstanding cotton debt as possible. As such, it is exempt from prudential regulations applicable to similar institutions.

4.31 Creditinvest (CI) is the product of splitting the previously privatised Agro Invest Bank (AIB) into two entities. The split of Creditinvest from AgroinvestBank became official on 1 January 2004. This split is an intermediate step reflecting the government's wish to free itself from cotton financing risk by passing it on to the private sector. Creditinvest is charged with administering and collecting the existing credit portfolio of the cotton industry that by January 2004 had cumulated to at least US$150 mn (the exact figure is unknown), an amount that far exceeds the total capital of the commercial banking system.

4.32 Although Creditinvest is not a bank, its separation essentially follows the "good bank/bad bank" practice adopted at various times in various places around the world by regulators faced with a badly performing government banking institution. This action does not make the debt disappear from Tajikistan's financial sector, but it does permit a clearer focus on collection by specialists and frees up bank loan officers from the distraction of mixing on-going business with intensive debt collection activities.

4.33 The second duty of Creditinvest is to oversee the flow of funds representing the US$65 mn annual need for cotton financing. Foreign investors linked with their Tajikistan agents finance the cotton crop each year, normally at 12% annual interest (see chapter 2.5).

4.4 Microfinance Organisations

4.34 The microfinance market in Tajikistan is small, but has experienced strong growth rates in recent years. The total micro-loan portfolio was estimated at US$30 mn at the end of 2005. Main suppliers of microcredit are the four commercial banks participating in the TMSEF and the Microfinance Organisations (MFOs), who are members of the National Microfinance

Association (AMFOT). Microcredit providers further include the First Microfinance Bank, the UNDP-funded Community Development Program, the Mountain Areas Development Programmes funded by the Aga Khan Foundation, public agencies[1]. Table 24 gives an overview of the structure of the market.

Table 24: Structure of the Microfinance Market

Supplier of Funds	Loan Portfolio (US$ million)	Share in Total Loan Portfolio (%)
Commercial Banks	8,308,480	27.7
MFOs (AMFOT members)	8,154,785	27.2
First Microfinance Bank	3,000,000	10.0
UNDP Community Development Funds	2,700,000	9.0
Mountain Areas Development Programme	700,000	2.3
Public Agencies	5,200,000	17.3
Other	2,000,000	6.7
Total	30,000,000	100

4.35 All MFOs are micro-credit NGOs which evolved as part of donor-funded multi-sectoral emergency relief and development programmes. Most have started with in-kind lending, e.g. through the provision of agricultural inputs such as improved seeds. Credit was complemented by non-financial services such as extension and Business Development Services (BDS). Under the new Microfinance Law, NGOs and development programmes have to separate their financing from other activities and transfer their microcredit portfolio into separate entities to be licensed and supervised by NBT.

4.36 Most NGO MFOs are members of the Association of Microfinance Organisations of Tajikistan (AMFOT), established in 2001. Its 22 members (March 2006) had a total outstanding portfolio of slightly above US$8 mn (December 2005) and almost 30,000 active clients (view table 25) . AMFOT now represents about 80% of the NGO MFO sector. It has actively lobbied for a secure legal basis for its members. Since the passing of the microfinance law, it has been the main interlocutor of NBT and the government in supporting and improving the implementation of the law. AMFOT has received financial and technical support from GTZ including an expatriate long-term advisor. It is further supported by the Central Asian Microfinance Alliance (CAMFA), based in Tashkent[2].

4.37 The MFO sector is composed of a few relatively large institutions[3], a handful of medium-sized institutions and a huge number of very small institutions. IMON, the largest MFO, has a loan portfolio of about US$4.3 mn, around half of the total outstanding of the sector. The

[1] This includes funds from the Ministry of Labour and Social Protection, the Agency for Monopoly Control, a fund for supporting dekhan farmers, etc.

[2] CAMFA is a USAID-funded four-year project (2002–2006) with the objective of strengthening the lending community in Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan. Led by ACDI VOCA, further members include FINCA and the Microfinance Centre (MFC) in Poland. In Tajikistan, it has been supporting individual MFOs such as the MicroLoan Fund Asti and the FINCA village banks.

[3] Even the largest MFOs by portfolio size and number of borrowers are at best medium-sized by international standards.

four largest MFOs account for two-thirds of the total MFO portfolio. Only 8 MFOs have more than 1,000 active borrowers. The remainder consists of a huge number of small and very small organisations, mostly located in remote rural areas. They include hundreds of Village Organisations created by the Agha Khan Development Network under its Mountain Areas Development Programme (MSDSP), mainly in GBAO and in the Rasht Valley. Moreover, several hundred Jamoat Revolving Funds have been created by UNDP.

Table 25: Loan Portfolio and Number of Active Clients of AMFOT Members

	Name	Total number of active clients	Size of active credit portfolio
1	IMON	10,222	3,781,859
2	Microinvest	3,355	930,934
3	Oxus	5,190	732,215
4	Finca Tajikistan	1,963	728,867
5	Humo	2,653	486,017
6	Imconiat	1,700	344,714
7	Borshud	662	272,511
8	Gender and Development	185	160,66
9	Millenium	269	163,83
10	Jovid	536	156,015
11	Hakik	772	107,915
12	Asti	529	100,31
13	TASPR	557	48,705
14	Development Fund	42	36,8
15	Zar	130	33,31
16	Mehrangez	435	25,26
17	Megnatobod	110	20,984
18	Madina	127	20,359
19	Somit	36	16,48
20	TOTAL	29,038	7,454,158

4.38 The microfinance sector in Tajikistan lacks any sort of standardised reporting system on core financial performance and outreach indicators, as existent in other countries and spearheaded by the Microfinance Information Exchange (MIX) at the global level. Further, a culture of transparency and information sharing is poorly developed. The non-availability of reliable and comparable data limits the scope for any comparative analysis of the financial performance in terms of outreach, efficiency, portfolio quality and productivity, either within the Tajik MFO sector or against regional benchmarks. Improving reporting and transparency are important tasks for AMFOT and would merit more support from donors. The available data on the structure of the sector, including the volume of outstanding loans, number of borrowers and staff is presented in annex 4.

4.39 The recent Microfinance Law has overcome the legal ambiguity under which MFOs were operating before. The preparation of this law was supported by several donors including USAID, IFC and ADB. MFOs have to register under one of the following three charters:

- *Micro-lending Foundations* are non-commercial micro-lending organisations which are only allowed to extend loans, leasing and cash transactions. No minimum capital requirements apply.

- *Micro-lending Organisations* are commercially oriented and are only allowed to extend loans. In contrast to Micro-lending Foundations, they are owned by shareholders who decided about the use of the profit. A minimum capital of US$10,000 is required.

- *Micro-lending Deposit Organisations* are commercially oriented and can extend loans and take deposits from legal and natural persons. A minimum capital of US$100,000 is required.

4.40 All three institutional types are to be registered at the Ministry of Justice and licensed and supervised by NBT. So far, 20 NGOs have been licensed as Micro-lending Foundations, one as a Micro-lending Organisation and none as a Micro-lending Deposit Organisation.

4.41 Several issues have arisen during the initial implementation of the microfinance law. Firstly, the transformation into regulated MFO has been quite time consuming (4–5 months on average). During this period, the MFOs had to suspend lending. Secondly, all types of MFOs, including the non-profit foundation, now have to pay taxes (15–25%), while smaller foundations were tax exempt before. Thirdly, MFOs have to provide bi-weekly reports to NBT which is excessive, especially for non-deposit-taking institutions.

4.42 Many of these issues are likely to be transitory and will be resolved as NBT gains more experience in dealing with MFOs and becomes more familiar with the idiosyncrasies of MFO operations compared with those of commercial banks. The rationale behind forcing hundreds of small credit-only MFOs into formalisation and regular reporting to NBT still remains questionable. A likely outcome is that many small and highly dispersed grass-root MFOs in remote rural areas might be driven into illegality or forced out of business, with few benefits for the stability of the financial system, but high costs for their clients.

4.43 There is likely to be considerable consolidation of the microfinance sector in the next few years. The Microfinance law has created the basis for MFOs to access a wider range of funding sources, including deposits and commercial borrowings, thereby removing a major stumbling block to their growth. Commercial borrowing in particular will be primarily accessible for larger MFOs. As of now, only a few MFOs have been able to negotiate funding on commercial terms, mainly from development banks and projects. EBRD provided a loan of US$1 mn to IMON in July 2005 under its Framework Facility for non-bank MFOs in Early Transition Countries (ETC)[1]. A second loan is currently being negotiated with Micro Invest (MDTM). GTZ has provided three small loans with a total amount of US$100,000 to medium-sized MFOs. These loans are provided through the First Microfinance Bank. CAMFA has refinanced two MFOs with smaller loan amounts through FRONTIERS. Unfortunately, none of the institutions has yet applied for a license from the Microcredit Deposit Organisation. The potential of gdeposit mobilisation remains untapped.

[1] The framework facility provides loans to well established Non-Bank Microfinance Organisations (MFOs) in the aggregate amount of US$10 mn, of which US%3 mn will be in parallel loans. US$1.5 mn (EUR1.15 mn) will be provided by Taiwan ICDF through FIISF – the remainder has been requested from SECO. IMON has been the first MFO benefiting from the facility.

4.5 Leasing

4.44 The leasing industry is still in its infancy. A leasing law was passed in April 2003 with assistance of the IFC under the first phase of its Central Asia Leasing Facility (CALF) project. The law sets out a framework for financial leasing and related accounting following international standards. Companies, Banks and MFOs can engage in financial leasing. Lease payments made by the lessee are not subject to VAT taxes. The lessor, however, must pay the 20% VAT on the importation of technical equipment.

4.45 Only two banks, Tojiksoditobank and AIB, have engaged in leasing so far. Tojiksodirotbank founded a leasing company called Nahust Leasing in December 2004. AIB handles leasing out of its Credit Department. First Microfinance Bank has indicated its interest in developing leasing operations. IMON is the only MFO which has started micro-leasing. According to the IFC, only 7 leasing operations have been carried out so far by banks and 4–5 by IMON. The banks have been leasing trucks, equipment and building for construction and agro-processing companies and the value of transaction tends to be large, between US$100,000 and US$600,000. Lease terms are between 3 to 5 years and a downpayment of 30–40% of the value of the equipment is required. Interest rates are in the range of 22–24% per annum. According to NBT, total outstanding leases in September amounted to TJS6.6 mn (approx. US$2 mn) in foreign currency and TJS746,000 (approx. US$230,000) in domestic currency. IMON´s leases are around US$2,500 with lease periods of 1.5 years.

4.46 The slow increase of the number of leasing operations is attributable to delays in enacting regulations regarding accounting and taxation by NBT and the Ministry of Finance, as well as to the lack of familiarity of banks and clients with this new financing instrument. The second phase of the Central Asia Leasing Facility Project will assist the three above-mentioned banks in developing and improving leasing procedures. Ten training sessions will be conducted by international leasing experts and practitioners, mainly from Russia and other CIS countries. Topics include corporate governance, accounting, risk management, asset liability management, audit, MIS, lease policy and procedures, credit analysis, marketing and human resource management. CALF will also provide long-term finance to participating banks for expanding their leasing operations once satisfactory operational procedures have been put in place by the banks. The project was started in August 2005 and will have a duration of three years.

4.6 Bank Lending to Agriculture

4.47 According to NBT, agriculture accounts for about 60% of the total outstanding loan portfolio in 2005. However, it is estimated that 90% of this will go to the cotton sector. While most of the cotton debt is with Credit Invest[1], commercial banks have some limited lending to non-indebted cotton farmers, estimated at US$12 mn in 2004 (ADB, 2004a). Banks seem to focus on larger farms, mainly on collective Dekhan Farms. They further lend to input dealers (futurists). Under the TMSEF, by the end of 2005, only 0.25% of the cumulative disbursement went to the farming sector. A further 1.8% was dedicated to food and beverage processing.

[1] Although banking agencies are often small offices with minimal staffing, they can carry out all types of operations delegated to them by the branch they are reporting to.

4.48 The limited branch network of most banks in rural areas is an important constraint on further engagement in financial intermediation in rural areas. As can be seen in Table 26, only the state-owned Amonat Bank and the formerly state-owned AIB have a considerable branch network in rural areas. This branch network dates back to Soviet times and was established not for reasons of profitability but for political reasons and for the need to develop a network of locations for the disbursal funds. Amonat Bank continues to serve as the fiscal agent for the government. It has 5 regional branches, 69 agencies and 497 small banking outlets, each reporting the higher level.

4.49 OrionBank is the third largest bank in terms of branch outreach.

Table 26: Branch Network of Commercial Banks

	Number of branches	Number of offices[1]
Banks		
OJSC Agroinvestbank	61	-
OJSC Oriyonbank	30	-
SSB RT Amonatbonk	5	69
OJSC Tojiksodirotbank	9	-
CJSC TJSC IBRD Tajprombank	12	-
OJSC Sohibkorbank	1	-
CJSC Kafolatbank	3	-
OJSC Bank Eskhata	8	-
Branch of Tijorat Bank of IRI in Dushanbe	-	-
CJSC Bank Olymp	1	-
CJSC JTB–INVESTBANK	-	-
CJSC First MicroFinancing Bank	2	-

Source: NBT, 2006.

4.50 Only two banks have a significant exposure in lending to agricultural production and processing: AgroInvest Bank and TojiksodirotBank (TSOB). The latter bank joined the TMSEF in 2004 , while the former was included only in March 2005.

4.51 ***Agroinvestbank.*** AIB was a branch of the USSR Agroprombank, which dominated the provision of finance to the agricultural sector prior to the collapse of the Soviet Union. In 1992, AIB was established as a joint-stock company. Since the 1990s, it was charged with channelling most of the cotton lending from external sources which led to its bankruptcy in 2003. Following the restructuring and the transfer of the cotton loan portfolio to CreditInvest, AIB was recapitalised and has started operating as a commercial bank. The bank envisages becoming a fully diversified, universal bank offering a wide range of products to corporate, SME/MSE and retail clients. Emphasis is placed on the expansion of existing and the introduction of new products, including diversified lending activities, leasing, factoring, smart cards and internet banking, trade financing, etc. The loan portfolio shall be further diversified with an increased focus on SME/MSE lending, both in urban and rural areas.

[1] Offices do not require a license from NBT and are allowed to handle cash transactions including extending loans and taking deposits.

4.52 AIB has four regional branches and 56 local branches in most of the country's districts. However, headquarters maintains a strict control over the branches´ activities and lending authority is only granted for small loans up to US$10,000 for the best-performing branches. This centralisation severely constrains agile and quick handling of lending decisions in rural branches.

4.53 By the end of 2005, AIB was the second largest bank by equity (US$12.6 mn) and total assets (US$68.4 mn), after OrionBank. Three-quarters of the loan portfolio is with private companies while private entrepreneurs account for less than 20% and individuals (consumer loans) for less than 1%. Although more than half the number of outstanding loans were below US$1,000, their volume only reached 1% of total loan volume outstanding. Half of the total volume consists of large loans above US$100,000. Only one-third of the outstanding volume had maturities beyond 6 months, with the maximum loan term being 3 years. About 30% of its loan portfolio is in agribusiness, including primary production and processing[1].

4.54 The importance of deposits as a source of funding has grown. Deposits now account for more than half of total funds. In line with the overall trends in the banking system, three-quarters of deposits are held in US$ and about half are term deposits. The bulk of the deposits are mobilised in Dushanbe. AIB has yet to exploit its comparative advantage in rural deposit mobilisation through its extended branch network.

4.55 Field visits to AIB´s regional branches in Kurgan Tyube, Khujand and Kuliab provided some insights into its agricultural lending operations. It also revealed some differences in the approach towards rural and agricultural lending and the structure of the portfolio in different regions.

4.56 In ***Kurgan Tyube***, of a total loan portfolio of TJS5.5 mn, only US$26,000 and TJS42,000 have been lent to DFs. The branch managers mentioned limited availability and high costs of funds as the main constraint on expanding lending to farmers. AIB charges interest rates of between 24–30%, while loans from cotton investors are available at 12–18% per annum. The branch has estimated a demand of at least US$55,000 for vegetables, 300,000 for livestock[2] and 125,000 for small processing. These figures are based on an assessment of loan applications the branch has received from clients. It further conceived a considerable demand from non-indebted cotton farmers — primarily at the lower end of collective DFs and the upper end of individual DFs — seeking an alternative to funding offered by cotton investors.

4.57 AIB considers that it would need to offer loans at considerably lower interest rates to be able to enter the farming market. It is argued that due to the longer maturities (above one year in the case of cotton and cattle financing), financing costs would be prohibitive for an important share of potential clients. The loan demand of farmers and processors appears to be quite interest rate sensitive.

[1] If not indicated otherwise, data in this paragraph refer to end of 2004.

[2] Several DFs in the region are currently investing in cattle production as a secondary activity. AIB would restrict funding to those farmers who already have herds of 10 –12 animals and want to expand this activity. Loans would have a maturity of 12 months with monthly interest payments and balloon payment of principal at the end of the maturity.

4.58 In the ***Sogd*** region, through its 14 branches AIB has a total outstanding portfolio of US$9 mn, about half of which was lent for agricultural production and processing. US$3 mn was lent to 52 borrowers in the cotton sub-sector, including medium-sized and large farms, investors and processors. Another US$1 mn was lent to fruit and vegetable canning factories and a glass jar factory (jars used by the fruit and vegetable canning industry). About US$500,000 was lent to farmers producing vegetables, grain and cattle. AIB also started financing beekeepers, who have been awarded in London for the high quality of their honey. All loans have maturities of less than one year. Demand for term loans is currently limited due to the high interest rates. AIB plans to introduce term loans in 2006 at lower interest rates.

4.59 The regional branch in Kuliab oversees 7 branches. 13% of its total portfolio is in the agricultural sector. The TMSEF has started operating in October 2005. Even prior to the start of the TMSEF, the regional branch manager had taken a proactive stance towards agricultural lending. The main focus has been on smaller farmers (individual and family Dekhan farmers) who are perceived to be more reliable and less risky clients. Loans up to USD 1,000 are higher secured by personal guarantees and do not require tangible collateral. Guarantees from three physical persons or one legal person are required. This practice was introduced two years ago in the Kuliab regional branch and has recently become a general policy of AIB. According to the branch manager, other banks do not offer this service.

4.60 The branch also provides loans to persons who want to migrate to Russia using their family members as guarantors, the loan is then repaid through remittances. Interest rates for agriculture loans are at 2.5% per month for agriculture clients and 3% for non agriculture clients. The branch manager has welcomed the innovations brought by the TMSEF. He further expressed his interest in receiving additional funding and technical assistance for expanding the agriculture loan portfolio of the branch.

4.61 ***Tojiksodirotbank.*** The now TSOB was established in 1990 as the Tajik branch of Vnehekonombank[1] of the USSR. In 1992, it received a general license for banking operations by NBT. The Head Office of TSOB is located in Dushanbe. It has 9 branches in the main cities of Tajikistan and covers all regions[2]. It is the fourth largest bank by equity and the third largest by assets. It joined TMSEF in 2004.

4.62 TSOB has been lending to agriculture for several years, with a focus on cotton farmers. The share of agricultural lending is about 25% of the total outstanding loan portfolio of the bank[3]. The bulk of this lending goes to large farmers and farm associations, as well as cotton investors and gins (80–90%). Only a small percentage is lent to smaller farms and for non-cotton purposes such as fruit production and horticulture. The large loans are operated from headquarters and the smaller loans from the branches. The interest rate for agricultural lending is about 18% p.a., against up to 35% for non-agricultural loans.

[1] Bank specialised in import and export financing.

[2] 2 branches are located in Dushanbe, 2 in Khujand, 4 in Khatlon and 1 in GBAO.

[3] Different figures on the agricultural loan portfolio of TSOB have been obtained. According to ADB (2004a), total lending to 20 individual cotton farmers and 20 farm associations amounted to TJS19 mn. According to data received during an FAO Mission in July 2005, the total outstanding loan portfolio in 2004 was TJS18 mn of which 6 mn was lent to the rural economy.

4.63 The bank only lends to farmers with no outstanding debts to cotton investors. Collateral can be cotton stocks, buildings, machinery, vehicles, land certificates, gold, claims on salaries, or third-party guarantees. In the case of cotton lending, TSOB uses staggered loan disbursements. Sales proceeds are deposited in a blocked account and can only be withdrawn subject to bank approval. TSOB had no arrears with agricultural loans, either in the small or in the large loan segment. It signalled interest in expanding its rural lending, including equipment leasing through its subsidiary company, but mentioned shortage of funding as a prime constraint. A further challenge to this bank if it wants to enhance its agricultural lending is its limited branch network.

4.7 MFO Lending to Agriculture

4.64 Due to their background, several MFOs have been operating in rural areas for several years. This has allowed them to accumulate experience and knowledge on the farming sector and related activities. Overall, MFO loans are still characterised by a limited degree of product differentiation (mainly group lending) and high operational costs. Group loans remain the dominant delivery mechanism and are characterised by rigid terms and conditions. Clients have to go through several lending cycles in order to access loan sizes of US$500–1,000. Average loan sizes are estimated at around US$300–400. However, there is a trend towards the introduction of individual lending with larger amounts and flexible repayment schedules, following a strong demand for such products. Individual and group loans are quite costly, with monthly interest rates of 3.5% flat and above, plus application fees. Despite their high costs, both types of loans still meet a strong demand. Expansion of the loan portfolio at this stage seems to be more limited by lack of funds rather than by market size or prices. Larger loan volumes and increased competition are likely to enhance product differentiation and reduce costs.

4.65 Several MFOs have already been financing crop and livestock production and others are developing such products. According to AMFOT data, 36% of the entire outstanding MFO portfolio was used for livestock production, with cattle fattening being the dominant activity. 4.2% of the portfolio was lent for crop production, mainly greenhouse vegetable production. Most clients are small scale producers on household plots. MFOs with a significant share of agricultural and livestock lending are ACTED, Humo, MDTM–ACDI/VOCA (now Microinvest), Development Fund, Sitorai Najot (now Imkoniat), Oriyon (now Borshud), Millenium, JOVID , Mehrangez and ASTI[1]. Moreover, several MFOs have recently introduced agricultural lending products (e.g., IMON, FINCA), often along with the development of individual loans.

4.66 Three MFOs were visited during the mission. Their main features will be briefly summarised, with a view to their agricultural lending activities:

4.67 ***IMON*** received its license as a micro-lending foundation in 2005. It has taken over the microcredit programme of the National Association of Business Women, which was started in 1999 with funding and (ongoing) technical assistance from Mercy Corps (with USAID Funding). Apart from its Head Office located in Khujand, it has three branch offices located in Shaartuz (Khatlon), Dushanbe and Khujand, and 14 field offices. Since July 2005, it has been operating as a Microloan Fund. It has about 10,000 active clients. The total outstanding loan portfolio as of December 2005 was around US$3.5 mn. Portfolio quality is excellent; with a Portfolio at Risk

[1] Information provided by AMFOT.

over 30 days of 0.75%. Most of its clients are in trade, about 7% in services and production and about 20% in agriculture. 60% of its clients are women.

4.68 Agricultural lending was started in 2004 with CIDA funding in the context of a project aimed at strengthening vegetable production and processing in four districts in the Sogd region. The project has three components: i) Establishment of an extension service for small vegetable producers; ii) Business development and financing for small and medium-sized vegetable processors; iii) Provision of loan finance to vegetable growers. The first two components are implemented by MEDA, while IMON has been contracted to implement the third component. For this purpose, it has received CAN$1 mn (about US$625,000) of which US$350,000 has already been on lent (see annex 5 for further details).

4.69 IMON has adjusted its existing individual and group loans to better meet the requirements of vegetable producers. Agricultural loans have grace periods of up to three months and maturities of group loans have been extended from 6 months to 1 year. Individual loans are available for amounts between TJS1,500 and 12,000, with maturities up to 18 months and a grace period of up to 3 months. A monthly interest rate of 3.5% flat plus 1.5 % commission fee are charged. Loans are collateralised with buildings, machinery, trees (value of the timber) and by guarantors. The total allocation for individual loans under the CIDA project is US$170,000, of which 73,000 has been disbursed to 27 borrowers. Average loan sizes were about US$3,000. The main items financed include irrigation pumps, greenhouses and working capital for vegetable growers and processors. More than two-thirds of the funds will be disbursed through the group lending modality. The groups are composed of 4–12 members and serve only as a joint liability mechanism substituting for tangible collateral. Loans to group members are based on an assessment of the repayment capacity of each member. Amounts between TJS900–4,500 can be borrowed for a period of 4–12 months.

4.70 IMON's branch in Dushanbe plans to finance about 200 ha of tomato production on small Dehkan Farms. It has been approached by a foreign direct investor who has opened a large tomato processing company close to Dushanbe and plans to start operations in 2006. The company (GEHA Food, see annex 4) will purchase a certain quantity of tomatoes at a guaranteed price subject to the fulfilment of certain quality requirements. IMON has hired an agronomist who will help design the loan product and supervise lending operations.

4.71 As mentioned in Chapter 3.4, IMON has also started implementing a micro-leasing product. However, so far only non-agricultural equipment has been financed. A major issue is the availability of farm equipment which has to be imported on a one-by-one basis.

4.72 It should be noted that medium-sized MFOs operating in only a few rural districts often have considerable experience in rural lending. They are also able to draw on non-financial services which continue to be provided by the NGO or programme from which the MFO emerged. Subject to an in-depth financial analysis and institutional assessment, these MFOs should in principle be eligible to participate in a rural finance facility and access TA and funding for product development. This would stimulate competition and contribute to enhancing the diversity of lending products and delivery mechanism. At the current stage, it is not yet clear which MFOs will be able to offer the most appropriate products to rural and farmer clients. Even in the case of future mergers of some smaller MFOs or the incorporation of their portfolio into larger organisations, innovative and successful approaches are likely to be preserved and upscaled.

4.8 SogdAgroServe—A Farmer-Owned Service Provider

4.73 The SogdAgroServe (SAS) was formed in April 2002 as a Joint Stock Company under the Farmer Ownership Model (FOM) Project, funded by IFC and SECO. The purpose was to develop an alternative to the dependency of farmers from cotton investors, by creating a farmer-owned company that provided financial and non-financial services to cotton growers. SAS was established with 365 farmer shareholders on 14 Dekhan Farms which together had about 1,200 hectares of land with land use certificates.[1] SAS underwent expansion in 2004 and its membership grew to 1085 shareholders on close to 130 Dehkan Farms, with a total of approximately 2400 ha. The average farm size is between 10 and 15 ha with the largest farm having approx. 300 ha.

4.74 SAS has three core business areas:

- Finance; seasonal and term finance to shareholders (and non-shareholders).
- Cotton marketing service for client and non-client cotton.
- Retailing of inputs (fertilizers, seeds, machinery, etc.)

4.75 SAS provides working capital loans in cash and in kind to both shareholders and non-shareholders. It is reported to be one of the first lenders to lend to Dekhan Farms and to grant cash rather than 100% input loans. Loans range in size from US$1,000 to 50,000 with an average of about US$8,000. Shareholders are charged a 14% annual interest rate and non-shareholders are charged 16%. The seasonal loan portfolio makes up 80% of the loan portfolio, and these loans are made for terms of 14 months on average. Loans for crops other than cotton carry an interest rate of 20% due to the higher risks, given that SAS does not control the marketing. All loans are fully collateralised. Borrowers must show that they have land use certificates, are registered in the tax office, and are reasonably up-to-date in paying their taxes, charges for irrigation water, and contributions to the pension fund.

4.76 During the 2003 and 2003 crop seasons, a total of 70 loans were made to more than 1,000 farmers to an amount totalling US$550,000. As of 31 March 2004, 77 loans were outstanding to a sum of just under US$220,000. For 2002, 2003 all of the principal and interest payments were paid before or at the due date. The marketing assistance that SAS provides to farmers is considered essential to ensuring good loan recovery.

4.77 However, the financial situation deteriorated in 2004 due to bad whether conditions and price declines of cotton which undermined the profitability of this crop. From a total outstanding loan portfolio of US$1.2 mn, about US$300,000 is in arrears. The high portfolio risk concentration—most borrowers reside in two rayons in Sogd and their income stems mainly from cotton—makes SAS vulnerable to co-variant risks affecting the profitability of cotton. In response to the poor farmer repayment potential discovered in 2004, clients were more thoroughly assessed, hence loan size was reduced. Poor weather conditions also prevailed in 2005, resulting in yields similar to the previous year. With tighter control on loans combined with a moderate increase in the price of cotton , it is now predicted that all 2005 loans will be repaid with around

[1] There are on average 1.35 families working on each hectare and six people per family, so the 1,200 hectares provides benefits to almost 10,000 people.

50% of the outstanding loans from 2004 in the process of being restructured into medium-term loans.

4.78 In view of the current lack of profitability of cotton production for most of its borrowers, SAS has intensified its attempts to foster diversification into other crops. Crops planned for 2006 were sun dried tomatoes and export to Turkey, soybeans for meal and oil, local and export market, peanuts for export into the confectionary market and either sweet or baby corn, depending on outcomes of market research. Annex 2 provides additional information on SAS.

5. THE POTENTIAL MARKET FOR RURAL FINANCE

5.1 An Undercapitalised Agricultural Sector

5.1 Previous chapters of this report have revealed that agricultural production and processing in Tajikistan are severely undercapitalised. Farm-level investments such as the replanting of orchards and vineyard or the replacement of defunct irrigation systems and farm machinery are being deferred. Low investment levels and insufficient availability of working capital lead to declining and more erratic yields and a further deterioration of the asset base and profitability of farms. Processing enterprises continue to operate with outdated equipment from Soviet times which contributes to low processing efficiency and inability to meet quality standards required by export markets and the upper end of the domestic market. Given the virtual absence of term finance, investment levels of farmers and processors are mainly determined by their ability to mobilise their own funds from retained profits, personal savings or informal sources of finance. Interviews with Dekhan Farmers during the mission have revealed that in several cases profits from non-farm business such as import or export trading are being invested in Dekhan Farms. Even access to working capital finance for non-cotton production is limited to a minority of farms.

5.2 In view of the above, the ADB cotton debt assessment (2004b) has estimated total investment needs of US$700 mn over the next seven years, equivalent to US$100 mn per annum, in order to sustain agricultural sector growth rates of 6–7%[1]. In addition, working capital requirements are estimated at US$90 mn or beyond.

5.2 Potential and Challenges for Expanding Rural Finance

5.3 The extent to which this latent demand can be served by banks and microfinance institutions and the pace of the expansion of rural lending depend on three factors:

1) The profitability of the rural economy and particularly agricultural production and processing.
2) The existence of an enabling legal, economic and policy environment for financial intermediation and growth of the rural economy.
3) The ability of financial institutions to fulfil their financial intermediation function efficiently by developing client-oriented products and services which allow them to mobilise domestic resources and make them available to worthwhile investment purposes at low cost.

5.4 Previous chapters of this report have discussed the potential of agricultural production and processing, but also the considerable challenges faced by farmers and entrepreneurs. Well-designed financial services can facilitate economic diversification and better integration of different actors in a sub-sector and value chain. However, finance cannot lead such processes

[1] Of this amount, US$500 mn would be for irrigation infrastructure, US$60 mn for farm machinery, US$45 mn for the cotton processing industry and US$20 mn for food processing industries. Working capital requirements are estimated at US$75 – 80 mn for cotton and at least US$15 mn for non-cotton crops on irrigated land.

which have to be induced by entrepreneurial initiative and nurtured by an enabling institutional and policy environment. Important policy constrains continue to hamper the profitability and diversification of the rural economy. The most notable ones discussed in this report, include:

- The cotton debt and the underlying policy distortions in the cotton sector.
- The limited outcomes of land reform and farm restructuring in creating broad-based and secure access to land, improved operational structures of farms and a land market.
- The legal and institutional impediments to secured transactions and, in particular, to the use of rural land as loan collateral

5.5 These issues have been recognised by the government and are being addressed through various donor-supported initiatives and multi-stakeholder working groups. The pace and outcome of these efforts are difficult to predict, but progress in land and cotton debt issues is likely over the next three years.

5.6 Other structural factors which inhibit the development of agricultural production and processing relate to the poor integration of sub-sectors and related value chains, as highlighted in the cases of fruit and vegetable and dairy production. Farmers have difficulties in accessing the right quality and quantity of inputs. Processors do not have a reliable and constant supply of raw material of the needed quality. The flow of information and the coordination of different actors leave room for improvement. Better access to financial services could facilitate the consolidation and integration of production, input supply, marketing, processing and export of agricultural products. However, in view of the current profitability levels, such finance needs to be prescribed carefully.

5.7 A third type of constraint is related to the uncertainties about the size of the domestic market for agricultural products and the potential for export diversification. The domestic market is limited by low per capita income and a low urbanisation rate. Local markets in rural areas are often thin due to the widespread access of rural households to small amounts of land for food production. Moreover, geographic isolation and poor transport links, especially during the winter months, hamper increased market integration. Improved access to traditional and new export markets as well as import substitution in the high-value segment of the domestic market requires consolidated effort between the different actors in the value chains and the government. The latter could support such processes through an improved business environment, e.g. by streamlining licensing requirements and removing other non-tariff barriers to trade.

5.3 Mismatches between Current Supply and Demand

5.8 Despite these structural constraints and caveats, demand for rural loan and deposit products far outstrips current supply. According to AMFOT data, the current total outstanding loan portfolio of microfinance institutions amounts to US$8.2 mn, lent to about 84,000 borrowers (January 2006). If we add another 15,000 active borrowers from non-AMFOT MFOs[1], the total number of active clients of MFOs would be around 100,000.

[1] Figure based on an estimate conducted by ADB in April 2005.

5.9 Perhaps half of these loans have been extended to rural households and some small Dekhan Farmers for agriculture-related purposes. This has to be viewed against a total of 700,000 household plots and 27,000 Dekhan Farmers. Bank loans mainly finance larger and collective DFs and processors. Small and medium-sized DFs are probably the group with least access to loans. Moreover, the demand from producers on household plots or rented land seems far from being saturated, in view of their high share in agricultural output and strong production growth.

5.10 Gaps between supply and demand should not only be assessed in quantitative terms. An equally important dimension is the quality of the existing financial services and their ability to respond to the main features of the demand. The previous chapter revealed that banks' lending skills remain poorly developed, despite some laudable exceptions and notable progress made under the TMSEF in urban areas. Moreover, products and procedures are not well adapted to the needs of farmers and other small and medium enterprises in rural areas. Most loans are short-term and carry high interest rates. These product features do not match well with the longer production cycles in agriculture and the longer amortisation periods for invested funds. Quick loan application procedures and timely disbursement of funds are critical for seasonal lending to agriculture with its dependence on weather conditions and the cropping calendar. Delays quickly turn into losses for farmers if inputs or machinery services cannot be purchased in time. However, banks' loan application and approval procedures are slow and bureaucratic. Heavy reliance on conventional loan collateral, formal records and business plans are cumbersome and often hard to fulfil by rural MSEs. Distance to bank branches further increases borrower transaction costs.

5.11 These shortcomings prevent many farmers and other rural entrepreneurs from applying for bank loans. Moreover, banks have a poor image among rural clients. There is a widespread perception that banks are not interested in dealing with rural clients. The red tape involved in the loan application procedures is another frequently voiced concern. According to the IFC SME business environment survey, about 25% of the respondents who received banks loans indicated that they had to make unofficial payments to bank officials, averaging about 12% of the loan amount (IFC, 2003). Of those who did not receive a loan, insufficient collateral was the main reason followed by refusal to make unofficial payments and a poor business plan.

5.12 MFOs have a better image and are able to process loan applications faster. However, most of their loans are small, short-term and subject to rigid group lending procedures. These products allow financing of small-scale agricultural activities with quick turnover, such as cattle fattening, vegetable production and home processing, but are less suitable for activities with longer gestation periods and higher capital requirements.

5.13 Convenient savings products are another under-developed area of rural finance. The widespread investment of rural households in animals indicates a considerable demand for deposit facilities. In rural areas, deposit mobilisation is constrained by the limited branch network of most banks. Restrictions on cash withdrawals combined with periodic cash shortages of banks further reduce the attractiveness of bank deposits to clients. MFO are still credit-only institutions, since none of them has yet obtained the legal permission to mobilise deposits. Savings-based institutions such as credit unions do not exist, due to the absence of a suitable legal framework.

5.4 Types and Size of Demand

5.14 In view of the above, there are two main market segments. The first segment consists of rural households, small DFs with less than 5 ha and farmers operating on rented land. Potential

clients in this market segment are typically engaged in intensive production of high value crops such as greenhouse vegetables, cattle fattening, potatoes, dairy products, as well as niche market products like honey, herbs, etc. It further includes small processors and traders. Loan sizes for this market segment range from between US$300 and US$5,000.

5.15 Most of the current supply from MFOs consists of very small loans provided under group lending approaches, with maximum loan sizes below US$1,000. Recent trends show a strong demand for slightly larger individual loans in the range of US$1,000 to 3,000. Despite their limited product features and high costs, demand for all types of MFO loans is high and recent growth rates indicate that the market is far from being saturated. Additional absorption capacity over the next few years could easily be in the range of US$2–3 mn. The portfolio should, however, be spread geographically in order to avoid saturation of local markets for agricultural products such as cattle and vegetables. For the same reason, product innovations will be key to sustaining portfolio growth and quality.

5.16 In the medium term, increases in agricultural production will mainly come from Dekhan Farms of different sizes. These farms have access to most land and water resources and are in a better position to realise economies of scale in production through mechanisation and to adopt modern production and farm management techniques. Larger Dekhan Farms mainly rely on hired labour and capital. Due to these characteristics, they should be addressed as rural SMEs rather than as typical microfinance clients.

5.17 An estimation of the size of the potential loan market for small and medium-sized Dekhan Farms (5–100 ha) is more challenging, due to the diversity of this farming segment. Farms vary in terms of their organisational and management structures, resource endowments, production technologies and related cost and yield structures as well as in regard to cropping patterns, freedom of decision making and market access. However, a broad approximation of the possible type and size of the loan demand of small and medium-sized DFs will be made based on some indicative data on production cost and gross margins from different crops presented in Table 24. This data has been collected by SogdAgroServe (SAS) based on records from member farms in two districts in Sogd[1]. Most farms are medium-sized DFs with 5–30 ha.

[1] For more detailed crop budgets, please refer to Annex 3.

Table 27: Costs and Gross Margins of Different Crops in Sogd

Crop	Total income (US$ / ha)	Variable costs (US$ / ha)a	Short-term gross margin (US$ / ha)	Fixed costs (US$ / ha) b	Long-term gross margin (US$ / ha)
Cotton	630	528	102	191	- 89
Wheat	530	189	341	111	230
Corn	1200	450	750	157	593
Baby Corn	1490	1006	485	129	356
Soybean	1278	428	850	221	629
Peanuts	1576	524	1052	256	796
Lucerne	1040	447	593	197	396
Tomatoes	1320	1029	291	183	108
Sunflowers	375	304	71	129	- 58
Onions	2100	1724	376	157	219
Potatoes	2500	1198	1302	197	1105
Rice	1006	762	244	111	133

a) Includes costs for farm machinery, seeds, fertilizers, pesticides, transport, as well as costs of seasonal labour for these tasks.

b) Includes taxes, costs of permanent labour allocated to these tasks.

5.18 The table shows that direct production costs are in the range of US$200 and 600 per hectare for most cereals, oilseeds and cotton[1]. Direct production costs for onions, tomatoes and baby corn are considerably higher at between US$1,000 and 1,800 per hectare. Indirect costs such as agricultural taxes, permanent labour and depreciation add another US$200–300 per hectare[2]. Long-term gross margins are positive for most crops ranging from US$100–1,000 under given yield and price assumptions. These figures might vary considerably depending on local production conditions such as the variation of yields and prices for in- and outputs, both across regions and over time. The attached crop budgets include a sensitivity analysis showing profitability under different price and yield scenarios (see Annex 3).

5.19 Production costs also depend on local and farm-specific conditions such as production technologies, cropping intensities, ownership of farm machinery and family labour. Larger farms tend to have better access to farm machinery while smaller farms can rely to a larger degree on family labour for carrying our farm operations. Under a conservative scenario, we may assume an average demand for working capital of between US$300 and 500 per hectare, which might be applicable to a wide range of farms and local conditions. Under these assumptions, the approximate loan sizes can be estimated for different farm sizes. A 10 ha farm would require loans of between US$3,000 to 5,000 and a 20 ha farm would demand US$6,000 to 10,000 for working capital purposes. In the case of vegetable production, loan amounts per hectare would be higher, but few farmers will manage to grow more than a few hectares.

5.20 Moreover, a rough estimate of the demand for investment loans can be made based on the repayment capacity of the long-term gross margin. Assuming a long-term gross margin (net of labour costs and taxes) of US$200 per ha, a free cash flow of US$140 per ha (70% of the long-term gross margin) could be used for loan repayment. This cash flow would allow a farmer with

[1] The ADB cotton debt study found working capital requirement of US$270 – 450 per ha, based on an in debt review of 25 cotton farms in five districts in 2004.

[2] The costs of permanent labour are allocated based on the approximate time allocation amongst different crops.

10 ha to repay a term loan of US$2,917 with interest of 25% per year on a declining basis over three years. This is a conservative assumption, based on a relatively low gross margin and does not take into consideration any increase in profitability resulting from the investment. Table 24 shows that long-term gross margins can be considerably higher for some crops. However, due to the limited information on the market sizes of these crops and their capacity to absorb incremental production, a conservative approach seems appropriate.

5.21 Estimations of the size of the potential market in the Dekhan Farmer segment can be little more than very rough "guesstimates", given the absence of reliable data on even the most fundamental parameters such as the number of different types of DFs, their size distribution and endowment with irrigated land. Moreover, it is difficult to assess the capacity of output markets to absorb additional produce without a serious decline in prices.

5.22 Nevertheless, a broad estimate will be made based on data available and some basic assumptions. According to latest data available from the State Land Committee, the 27,000 Dekhan Farms collectively account for 60% of the total agricultural land. However, in order to reduce production risk, we may focus on farmers with irrigated land. In absence of disaggregate data, we assume that DFs also account for 60% of the irrigated land, equivalent to approximately 309,000 ha. Extrapolating 2003 data on the proportion between collective and individual DFs, we assume that about one-third of this land, approx. 100,000 ha, is managed by smaller DFs with fewer than 50 ha.

5.23 In view of the structural constraints discussed above, we assume that approximately 10% of these farmers might be are profitable and creditworthy enough to take working capital loans for about 10,000 ha of irrigated land. In the case of loan sizes of between US$300–500 per ha, the total demand for working capital loans would be in the range of US$3 and 5 mn. In addition, there would be a demand of US$3 mn for 3-year investment loans based on the above assumptions. This figure does not include the potential loan demand for livestock, processing or non-farm related purposes.

6. DESIGN FEATURES OF A RURAL FINANCE FACILITY

6.1 General Design Features

6.1 In view of the structure of supply and demand for loans, it is proposed that a Rural Finance Facility (RFF) should operate through two different windows. The first window (Window A) would operate through selected commercial banks as an expansion of the existing TMSEF. The second window (Window B) would operate through microfinance institutions with presence in rural areas and a proven track record in lending to agriculture and related activities.

6.2 The focus of Window A would be on support to banks in developing lending products targeted at the small and medium-sized farming segment (5–50 ha), as well as to other rural small and medium enterprises, engaged in marketing, processing and input supply. Loan sizes would be primarily in the range of US$5,000–20,000, but some larger loans might also be offered, as banks gain experience in non-cotton agro-lending. Based on experience with the TMSEF, some banks may also be willing and able to offer smaller loans to customers located in proximity to their branches, preferably in peri-urban and densely populated rural areas. Larger loans to agro-processors would fit into the planned increase of the maximum loan sizes eligible under the TMSEF from US$30,000 to 100,000.

6.3 Window B would support MFOs in expanding their existing lending operations to the micro and small loan segment of between US$300 and 5,000. The prime focus would be on the introduction and up-scaling of larger individual loans with longer maturities for working and investment capital purposes. Moreover, product innovations which allow clients to finance new activities, other than cattle fattening and vegetable production, should also be supported.

6.4 This loan-size range overlaps with the lower end of the TMSEF loans to urban customers. However, the bulk of existing customers are retail traders located in proximity to bank branches. Due to their limited branch network in rural areas, most banks will have difficulty in reaching out to a similar client segment in rural areas. The main exception is AIB with its extensive branch network through which the bank has presence in almost every district of the country. Given their existing outreach in rural areas and experience in lending to farm related activities, MFOs have a comparative advantage for expanding loans to small-scale producers, including producers on household plots and small DFs.. Interviews and field visits conducted during the mission also suggest that banks need to change their mentality regarding rural customers. Agricultural lending is still mainly perceived as lending to cotton growers and processors. Moreover, larger farms and legal entities are the preferred clientele of banks.

6.5 If the RFF could foster competition between banks and MFOs in the loan segment between US$1,000 and 5,000, this would stimulate product innovation and contribute to reducing costs to clients.

6.2 Key Product Features

6.6 ***Short term loans*** are demanded for a variety of purposes such as the purchase of seeds and fertilizers, fodder, fuel, or the payment of labour or machinery hiring services. They may also be used to store produce after harvest for selling later at higher prices, or the purchase of inputs when prices are low. Core product design features include quick and un-bureaucratic

access, especially for repeat borrowers, and maximum flexibility in terms of collateral, repayment schedules and maturities. While the former two features are already well developed under the present TMSEF approach to urban customers, the latter two features require some adjustments.

6.7 As has been highlighted throughout this report, almost all rural enterprises exhibit strong seasonality. This is obvious in the case of primary crop production but also applies to livestock production due to the limited availability of winter fodder. Agro-processing depends on the availability of raw material, while trade of agricultural products and inputs is linked to the cropping calendar. The demand for other products and services of the rural economy also depends to a significant extent on the purchasing power generated by seasonal economic activities.

6.8 A second feature consists of the longer economic cycles of agriculture-related activities and the slower circulation of capital, e.g. in comparison to trade or manufacturing. Several farming activities such as the production of grains, fodder crops, oilseeds, potatoes, cotton, grapes, orchards or cattle fattening have gestation periods of between 4 and 12 months and more.

6.9 The design of rural lending products has to be adjusted to the ***seasonality of cash flow and gestation periods.*** The demand for loans and the repayment capacity of rural clients depends to a large extent on a close match between the repayment schedule of the loans and the cash flow of the borrower. This may require grace periods, irregular repayment frequencies or amounts due, which implies a departure from the principle of equal monthly instalments currently practised under the TMSEF. Obviously, such flexibility has to be traded off carefully against moral hazard risks. It definitely increases the complexity of lending operations and liquidity management. In the case of larger loans with longer maturities, e.g. for cotton production, disbursements might be staggered according to cash needs along the cropping cycle.

6.10 Farmers and processors expressed a strong demand for term loans in order to renew or upgrade their equipment and productive infrastructure. Increasing the supply of ***term loans*** should definitely be an objective of the RFF. The prospect of getting access to term loans subject to timely repayment of seasonal loans enhances the repayment incentive of borrowers and strengthens the bank-customer relationship. However, in view of the limited experience of banks and MFOs in providing such loans, a gradual approach is recommended. Banks should first master seasonal lending to the above-mentioned target segment and MFOs would need to become fully acquainted with individual lending and larger loan sizes. Once products and procedures are well developed and a critical mass of reliable clients has been established, maturities can be lengthened.

6.11 The feasibility of providing term loans will also depend on the further improvement of the legal and institutional framework for secured lending. The new pledge law and registry for moveable assets are important steps in this direction. Leasing may overcome some of the constraints related to conventional loan collateral due to the ease in repossession and sale of leased items. Leasing should be further developed under the new facility. This should be implemented in close collaboration with the IFC leasing project which supports two of the TMSEF partner banks. The RFF could complement the training activities envisaged by the IFC project by focussing on the design and introduction of agro-leasing products for farmers and processors. Moreover, MFOs could be supported in the development of micro-leasing products. This may also require collaboration with importers and suppliers in order to ensure the availability of suitable machinery and equipment for the target clientele, as well as after-sales services.

6.12 As mentioned above, the availability of suitable savings products for rural households is very limited. With the exception of Amonat bank, 80–90% of bank deposits are mobilised in urban areas. Experiences of the MSDSP programme of the Aga Khan Foundation in GBAO indicate a demand for deposits even in very poor rural areas. Rural deposits are not only a much needed financial service for the rural population and an additional source of funds for banks. They also strengthen the bank to customer relationship and allow banks to obtain information on the client´s cash flow. As mentioned above, the limited branch network of most banks is a serious constraint on deposit mobilisation in rural areas. Therefore, the initial focus should be on AIB. The RFF could provide technical assistance to banks for developing rural savings products. This could include the development of product innovations such as savings-cum-loan products for financing investments in housing, farm assets, etc.

6.13 Interviews with farmers and banks revealed that the loan demand from DF and agro-processors is quite sensitive to interest rates. This needs to be taken into account in the pricing of rural loan products. Risks and transaction costs of rural and agricultural lending are generally high. However, current spreads in the banking system suggest that there is still room for reducing interest rates through enhanced operational efficiency and competition. The same applies to the micro-finance sector where current rates are high due to the small scale of operation, inefficiencies and limited competition, especially in rural areas.

6.14 There might also be some scope for reducing interest rates on cost grounds, due to the longer maturities and larger amounts of agriculture-related loans which lower the transaction costs per unit lent. Some banks, e.g. TSOB, already price their farm loans lower than their other loans.

6.3 Delivery Mechanisms

6.15 Under Window A, the RFF could be delivered within the framework of the TMSEF through a combination of technical assistance (TA) and long-term funding. Due to the strong equity position of at least three TMSEF partner banks, there is some scope for additional re-financing. The exact resource envelope remains to be determined.

6.16 AIB would be the prime candidate for a down-scaling project in rural areas. Apart from its branch network and experience in agricultural financing, the bank has expressed a strong interest in expanding its rural lending with a focus on small and medium-sized farms. However, in order to encourage competition, the rural finance facility should also operate through other TMSEF partner banks or even be open to other interested banks.

6.17 Due to the specific features of the rural economy and the higher complexities of rural lending and the other proposed product innovations, a different type of TA would be required. At least one agricultural economist, one agro-business specialist and one rural finance specialist should support the existing team in building up institutional knowledge. Tasks would include a more in-depth analysis of markets, agricultural sub-sectors and value chains in different regional and local contexts. This would further inform the size and type of demand and the implications for product development. Once the new products are being rolled out, the additional advisors will train and backstop loan officers and credit committees in the appraisal and approval of agricultural loans.

6.18 Whether the RFF can be delivered through the SME lending departments established by the TMSEF or through other bank departments remains to be determined.

6.19 Under Window B, EBRD could lend directly to larger MFOs and complement this with TA for product development (the arrangements for the latter will need to be further defined). Oxus and Humo might be candidates for direct funding from EBRD.

6.20 Several medium-sized MFOs have experience in rural lending and an existing client base, but face greater difficulty in accessing commercial funds. Given EBRD´s limitations in directly financing small MFOs, some viable institutions might be re-financed by commercial banks. Under a RFF, interested commercial banks could be offered TA in the assessment of MFOs and the possibility to re-finance a part of their exposure (say, up to 50%) through a long-term loan from EBRD. A similar approach, though on a limited scale, is already practiced by the GTZ Microfinance Project through the First Microfinance Bank.

6.21 Such an approach would stimulate competition and contribute to enhancing the diversity of lending products and delivery mechanism. At the current stage it is not yet clear which MFOs will be able to offer the most appropriate products to rural and farmer clients. Even in the case of future mergers of some smaller MFOs or the incorporation of their portfolio into larger organisations, innovative and successful approaches are likely to be preserved and up-scaled.

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ANNEX 1

NBT PRUDENTIAL REGULATIONS

ANNEX 1

NBT PRUDENTIAL REGULATIONS

Regulations	
Minimum capital requirements	Since January 2005 US$5 mn for four largest banks. The others have time to adjust until January 2006.
Participation of foreign banks	The previous rule that foreign banks could not hold more than 35% of the aggregate capital in the banking system has been removed.
Ratio of liquid assets to liquid deposits	30% for banks meeting all prudential regulations, and 50% for banks failing at least one criterion.
Mandatory reserve requirements against deposits	15%.
General loan loss reserve	Reserve of 2% on net loan portfolio has to be established.
Capital adequacy ratio	(K1-1, total capital to risk-weighted assets min. 12% and K1-2, total capital to aggregate assets min.10%; Tier 2 Capital does not exist in the country's banking law).
Liquidity ratio	(K2-1, short-term assets to short-term liabilities min. 30%).
Maximum exposure to a single borrower which is a connected party	(K4-2, max.10% of the capital).
Maximum exposure to a single borrower	(K3-1, max. 25% of the capital).
Aggregate large loan exposure	(K3-2, max. 5 times the capital. Large loan definition: 10% of equity).
Investment in subsidiaries	(K5, max. 20% of capital).

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EXPANDING FINANCE IN RURAL AREAS

ANNEX 2

SOGDAGROSERVE

ANNEX 2

SOGDAGROSERVE

1. The SugdAgroServ (SAS) was formed in April 2002 as a Joint Stock Company under the Farmer Ownership Model (FOM) Project, funded by IFC and SECO. The purpose was to develop an alternative to dependency of farmers from cotton investors, by creating a farmer-owned company that provided financial and non-financial services to cotton growers.

2. SAS was created with 365 farmer shareholders on 14 Dekhan Farms which together had about 1,200 ha of land with land use certificates[1]. Most of the land is irrigated. SAS underwent expansion in 2004 and membership grew to 1,085 shareholders on close to 130 Dehkan Farms for a total of approximately 2,400 ha. The average farm size is between 10 and 15 ha, the largest farm is about 300 ha.

3. SAS has been capitalised by US$500,000 provided as loans by IFC and US$750,000 grant funding from SECO. The SECO grant provides SAS with a strong equity base. The farmers purchased US$20,000 of share capital and are the full owners of the company. In addition, SECO provided US$1.1 mn in technical assistance managed by the Private Enterprise Partnership (PEP) located in the IFC. AS has three core business areas:

- Finance; seasonal and fixed-term finance to shareholders (and non shareholders).
- Cotton marketing service for client and non-client cotton.
- Retailing of inputs (fertilizers, seeds, machinery, etc.)

4. If the project can succeed in achieving its ambitious goals, it will introduce much needed competition for the cotton investors.

5. The Technical Assistance support provided by IFC provided (SECO funded):

- Management training to SAS staff.
- Legal assistance in setting up the company.
- Financial training.
- Technical advice on agronomic practices to SAS clients.
- Management training to the shareholders in the operation of SAS.

6. The demonstration programme is a multifaceted tool to disseminate information to the farmers and consists of demonstration fields, field days, international tours, and farmer training. Field days are conducted on the demonstration fields at regular intervals and on other farms that are successful. International tours to Uzbekistan and Kyrgyzstan have been conducted to investigate new farming techniques and technologies, UZCASE demonstration farm and Osh agricultural expo. A training programme provides information on budgeting and credit management to SAS loan applicants and clients. As machinery has been identified as a major limitation on farmer profitability, IFC TA imported second-hand precision planters from Australia and contracted local engineers to produce cultivators using western designs and standards that can potentially be marketed through SAS.

[1] There are on average 1.35 families working on each hectare and six people per family, so the 1,200 ha provide benefits to almost 10,000 people.

7. The introduction of improved seed, land levelling to enhance irrigation efficiency, better farm equipment along with no-till cultivation, crop diversification and improved crop rotations, and increased ginning efficiency are viewed as necessary elements of a strategy to improve the efficiency of crop production and maintain competitiveness in foreign markets. If the project can succeed in achieving its ambitious goals, it will introduce much needed competition for the cotton investors.

8. SAS provides working capital loans in cash and in kind to both shareholders and non-shareholders. It is reported to be one of the first lenders to lend to Dekhan Farms and to grant cash rather than 100% input loans. Loans range in size from US$1,000 to 50,000 with an average of about US$8,000. Shareholders are charged a 14% annual interest rate and non-shareholders are charged 16%. The seasonal loan portfolio makes up 80% of the loan portfolio, and these loans are made for terms of 14 months on average. Loans for crops other than cotton carry an interest rate of 20% due to the higher risks, given that SAS does not control the marketing. All loans are fully collateralised. Borrowers must show that they have land use certificates, are registered in the tax office, and are reasonably up-to-date in paying their taxes, charges for irrigation water, and contributions to the pension fund.

9. During the 2002 and 2003 crop seasons, a total of 70 loans were made to more than 1,000 farmers in an amount totalling US$550,000. As of 31 March 2004, 77 loans were outstanding totalling a sum of just under US$220,000. For 2002 and 2003, all of the principal and interest payments were paid before or on the due date. The marketing assistance that SAS provides to farmers is considered essential to ensuring good loan recovery.

10. A second phase was planned that would involve another IFC loan of US$500,000 matched with a similar grant from SECO. This would permit adding up to 1,500 farmers with as much as an additional 2,000 ha of land. It is also possible that SAS might participate in a cotton gin investment package; the gin is seen as an essential part of farmer profitability. A new gin would provide faster turnaround of client cotton (100 day ginning as opposed to 200 day, reducing interest payments), higher outturn (conservative estimates of 37% compared with 32%) and better quality would allow SAS to differentiate clients' products in the market place. SAS would, however, have to find financial assistance to participate in this project. Currently, all of the gins in the area are owned by competitors of SAS who actively pressure SAS clients by delaying the processing of their cotton. Local government also puts pressure on farmers to return to using the financial services of the gins as they have a vested interest in the ginning cartels.

11. However, this situation changed in 2004 due to bad whether conditions and declines in cotton prices, which undermined the profitability of this crop (see model). The average cotton yield in the Sugd Oblast was 1.8 tons/ha in 2004, resulting in a loss of US$132 per ha. From of a total outstanding loan portfolio of US$1.2 mn, about US$300,000 is in arrears. The high portfolio risk concentration—most borrowers reside in two rayons in Sogd and their income stems mainly from cotton makes SAS vulnerable to co-variant risks affecting the profitability of cotton. In response to the poor farmer repayment potential discovered in 2004, clients were more thoroughly assessed, hence loan size was reduced. Poor weather conditions also prevailed in 2005 resulting in yields similar to the previous year. With tighter control on loans combined with a moderate increase in the price of cotton, it is now predicted that all 2005 loans will be repaid with around 50% of the outstanding loans from 2004 in the process of being restructured into medium-term loans.

12. Following two years of financial difficulties, SAS is currently at a crossroads. IFC has accelerated its divestment process and SECO has stopped the funding of the TA component. The discontinuation of TA leaves the company in a vulnerable situation, especially since transfer of management to nationals has not yet been completed. The exit of IFC as an international umbrella is likely to undermine SAS's relative autonomy vis-à-vis investors and local governments in sourcing inputs, choosing marketing and processing outlets and shielding farmers against abuse.

13. In view of the current lack of profitability of cotton production for most of its borrowers, SAS has intensified its attempts to foster diversification into other crops. It has also been subcontracted to Winrock to deliver the Diversification Plus component of the USAID funded Agfin Plus Project. Diversification Plus aims to grow enough area of an alternative crop for a test shipment into markets identified through Market Plus research to identify the potential for farmers to value-add to their products. Crops planned for 2006 were sun dried tomatoes and export to Turkey, soybeans for meal and oil, local and export market, peanuts for export into the confectionary market and either sweet or baby corn, depending on the outcome of market research. Activities were to be implemented by IFC TA. However, with the loss of SECO funding, the TA provided by IFC is no longer available and the future of the project is currently unknown.

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EXPANDING FINANCE IN RURAL AREAS

ANNEX 3

CROP BUDGETS

Crop Gross Margins Comparisons

Income	cotton	wheat	corn	baby corn	soy	peanuts	lucerne	tomatoes	sunflowers	onions	potatoes	rice
Yield	18	3	8	2.5	300	2	8	32	1.5	35	1.5	1.5
Units	centiners/ha	тонн/га	тонн/га	тонн/га	тонн/га	tonnes/ha	tonnes/ha	tonnes/ha	tonnes/ha	тонн/га	tonnes/ha	tonnes/ha
Total Income	**630**	**530**	**1200**	**1490**	**1278**	**1576**	**1040**	**1320**	**375**	**2100**	**2500**	**1006**
Variable costs												
Planting	18	26	9	80	120	130	45	278	7	96	240	77
Tractor costs	195	19	136	154	145	136	96	162	116	115	215	117
Irrigation	36	14	32	50	20	52	28	52	20	26	14	160
Fertiliser	90	74	54	303	54	110	63	210	92	268	263	237
Pest control	48	10	48	24	8	20	15	25	0	58	60	10
Weed control	41	10	61	120	41	41	0	84	19	81	56	86
Harvest	90	26	30	250	25	25	80	186	50	520	150	50
Transport	10	10	80	25	15	10	120	32	0	560	200	25
Ginning	85											
Total Variable Costs	528	189	450	1006	428	524	447	1029	304	1724	1198	762
			0									
Short Term Gross Margin	**102**	**341**	**750**	**485**	**850**	**1052**	**593**	**291**	**71**	**376**	**1302**	**244**
			0									
			0									
Fixed costs			0									
Labor - permanent	144	54	80	72	144	144	120	126	72	80	120	54
Labour - straw - wages in kind	0	0	0	0	0	0	0	0	0	0	0	0
Tax (Unified tax system)	29	57	57	57	57	57	57	57	57	57	57	57
Depreciation	18	0	20	0	20	20	20	0	0	20	20	0
Total Fixed Costs	191	111	157	129	221	256	197	183	129	157	197	111
			0									
Long Term Gross Margin	**-89**	**230**	**593**	**356**	**629**	**796**	**396**	**108**	**-58**	**219**	**1105**	**133**

Cotton Gross Margins

Income						$ per hectare	$ total
	RAW COTTON	18	centiners/ha			0	0
	Cotton - Lint	594.0	kg/ha	0.8	$/kg	490	490
	Cotton - Linters	174.6	kg/ha	0.0	$/kg	6	6
	Cotton - Olook	28.8	kg/ha	0.0	$/kg	0	0
	Cotton - Fluff	36.0	kg/ha	0.0	$/kg	0	0
	Cotton - Seed oil	83.2	kg/ha	0.9	$/kg	75	75
	Cotton - Cake	435.6	kg/ha	0.1	$/kg	35	35
	Cotton - Meal	306.9	kg/ha	0.1	$/kg	23	23
					Total Income	$630	$630
Variable costs							
Planting	seed	90	kg/ha	0.2	$/kg	18	18
	tractor		times		$/ha	0	0
	labour		# people/ha		$ pp/day	0	0
	transplants		# transplants/ha		$/transplan	0	0
	other		amount		$/ha	0	0
Tractor costs	mouldbord plough	1	times	39	$/ha	39	39
	chisel	1	times	20	$/ha	20	20
	ploughing	1	times	9	$/ha	9	9
	bed forming	1	times	9	$/ha	9	9
	planking	1	times	9	$/ha	9	9
	cultivation	7	times	10	$/ha	70	70
	spraying	3	times	10	$/ha	30	30
	planting	1	times	9	$/ha	9	9
Irrigation	water	9000	m3/ha	0.004	$/m3	36	36
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	300	kg/ha	0.18	$/kg	54	54
	kali		kg/ha	0.15	$/kg	0	0
	phosphorus	200	kg/ha	0.14	$/kg	29	29
	urea	50	kg/ha	0.15		8	8
	cow manure		tonnes/ha	8	$/tonne	0	0
Pest control	insecticides	4	litres	12	$/ha	48	48
	fungicides		times		$/ha	0	0
	growth regulators		times		$/ha	0	0
Weed control	chipping	24	pp ha/year	1.7		41	41
	herbicides					0	0
Harvest		0.05	$/kg	1800		90	90
Transport		2	$/tonne	5	$/tonne	10	10
Ginning		47	$/tonne	1.8		85	85
					Total Variable Costs	$528	$528
					Short Term Gross Margin	$102	$102
Fixed costs							
Labor - permanent		80	$/year/ha	1.8	persons	144	144
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		28.5	$ per/ha			28.5	28.5
Maintenance							
Depreciation						18	18
					Total Fixed Costs	$191	$191
					Long Term Gross Margin	-$89	-$89

Sensitivity Analysis — Cotton prices $/ton

cotton yield tones/ ha	**$250**	**$300**	**$350**	**$360**	**$450**	**$500**	**$550**	**$570**
10	-469	-419	-369	-359	-269	-219	-169	-149
14	-369	-299	-229	-215	-89	-19	51	79
18	-269	-179	-89	-71	91	181	271	307
20	-219	-119	-19	1	181	281	381	421
26	-69	61	191	217	451	581	711	763
30	31	181	331	361	631	781	931	991
34	131	301	471	505	811	981	1151	1219

Wheat Gross Margins

Income						$ per hectare	$ total
	Seed	3	tonnes/ha	160	$/tonne	480	0
	Straw	1.5	tonnes/ha	33	$/tonne	50	0
					Total Income	$530	$0
Variable costs							
Planting	seed	220	kg/ha	0.12	$/kg	26	0
	tractor		times		$/ha	0	0
	labour		# people/ha		$ pp/day	0	0
	transplants		# transplants/ha		$/transplan	0	0
	other		amount		$/ha	0	0
Tractor costs	mouldbord plough	1	times		$/ha	0	0
	chisel	1	times		$/ha	0	0
	ploughing	1	times		$/ha	0	0
	bed forming	1	times		$/ha	0	0
	planking	1	times		$/ha	0	0
	cultivation		times		$/ha	0	0
	spraying	1	times	10	$/ha	10	0
	planting	1	times	9	$/ha	9	0
Irrigation	water	3500	m3/ha	0.004	$/m3	14	0
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	250	kg/ha	0.18	$/kg	45	0
	kali		kg/ha	0.15	$/kg	0	0
	phosphorus	200	kg/ha	0.14	$/kg	29	0
	urea		kg/ha	0.15		0	0
	cow manure		tonnes/ha	8	$/tonne	0	0
Pest control	insecticides		litres	10	$/ha	0	0
	fungicides	1	times	10	$/ha	10	0
	growth regulators		times		$/ha	0	0
Weed control	chipping	50	hours/ha	0.2	$/hour	10	0
	herbicides					0	0
Harvest		0.0085	$/kg	3000		26	0
Transport		3	$/tonne	3	$/tonne	10	0
					Total Variable Costs	$189	$0
					Short Term Gross Margin	$341	$0
Fixed costs							
Labor - permanent		180	$/year/ha	0.3	persons	54	0
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		57	$ per/ha			57	0
Maintenance							
Depreciation							0
					Total Fixed Costs	$111	$0
					Long Term Gross Margin	$230	$0

Sensitivity Analysis

		Wheat prices $/ton						
Wheat yield tones/ ha	**Straw yield tones/ha**	**$100**	**$120**	**$140**	**$160**	**$180**	**$200**	**$220**
1	0.5	-183	-163	-143	-123	-103	-83	-63
2	1	-67	-27	13	53	93	133	173
3	1.5	50	110	170	230	290	350	410
4	2	166	246	326	406	486	566	646
5	2.5	283	383	483	583	683	783	883
6	3	399	519	639	759	879	999	1119
7	3.5	516	656	796	936	1076	1216	1356

Corn Gross Margins

Income						$ per hectare	$ total
	Seed	8	tonnes/ha	125	$/tonne	1000	0
	Straw	20	tonnes/ha	10	$/tonne	200	0
					Total Income	$1,200	$0
Variable costs							
Planting	seed	25	kg/ha	0.35	$/kg	9	0
	tractor		times		$/ha	0	0
	labour		# people/ha		$ pp/day	0	0
	transplants		# transplants/ha		$/transplan	0	0
	other		amount		$/ha	0	0
Tractor costs	mouldbord plough	1	times	39	$/ha	39	0
	chisel	1	times	20	$/ha	20	0
	ploughing	1	times	9	$/ha	9	0
	bed forming		times	9	$/ha	0	0
	planking	1	times	9	$/ha	9	0
	cultivation	4	times	10	$/ha	40	0
	spraying	1	times	10	$/ha	10	0
	planting	1	times	9	$/ha	9	0
Irrigation	water	8000	m3/ha	0.004	$/m3	32	0
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	300	kg/ha	0.18	$/kg	54	0
	kali		kg/ha	0.15	$/kg	0	0
	phosphorus		kg/ha	0.14	$/kg	0	0
	urea			0.15			
	cow manure		tonnes/ha	8	$/tonne	0	0
Pest control	insecticides	2	times	24	$/ha	48	0
	fungicides		times		$/ha	0	0
	growth regulators		times		$/ha	0	0
Weed control	chipping	36	pp ha/year	1.7		61	0
	herbicides					0	0
Harvest		30	$/ha (combine)			30	0
Transport		10	$/tonne	8	$/tonne	80	0
Ginning							
Interest		5	month	1.2	%/month	36	0
					Total Variable Costs	$486	$0
					Short Term Gross Margin	$714	$0
Fixed costs							
Labor - permanent		40	$/year/ha	2	persons	80	0
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		57	$ per/ha			57	0
Maintenance							
Depreciation						20	0
					Total Fixed Costs	$157	$0
					Long Term Gross Margin	$557	$0

Sensitivity Analysis

Corn yield tones/ ha	**Straw yield tones/ha**	**$100**	**$110**	**$120**	**$125**	**$130**	**$140**	**$150**
2	5	-393	-373	-353	-343	-333	-313	-293
4	10	-143	-103	-63	-43	-23	17	57
6	15	107	167	227	257	287	347	407
8	20	357	437	517	557	597	677	757
10	25	607	707	807	857	907	1007	1107
12	30	857	977	1097	1157	1217	1337	1457
14	35	1107	1247	1387	1457	1527	1667	1807

Peanuts Gross Margin

Income						$ per hectare	$ total
	Seed	2	tonnes/ha	620	$/tonne	1240	0
	Oil		kg/ha		$/kg	0	0
	Meal		kg/ha		$/kg	0	0
	Straw	2100	bundles/ha	0.16	$/bundle	336	0
					Total Income	$1,576	$0
Variable costs							
Planting	seed	100	kg/ha	1	$/kg	100	0
	tractor		times		$/ha	0	0
	labour	10	# people/ha	3	$ pp/day	30	0
	transplants		# transplants/ha		$/transplan	0	0
	other		amount		$/ha	0	0
Tractor costs	mouldbord plough	1	times	39	$/ha	39	0
	chisel	1	times	20	$/ha	20	0
	ploughing	1	times	9	$/ha	9	0
	bed forming		times	9	$/ha	0	0
	planking	1	times	9	$/ha	9	0
	cultivation	3	times	10	$/ha	30	0
	spraying	2	times	10	$/ha	20	0
	planting	1	times	9	$/ha	9	0
Irrigation	water	13000	m3/ha	0.004	$/m3	52	0
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	450	kg/ha	0.18	$/kg	81	0
	kali		kg/ha	0.15	$/kg	0	0
	phosphorus	200	kg/ha	0.14	$/kg	29	0
	urea			0.15			
	cow manure		tonnes/ha	8	$/tonne	0	0
Pest control	insecticides	2	times	10	$/ha	20	0
	fungicides	0	times	0.2	$/ha	0	0
	growth regulators		times		$/ha	0	0
Weed control	chipping	24	pp ha/year	1.7		41	0
	herbicides					0	0
Harvest		25	$/ha (combir	3		25	0
Transport		5	$/tonne	2	$/tonne	10	0
Ginning							
					Total Variable Costs	$524	$0
					Short Term Gross Margin	$1,052	$0
Fixed costs							
Labor - permanent		40	$/year/ha	3.6	persons	144	0
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		57	$ per/ha			57	0
Maintenance						35	0
Depreciation						20	0
					Total Fixed Costs	$256	$0
					Long Term Gross Margin	$796	$0

Sensitivity Analysis		**Peanut Prices ($/tonne)**						
Peanut yield tones/ ha	**Straw yield tones/ha**	**$450**	**$500**	**$550**	**$600**	**$620**	**$700**	**$750**
1.0	1000	-170	-120	-70	-20	0	80	130
1.5	1500	135	210	285	360	390	510	585
2.0	2100	456	556	656	756	796	956	1056
2.5	2500	745	870	995	1120	1170	1370	1495
3.0	3000	1050	1200	1350	1500	1560	1800	1950
3.5	3500	1355	1530	1705	1880	1950	2230	2405
4.0	4000	1660	1860	2060	2260	2340	2660	2860

Soybean Gross Margins

Income						$ per hectare	$ total
	Seed		tonnes/ha		$/tonne	0	0
	Oil	300	kg/ha	0.85	$/kg	255	0
	Meal	2045	kg/ha	0.5	$/kg	1023	0
	Straw		tonnes/ha		$/tonne	0	0
					Total Income	$1,278	$0
Variable costs							
Planting	seed	80	kg/ha	1.5	$/kg	120	0
	tractor		times		$/ha	0	0
	labour		# people/ha		$ pp/day	0	0
	transplants		# transplants/ha		$/transplan	0	0
	other		amount		$/ha	0	0
Tractor costs	mouldbord plough	1	times	39	$/ha	39	0
	chisel	1	times	20	$/ha	20	0
	ploughing	1	times	9	$/ha	9	0
	bed forming	1	times	9	$/ha	9	0
	planking	1	times	9	$/ha	9	0
	cultivation	4	times	10	$/ha	40	0
	spraying	1	times	10	$/ha	10	0
	planting	1	times	9	$/ha	9	0
Irrigation	water	5000	m3/ha	0.004	$/m3	20	0
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	60	kg/ha	0.18	$/kg	11	0
	kali		kg/ha	0.15	$/kg	0	0
	phosphorus	300	kg/ha	0.14	$/kg	43	0
	urea			0.15			
	cow manure		tonnes/ha	8	$/tonne	0	0
Pest control	insecticides	1	times	8	$/ha	8	0
	fungicides		times		$/ha	0	0
	growth regulators		times		$/ha	0	0
Weed control	chipping	10	pp ha/year	1.7		17	0
	herbicides	0.3		80		24	0
Harvest		25	$/ha (combine)			25	0
Transport		10	$/tonne	1.5	$/tonne	15	0
Ginning							
					Total Variable Costs	$428	$0
					Short Term Gross Margin	$850	$0
Fixed costs							
Labor - permanent		40	$/year/ha	3.6	persons	144	0
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		57	$ per/ha			57	0
Maintenance							
Depreciation						20	0
					Total Fixed Costs	$221	$0
					Long Term Gross Margin	$629	$0

Sensitivity Analysis

			Oil Prices ($/kg)					
Soya oil yield kg/ ha	**Meal Yield**	**Straw yield tones/ha**	**$0.60**	**$0.70**	**$0.80**	**$0.85**	**$1.00**	**$1.10**
240	1636	2.4	313	337	361	373	409	433
260	1773	2.6	393	419	445	458	497	523
280	1909	2.8	474	502	530	544	586	614
300	2045	3	554	584	614	629	674	704
320	2182	3.2	634	666	698	714	762	794
340	2318	3.4	714	748	782	799	850	884
360	2455	3.6	794	830	866	884	938	974

Tomato Gross Margins

Income						$ per hectare	$ total
	Fresh tomatos	12	tonnes/ha	55	$/tonne	660	0
	Processing tomatoes	20	tonnes/ha	33	$/tonne	660	0
					Total Income	$1,320	$0
Variable costs							
Planting	seed		kg/ha		$/kg	0	0
	tractor		times		$/ha	0	0
	labour	20	# people/ha	4	$ pp/day	80	0
	transplants	60000	# transplan	0.003	$/transplan	198	0
	other		amount		$/ha	0	0
Tractor costs	mouldbord plough	1	times	39	$/ha	39	0
	chisel	1	times	20	$/ha	20	0
	ploughing	1	times	9	$/ha	9	0
	bed forming	1	times	9	$/ha	9	0
	planking	1	times	9	$/ha	9	0
	cultivation	3	times	10	$/ha	30	0
	spraying	2	times	10	$/ha	20	0
	planting	1	times	26	$/ha	26	0
Irrigation	water	13000	m3/ha	0.004	$/m3	52	0
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	400	kg/ha	0.18	$/kg	72	0
	kali	100	kg/ha	0.15	$/kg	15	0
	phosphorus	300	kg/ha	0.14	$/kg	43	0
	urea		kg/ha	0.15		0	0
	cow manure	10	tonnes/ha	8	$/tonne	80	0
Pest control	insecticides	1	litres	20	$/ha	20	0
	fungicides	1	times	5	$/ha	5	0
	growth regulators		times		$/ha	0	0
Weed control	chipping	60	hours/ha	1.4	$/hour	84	0
	herbicides					0	0
Harvest		0.0058	$/kg	32000	kg	186	0
Transport		1	$/tonne	32	$/tonne	32	0
					Total Variable Costs	$1,029	$0
					Short Term Gross Margin	$291	$0
Fixed costs							
Labor - permanent		180	$/year/ha	0.7	persons	126	0
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		57	$ per/ha			57	0
Maintenance							
Depreciation							0
					Total Fixed Costs	$183	$0
					Long Term Gross Margin	$108	$0

Sensitivity Analysis

Fresh tomatoes tonnes/ ha	**Processing tomatoes tones/ha**		**$25**	**$35**	**$45**	**$55**	**$65**	**$75**	**$85**
6		10.0	-732	-672	-612	-552	-492	-432	-372
8		13.3	-572	-492	-412	-332	-252	-172	-92
10		16.7	-412	-312	-212	-112	-12	88	188
12		20.0	-252	-132	-12	108	228	348	468
14		23.3	-92	48	188	328	468	608	748
16		26.7	68	228	388	548	708	868	1028
18		30.0	228	408	588	768	948	1128	1308

Onion Gross Margins

Income						$ на гектар	$ общая сумма
	Onions	35	тонн/га	60	$/тонна	2100	0
					Total Income	$2,100	$0
Variable costs							
Planting	seed	16	кг/га	6	$/кг	96	0
	tractor		раз		$/га	0	0
	labour		# человек/га		$1чел/1де	0	0
	transplants		#расстение/га		$/расстені	0	0
	other		сумма		$/га	0	0
Tractor costs	mouldbord plough	1	раз	39	$/га	39	0
	chisel	1	раз	20	$/га	20	0
	ploughing	1	раз	9	$/га	9	0
	bed forming	1	раз	9	$/га	9	0
	planking	1	раз	9	$/га	9	0
	cultivation	1	раз	10	$/га	10	0
	spraying	1	раз	10	$/га	10	0
	planting	1	раз	9	$/га	9	0
Irrigation	water	6500	м3/га	0.004	$/м3	26	0
	channel construction					0	0
	channel maintenance					0	0
Fertiliser	cilitra	400	кг/га	0.18	$/кг	72	0
	kali		кг/га	0.15	$/кг	0	0
	phosphorus	250	кг/га	0.14	$/кг	36	0
	urea		кг/га	0.15	$/кг		
	cow manure	20	тонн/га	8	$/тонна	160	0
Pest control	insecticides	2	раз	24	$/га	48	0
	fungicides	1	раз	10	$/га	10	0
	growth regulators		раз		$/га	0	0
Weed control	chipping	36	чел/день	1.7	$	61	0
	herbicides	1		20		20	0
Harvest		0.013	$/га (комбайн)	40000		520	0
Transport		14	$/тонна	40	$/тонна	560	0
Ginning		0.094		1400	штук	132	
					Total Variable Costs	$1,724	$0
					Short Term Gross Margin	$376	$0
Fixed costs							
Labor - permanent		40	$/год/га	2	человек	80	0
Labour - straw - wages in kind						0	0
Tax (Unified tax system)		57	$ /га			57	0
Maintenance							
Depreciation						20	0
					Total Fixed Costs	$157	$0
					Long Term Gross Margin	$219	$0

Sensitivity Analysis

Onion Yield tonnes/ha	**Price per tone**							
	$45	**$50**	**$55**	**$60**	**$65**	**$70**	**$75**	**$80**
25	-756	-631	-506	-381	-256	-131	-6	119
30	-531	-381	-231	-81	69	219	369	519
35	-306	-131	44	219	394	569	744	919
40	-81	119	319	519	719	919	1,119	1,319
45	144	369	594	819	1,044	1,269	1,494	1,719

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EXPANDING FINANCE IN RURAL AREAS

ANNEX 4

GEHA FOOD – A NEW TOMATO PROCESSING FACTORY

ANNEX 4

GEHA FOOD – A NEW TOMATO PROCESSING FACTORY

1. A foreign investor from Austria has built a new tomato processing factory in the Leninabad district close, to Dushanbe. The investor purchased 22 ha of land at about 15 minutes' drive from Dushanbe, where he built the processing facilities. Equipment was imported from Italy. After a period of two years spent legalising the company, importing the equipment and constructing the facilities, the factory is ready to start its operations in the current tomato growing season of 2006. It will produce 3 different tomato products:

1. Tomato paste
2. Tomato puree in Tetra Paks
3. Tomato powder

2. During year one, only tomato paste will be produced. Tomato paste will be packaged in 220 litre aseptic bags; tomato puree will be packaged in small Tetra Pak units of 0.2 and 0.4 litres. Tetra packed production will be started in year two, followed by the production of tomato powder. In year four, the factory will reach its full production level. The total processing capacity of the factory is 20 tons of raw tomato per hour, which will be processed into 3.5 tons of tomato paste. The daily production capacity is almost 500 tons of raw tomatoes. The processing season lasts 150 days, resulting in a total raw material intake of 75 thousand tons. A part of the tomato paste can be stored and further processed into tomato powder during the lean season.

3. Total investment costs were about €8 mn, of which 6 mn were invested in the equipment for tomato powder production. GEHA Food is the only company in Tajikistan that will be able to produce tomato powder. In year one, proceeds from product sales are projected at around €8 mn, leaving a cash flow net of operating costs of about €2.5 mn. at full capacity (in year four), gross revenues are expected to stand at around €17 mn and a net cash flow from operating activities at around €8.1 mn.

4. At the current productivity level of most farms (20 tons per hectare), 3,500 ha would need to be planted with tomatoes to fully utilise the processing capacity of the factory. However, with certified seeds and improved husbandry practices, yields between 60–80 tons per ha can easily be achieved. In this case, the catchment area would be reduced to 1,250 ha and 937.5 ha, respectively.

5. Raw material will be sourced from four different regions with different altitudes and agro-ecologic conditions. The first tomatoes can be harvested in Kurgan Tyube in early May. In the course of the year tomatoes will also be sourced from the Rudaki and Vahdat districts. The latest time of the year for tomato harvesting will be September in Faizarabad. In order to secure a certain raw material supply, GEHA Food has purchased majority shares in agriculture joint venture companies in several districts, which are expected to produce around 60% of the total raw material requirements. The remaining 40% will be purchased from farmers.

6. GEHA Food is interested in establishing relationships with small and medium-sized Dekhan Farms in order to diversify its sources of supply. For this purpose, it tried to establish contracts with various Dekhan Farmers Associations. However, a few days before cultivation was supposed to start, farm associations tried to re-negotiate the price. GEHA Food decided to produce tomato on its own farms and purchase any additional tomatoes that are offered by private

farmers during the cropping season. Support from a third party would be required to organise small and medium-sized farmers, build trust between farmers and the company, and train farmers in improved agricultural practices. The forthcoming SIDA-funded IFC Supply Chain Development Project will contribute to closing the gap (see Annex X). Annex X is missing.

7. Different banks and financial institutions have expressed their interest in financing tomato growers, including AIB, IMON and FINCA. Some financial institutions asked GEHA Food to fully guarantee their loan portfolio. The company is not willing to carry the credit risks, but offers a guarantee to purchase the tomato harvest at an agreed price, subject to minimum quality requirements.

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EXPANDING FINANCE IN RURAL AREAS

ANNEX 5

PROJECTS IN THE AGRICULTURAL SECTOR

ANNEX 5

PROJECTS IN THE AGRICULTURAL SECTOR

1. This Annex provides an overview of projects in the farming and agribusiness sector which focus on small and medium-sized enterprises. A cursory review of the rural project portfolio of the key donors and NGOs revealed that the focus of the majority of projects is still on very poor and vulnerable rural households. Only a limited number of projects could be identified which focus on commercially oriented small and medium-sized Dekhan Farms. These projects are engaged in strengthening input supply chains and farm-agribusiness linkages, farm extension and business advice, farmer organisation, farm agribusiness linkages and farm diversification. EBRD and its technical service provider could liaise with these projects in order to identify target regions and crops/subsectors to pilot agricultural lending and maximise synergies between financial and non-financial services.

EU TACIS: Setting up a System for Information, Training and Advice for Farmers (SITAF)

2. The Project aims at improving the access of privatised farmers and other rural businesses to information, training and advice. Official counterpart institutions of the Project are the Ministry of Agriculture and the Oblast Administration of Khatlon Oblast. The actual project started in November 2004 and ended in December 2005. A successor project is planned by EC starting in 2007. The project focuses on four rayons (Baljovan, Khovaling, Muminabad, Shorabad) within the Kulyab Zone of Khatlon Oblast for developing a model organisation for training and advising the above-mentioned target groups. The objective is to set up an Agricultural Training and Advisory Service (ATAS) at a durable institutional structure consisting of three tiers:

- Advisory and Information Centres (AICs) in the selected districts each employing a team of advisors who in turn work with farmers, farmer groups and rural businesses for all kinds of aspects the rural population is interested in.
- A zone (regional) based Rural Advisory Centre (RAC) consisting mainly of high level regional specialists; RAC is regarded as a support unit working on behalf of the above-mentioned AICs for training and advising AIC advisors, helping to develop innovations, and passing them on to the AICs.
- An Advisory Information Coordination Centre (AICC) at national level which will support RAC in innovation development according to farmers' needs, among others, also by linking to relevant national and international research institutions and organisations.

3. AICs and RAC are intended to form a common membership based legal entity (ATAS—in Tajik XMK), whereas AICC could remain the task of the Ministry of Agriculture. A two-way information flow system has to be established within this advisory system: A strong bottom-up information flow about the needs of the rural population as the basis for innovation development activities, and, in a subsequent top-down information flow, the development, test, and dissemination of innovations.

4. ATAS offers an intensive participatory learning system for farmers and other parts of the rural population. This learning system comprises elements of theoretical training, business and production planning, and guidance during the production season. Training and advisory activities

are inserted into the agricultural production cycle to ensure that additional information and skills enable the target group timely practice oriented to improve production and income. Moreover, self-help activities are promoted and farmers assisted in forming associations to improve access to inputs, marketing of outputs, and to overcome constraints on other farm services.

5. The project promotes other activities in other parts of Tajikistan in the field of agricultural training and extension by making available procedures and systems as well as accumulated specific development strategies for different farm enterprises. It further intends to collaborate with institutions and projects which provide complementary services such as credit, machinery services, input supply, marketing and processing. The first project will terminate by the end of 2006, but funding for an expansion is expected.

IFC Cotton Farm Finance Development Project—Southern Tajikistan

6. The project started in April 2005 with an initial duration of three years. The project was started under the Private Enterprise Partnership (PEP) facility with funding from CIDA (US$3.2 mn).

7. The Project will address improvements in access to farm finance in the cotton farming sector in southern Tajikistan. This will include mentoring farms in business management, new technologies, and improved access to finance, inputs and markets, as well as training local finance institutions in agribusiness risk management. The goal is to enable cotton farms to access finance on competitive terms, and in this way improve their production, profitability, and long-term viability. Specifically, the Project will work with pilot farms, develop business plans for these farms, and mentor them through the process of obtaining finance on commercial terms from local finance institutions. A comprehensive public education programme will extend the Project's work to the widest possible audience.

8. The project will be operating in up to 3 supply zones, provisionally identified as Yovon, Rudaki and Sharitus.

IFC Southern Tajikistan Agribusiness Supply Chains Development Project

9. A new project will be started in the coming months which will focus on two agricultural value chains: milk and tomatoes. Key counterparts will be Dushanbe Dairy Plant and Geha Tomato Plant. The project will provide extension and business development training to tomato growers and dairy producers in the catchment areas of the agroprocessing companies mentioned above. The project will work with pilot farms and households to improve management and develop business plans, and assist producers in financing growth and development though loans on commercial terms from finance institutions. A public education programme will also extend the project's work to the widest possible audience. Districts that have been provisionally identified are: Vaxdat, Faisabod, Gissar, Rudaki, Kurgan Tube and Dushanbe.

10. Both projects will concentrate on advisory services and not provide financial services, i.e. credit or cash grants. The EBRD funded rural lending facility could link with these projects in order to exploit synergies.

USAID: Enterprise Development Project

11. The USAID Enterprise Development Project (EDP) helps to expand entrepreneurs' and students'access to market-relevant business knowledge and skills. Implemented by the Pragma Corporation, EDP has established two Enterprise Development Centres in Tajikistan (Dushanbe and Khujand) offering SME clients firm-level technical assistance in the area of strategic planning, marketing, finance, operations, and trade promotions. It further supports the adoption of International Financial Reporting Standards. Although the project mainly focuses on non-agricultural enterprises, the Enterprise Development Centre in Khujand has been working with fruit and vegetable processors in the Ferghana Valley. The local staff in Khujand have good knowledge about these sub-sectors.

SIDA: Development of the Seed Supply Chain

12. This project aims at strengthening the seed sector in Tajikistan, enabling it to produce high quality seeds of improved varieties. A further objective is to improve the legal and institutional environment in order to comply with internationally accepted standards. The project targets the organisations certifying seeds, testing varieties, producing, processing and marketing as well the seed services provided by the plant quarantine. Moreover, four seed farms in different regions are supported to become sustainable seed companies. The project promotes a Tajik membership in UPOV (International Union for Protection of New Varieties of Plants) and other international seed organisations such as ISTA (International Seed Testing Association), OECD seed schemes, and ISF (International Seed Federation) to open up the Tajik market to international trade to support the establishment of a Tajik seed association.

13. Emphasis is placed on improving the links between different actors in the seed-chain, including breeders/variety owners (domestic and foreign), government agencies such as the State Commission for Variety Testing, State Seed Inspectorate, Plant Quarantine importers and traders of inputs. The project also assists Geha Food in testing new varieties for their tomato processing factory.

14. The project started in November 2004. A new phase will start on 1 July 2006 which will broaden the scope of the project to include education of plant breeders and a gene bank. The time horizon of the programme is 2015–20. The project turnover has been in total SEK14.5 mn from the start of November 2004 until the end of this first extended phase, finishing on 30 June 2006. The project work has been carried out in most parts of Tajikistan, but mostly in the main crop cultivation areas. It has employed international, regional and local seed experts within the areas of seed certification and control, variety testing, farm management, seed legislation and seed economics.

USAID: AgFin Plus Project in the Sogd region

15. AgFin Plus combines the provision of non-financial services (extension, business development, market research, etc.) with financial services, especially loans. The project consists of two sub-projects, each of which focuses on different value chains: Cheese Plus focusing on dairy production and Diversification Plus focusing on vegetable production. It is implemented by Winrock International in the Sogd region, as part of a regional project operating in Kyrgyzstan, Northern Tajikistan and Uzbekistan, with a budget of US$3 mn. In Tajikistan the project started in

March 2005, with a tenure of three years. It is coordinated by five national staff. Sub-project components are implemented by local service providers.

16. The dairy sub-project[1] (Batken & Sugd Agro-Input Dairy Development Project (BSAIDD) is implemented by the International Fertilizer Development Center (IFDC) with a budget of US$656,585 for a period of two years. The main objective is to develop and improve milk/dairy production in the area around Khujand. The component works through the extension service centre based in the J.Rasulov district. The centre is providing herd management and veterinarian services to dairy farmers.

17. The key to increased milk production is improving fodder resources and hygiene conditions. In order to improve fodder production, farmers need to have access to quality seeds and fertilizers at the appropriate time and in the required quantity. Therefore, the project broadened its activities in order to improve the availability and quality of fertilizer, seed, and crop protection products for farmers in the Sogd Region. The project has formed and registered the Agribusiness Association of Tajikistan, grouping together agriculture input dealers, importers and traders. One of the objectives is to introduce a fertilizer quality certification system through this association. Furthermore, it has planned to form farmer extension groups and engage in partnerships with financial institutions to secure financing throughout the supply chain. A similar approach has been implemented by IFDC in Southern Kyrgyzstan.

18. Loans to dairy farmers are provided by local Micro Loan Fund Phoenix Plus (former Development Fund), operating in the Khujand Region.

19. The vegetable sub-project was implemented by the specialists of Sogd AgroServices (SAS), which provided financial and non-financial services. The main focus was on supporting the diversification of cotton farms into other crops, such as vegetables. This sub-project has been frozen due to termination of IFC funding to the technical assistance component of SAS (see Annex 2) .

20. Regional market research service is provided by another AgFin Plus partner, Marketing Plus. Market research has been carried out in neighbouring countries such as China, Russia, and Kazakhstan in order to explore the scope for diversifying Tajik, Kyrgyz and Uzbek agriculture exports.

MEDA: Farm to Markets: Pro-Poor Agricultural Development in Northern Tajikistan

21. This project aims at reducing poverty among farming families in the northern oblast of Sogd through the development value chains in the fruit and vegetable sub-sectors. The project is implemented by MEDA (Mennonite Development Agency) with funding from CIDA (Canadian International Development Agency). Implementation started in January 2005 and the project has a total duration of three years. It is implemented in four regions of Sogd Oblast: Istaravshan, Kanibadam, Isfara and B. Gafurov rayons. The project has three main components: Agricultural extension, Rural Micro Credit, and SME development and financing.

[1] Official name of the sub-component is Batken & Sugd Agro-Input Dairy Development Project (BSAIDD).

22. ***Agricultural extension component:*** This component is directly implemented by MEDA. A total of 10 agronomists have been trained in extension methodology, basic farm economics and agricultural technical subjects. Their main activity is to advise farmers and farmer groups about traditional and innovative agricultural techniques and technology, conduct seminars, collect and disburse market information, create and develop producer groups, identify and recommend input suppliers as well as interested buyers and traders, link farmers to markets, and organise exchange programmes and field days. They operate from field offices in the four districts.

23. The field offices are being turned into Agricultural Training and Information Centers (ATIC), which will train Village Advisors (VA) and provide VAs and farmers with updated market, technical and technology information. They will also commission sales and purchases, and keep an updated producer and processor data bank to be able to create linkages. A fee system for the extension services will be developed and introduced. The MEDA Tajikistan agriculture department currently has 852 registered clients, 233 of whom are women. Additionally, the agronomists together with the Group Development Officer and the Gender Officer have created 30 producer groups.

24. ***Rural Micro Credit Component***: The US$900,000 portfolio for the Rural Micro Credit is managed by IMON (International Micro Loan Fund). After intensive training in the new field of agricultural lending, the Rural Micro Credit was launched in January 2005. IMON has offices in all four project regions. Between two and four Loan Experts and Senior Loan officers work in each of the offices and disburse loans in the frame of the MEDA/CIDA 'Farms to Markets' project. As of March 2006, there were 1,447 active group lending clients with a portfolio value of US$450,000, and 33 individual clients with a portfolio value of US$50,000.

25. Three loan products have been introduced:

- Group loans using joint liability. Groups consist of 4 to 12 members who should not live in the same household and share the same income source. The initial loan size per individual is up to US$300.
- Individual loans up to US$4,000 require collateral or a personal guarantee. Many applicants cannot supply sufficient collateral and therefore only qualify for group lending. These constraints explain the much higher number of group loans when compared with individual loans.
- Special micro loans for storage purposes piloted in Istaravshan. Research conducted under the USAID funded SEEP Practitioner Learning Program (PLP) have revealed that farmers could gain significantly higher profits if they could store some of their produce and sell off-season. The spoilage which occurs during storage is more than compensated for by the high off-season prices, as is the interest rate which farmers have to pay when financing storage with a loan. This successful pilot loan has a size of up to US$350. It can be taken parallel to one of the other loans. Most borrowers have used it to purchase bags for onions, to facilitate handling, storage and marketing. This year the loans will be disbursed in all four project regions. In addition it is planned to launch a larger loan for up to US$3,500, which will be used to finance the building of small, private storage facilities.

26. The maximum loan term is nine months covering the entire crop production cycle. Grace periods of several months are available. The initial monthly interest rate of 3.5% is expected to be reduced to 3.0% shortly and the maximum loan sizes will be increased.

27. Leasing would be a welcome alternative to individual lending, especially when collateral is not sufficient. SMEs which sell agricultural machinery require advance payments from their clients, which the clients cannot provide without a loan, which the MFI in turn cannot provide without the collateral/ leasing object, and so on. We hope to break this cycle in the up-coming season by identifying and contracting equipment suppliers.

SME development and financing component

28. This product component focus is on enhancing the quality of processed fruits and vegetables by improving packaging, storage, transportation and marketing, The project provides technical assistance and training in business development, identification of new equipment and processing technology, and market research and links to producers, wholesalers and investors. Two SME specialists are regularly consulting approximately 50 SME clients. The services are provided in partnership with several local organisations. The project cooperates informally with the USAID funded SME Development Project, implemented by the Pragma Corporation, and with the EC funded TACIS project, both providing TA in business development and strategies. MEDA and the Pragma Corporation are currently finalising a partnership agreement, which will be signed in the first half of 2006.

29. A key implementation partner is AESO, a member driven association of entrepreneurs. It is the biggest of its kind with some 700 registered and paying members. The main objective is to provide support to entrepreneurs. AESO are providing juridical advice to members. They are actively lobbying for the rights of entrepreneurs, to facilitate registration of businesses to improve tax legislation and others. AESO also have their own monthly newspaper and regular TV transmission about exhibitions, meetings, exchanges and market news. Planned activities under the project include seminars, exchange visits, and trips to agribusiness fairs and the establishment of a business centre and market web-page. Furthermore, the establishment of a separate industry interest group for the fruit and vegetable sector under AESO is envisaged.

30. In order to address the financial shortcomings in the SME processing sector, the project has established a SME loan fund with a portfolio of US$480,000, funded by CIDA. The loan fund is placed at Sohibcorbank, a small, private, commercial bank. Sohibcorbank is specialised in providing finance to SME. MEDA and AESO provide technical assistance for introducing loan products to fruit and vegetable processors, define eligibility criteria for clients and participate in loan approval decisions. Sohibcorbank has provided of loans from US$10,000 to US$50,000, with maturities up to one year. The annual interest rate ranges from 18 to 24%. The exact interest rate is defined on a case by case basis, according to credit history, purpose and duration of the loan, etc. Market interest rates for SMEs are currently at 24%.

31. Another important feature of the SME component is a US$265,000 matching grant fund. The purpose of this recently launched fund is to provide a financial incentive for new investment into fruit and vegetable processing facilities which satisfy stringent food safety standards and target high value market opportunities. The 'model factories' or 'enterprises of excellence' that qualify for the matching grant must be market leaders and serve as examples for other processors. The Fund will match eligible investments by local investors or joint ventures involving local and foreign participation.

TAJIKISTAN

EXPANDING FINANCE IN RURAL AREAS

ANNEX 6

EXAMPLES OF DEKHAN FARMS

ANNEX 6

EXAMPLES OF DEKHAN FARMS

1. This Annex gives examples of Dekhan Farms that have been visited during the field missions. They illustrate the diversity of the potential clientele in rural areas.

Example 1: Family Dekhan Farm in Kuliab District

2. The head of this Dekhan Farm is 58 years old. Prior to establishing his Dekhan Farm, he used to work as a book keeper on a collective farm. In 1996, he received two hectares of land, together with his wife and two sons. The farm is located on the outskirts of Kuliab, a town with 75,000 inhabitants. His son helped him to establish an orchard on his two hectares of land. He rented an additional three hectares for growing weed. On his orchard, he has planted a variety of trees, including almonds, apricots, apples, chelons, grapes, walnuts, peaches, plums and persimmon. He also has two cows.

3. Due to his professional background, the farmer was well informed about cost and revenues of his orchard and provided the following information:

Costs

Item	**Cost (TJS)**
1. Salary for guard	1500 (120/month)
2. Taxes and payments into the social protection fund and the pension fund (25% of salary)	375
3. Mineral fertilizers	210
4. Organic manure	400/10 tons
5. Pesticides, herbicides, fungicides	600
6. Replanting of trees	900/year
7. Cutting off trees and pruning	200
8. Applying lime on trees as protection against ants	300 (0.30/tree)
9. Water	1000
10. Miscellaneous	500
Total	5985

Incomes

Item	Quantity (trees)	Yield (kg/tree)	Unit price (TJS/kg)	Income
1. Almond	100	5	7	3,500
2. Chelon[1]	80	10	1	800
3. Apples	50	10	0.50	250
4. Grapes	50	10	1	500
5. Walnuts	100	5	2	1,000
6. Pea of ches	30	50	0.50	750
7. Plums	20	10	1	300
8. Apricots	60	20	1	1,200
9. Persimmon	100	20	0.50	1,000
Total				9,300

4. In total, the farmer has planted about 1,000 trees. The diversification into nine different types of trees allows him to get a stable cash flow from May until October and protects him against price fluctuations of individual trees. In June/July he harvests peaches and apricots, in August he harvests almonds, in September/October walnuts and in October/November chelons.

5. The above shows that the farmer makes a profit of about TJS3,300 per year on his orchard. Almonds are the most profitable crop fetching by far the highest price per kg. Due to the lack of storage facilities, the farmer had to sell his almond stock in August at TJS7 per kg. Prices increased in the following months, reaching a peak of TJS20 per kg in March.

6. In terms of costs, the biggest item is the salary for the guard. However, during the conversation, it became clear that this item is actually a salary payment made by the farmer to his wife. The attached contribution to the pension fund will entitle her to receive a pension in later years. The related costs do therefore not constitute monetary expenses of the household.

7. Due to the high profitability of almonds, the farmer wants to increase the number of almond trees. Furthermore, he wants to enter the cattle fattening business, mainly in order to get additional income during the winter period. For this purpose, the farmer had applied for a loan from the Aga Khan Foundation (Mountain Areas Development Programme). His application was rejected because MSDSP only serves farmers in mountainous districts. He now plans to apply for a loan of US$3,000 from AgroInvestBank in order to construct a barn and purchase some animals. He expressed his dissatisfaction with the current loan terms offered by AIB, which are restricted to a maturity of one year. The farmer would prefer a repayment period of two years.

Example 2: Individual Dekhan Farm in Kuliab District

8. This Dekhan Farm emerged from a former Kolkhoz specialised in diary production. Prior to the war, this Kolkhoz had a total of 400 dairy cows. However, during the war production stopped and most of the cows and equipment were stolen. The head of the Dekhan Farm used to be the head of the former Kolkhoz and has good knowledge of cattle production. He managed to

[1] A local type of berry.

protect the barns and some milking equipment and bought the land and remaining facilities in 2002, at a cost of TJS100,000. The farm included some 27 ha of pasture and agriculture land, as well as some old barns and milking equipment (refrigerators, filters for milk and milking machines) which could process 3–4 tons of milk per day.

9. The farmer started buying cows in 2002 and specialised in cattle fattening. At the time of the interview, the farmer only had 25 animals of which only 3 were lactating. However, the number of animals varies throughout the year depending on the availability of fodder. Last year, he had 60 animals on average. The peak of his business cycle is after the cotton harvest in September/October, when residues of cotton oil production are abundant and cheap. He possesses his own small mill to produce cotton oil and fodder. The farmer buys cows of about 2 years of age and fattens them over 4 to 6 weeks. He owns a pick-up and buys the cows from surrounding farmers. During the fattening period, the animals gain about 1 kg of meat per day, on average 35 kg per animal. The retail price for 1 kg of meat is TJS8. The gross sales revenue per animal is TJS280. According to the farmer, total direct costs per animal (excluding the purchase of the animal) are less than TJS100. This is due to the fact that a farmer has good access to fodder resources. In addition to the cotton oil residues, he uses natural pastures free of charge and grows wheat on his own land. He uses 10 ha of land for these purposes. For grazing, he uses village pastures. This limits the amount of fodder that he has to purchase. He also owns a tractor, which reduces his costs for fodder production and provides him with additional income.

10. The farmer took the first loan of TJS10,000 from AgroInvest Bank in March 2005. The term of the loan was six months at a 3% monthly interest rate and was used to purchase cows. He then got a second loan of TJS10,000 at a slightly lower interest rate (2.5%) which he repaid after four months. As collateral, he used the entire complex (buildings and equipment). The third loan of TJS30,000 has a tenure of 9 months, to be repaid in May 2006. However, the farmer was keen to repay the loan earlier and apply for a larger loan of TJS100,000. He wants to use this loan to invest in a dairy processing facility in order to start producing butter, cheese and yogurt.

Example 3: Collective Dekhan Farm in Istarafshan District

11. The interviewed farmer is member of a collective Dekhan Farm which was established in 2000. Together with his three sons, he has a share of 4.2 ha on this farm. According to the farmer, the former Kolkhoz members had decided to establish a collective Dekhan Farm first, because not all members were sure whether they wanted to leave the collective in order to establish their individual Dekhan Farms. Even though he was formally a member of a collective Dekhan Farm, he is free to decide what to plant and where to market the produce. This is because his land is not irrigated and can therefore not be used for cotton growing.

12. In 2005, 2 ha were planted with wheat, 1 ha with onions, and the rest with a variety of vegetables such as potatoes, cucumber, melons, corn, carrots, pumpkins and tomatoes. The farmer also owns two tractors which are operated by his sons. He provides machinery services to his neighbours which generates an additional income source. He charges TJS50 per ha plus fuel and oil. Further, he owns three cows, four sheep and thirty chickens. A part of his land is irrigated since he dug a bore hole together with eleven brothers, all members of the collective Dekhan Farm. This enables him to achieve two harvests per year, e.g. by combining winter grains with vegetables.

13. The farmer regards onions as the most profitable crop. He achieves yields of 50 to 70 tons per ha. Total production costs are about TJS4,000. Prices at harvest in October are comparatively low at 20 dirhams per kg but increase to 50 dirhams per kg during the winter months. He prefers selling the onions to traders, who transport them to Dushanbe and Russia. Processing enterprises only pay 10 dirhams per kg. In 2005, he harvested 50 tons which he sold at 20 dirhams per kg resulting in gross revenues of TJS10,000 and a gross margin of TJS6,000 per ha. The wheat is planted in October and harvested in July. Winter wheat is more profitable and allows the farmer to plant others crop such as corn for forage, turnips, legumes or carrots which are harvested in September and October.

14. This farmer has taken a group loan of TJS900 from IMON, which he used to buy fertilizer, fuel, oil and to pay for hired labour. As an example, he mentioned that he had to hire thirty persons for weeding of 1 ha of onions. On top of the TJS6 per person per day, he had to pay for transport and meals for the seasonal labourers. The farmer has now applied for an individual loan of TJS3,000 to cover part of the production costs of onions and tomatoes.